RAVI MATHS TUITION CENTER, NEAR VILLIVAKKAM RLY STATION, CHENNAI – 82. PH - 8056206308

MCQ BB

12th Standard

Biology

325 x 1 = 325

1) In which type of parthenogenesis are only males produced?
(a) Arrhenotoky (b) Thelytoky (c) Amphitoky (d) Both a and b

2) Animals giving birth to young ones:
(a) Oviparous (b) Ovivivіparous (c) Viviparous (d) Both a and b

3) The mode of reproduction in bacteria is by
(a) Formation of gametes (b) Endospore formation (c) Conjugation (d) Zoospore formation

4) In which mode of reproduction variations are seen
(a) Asexual (b) Parthenogenesis (c) Sexual (d) Both a and b

5) Assertion and reasoning questions:
In each of the following questions there are two statements. One is assertion (A) and other is reasoning (R). Mark the correct answer as
Assertion: In bee society, all the members are diploid except drones.
Reason: Drones are produced by parthenogenesis
(a) If both A and R are true and R is correct explanation for A (b) If both A and R are true but R is not the correct explanation for A (c) If A is true but R is false (d) If both A and R are false

6) Assertion and reasoning questions:
In each of the following questions there are two statements. One is assertion (A) and other is reasoning (R). Mark the correct answer as
Assertion: Offsprings produced by asexual reproduction are genetically identical to the parent.
Reason: Asexual reproduction involves only mitosis and no meiosis
(a) both A and R are true and R is correct explanation for A (b) If both A and R are true but R is not the correct explanation for A (c) If A is true but R is false (d) If both A and R are false.

7) Assertion and reasoning questions:
In each of the following questions there are two statements. One is assertion (A) and other is reasoning (R). Mark the correct answer as
Assertion: Viviparous animals give better protection to their off springs.
Reason: They lay their eggs in the safe places of the environment
(a) If both A and R are true and R is correct explanation for A (b) If both A and R are true but R is not the correct explanation for A (c) If A is true but R is false (d) If both A and R are false

8) The mature sperms are stored in the
(a) Seminiferous tubules (b) Vas deferens (c) Epididymis (d) Seminal vesicle

9) The male sex hormone testosterone is secreted from
(a) Sertoli cells (b) Leydig cell (c) Epididymis (d) Prostate gland

10) The glandular accessory organ which produces the largest proportion of semen is
(a) Seminal vesicle (b) Bulbourethral gland (c) Prostate gland (d) Mucous gland

11) The male homologue of the female clitoris is
(a) Scrotum (b) Peni (c) Urethra (d) Testis

12) The site of embryo implantation is the
(a) Uterus (b) Peritoneal cavity (c) Vagina (d) Fallopian tube

13) The foetal membrane that forms the basis of the umbilical cord is
(a) Allantois (b) Amnion (c) Chorion (d) Yolk sac

14) The most important hormone in intiating and maintaining lactation after birth is
(a) Oestrogen (b) FSH (c) Prolactin (d) Oxytocin

15) Mammalian egg is
(a) Mesolecithal and non cleidoic (b) Microlecithal and non cleidoic (c) Alecithal and non cleidoic (d) Alecithal and cleidoic

16) The process which the sperm undergoes before penetrating the ovum is
(a) Spermiation (b) Cortical reaction (c) Spermiogenesis (d) Capacitation

17) The milk secreted by the mammary glands soon after child birth is called
(a) Mucous (b) Colostrum (c) Lactose (d) Sucrose

18) Colostrum is rich in
(a) Ig E (b) Ig A (c) Ig D (d) Ig M

19) The Androgen Binding Protein (ABP) is produced by

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(a) Leydig cells (b) Hypothalamus (c) Sertoli cells (d) Pituitary gland

20) Which one of the following menstrual irregularities is correctly matched?

(a) Menorrhagia - excessive (b) Amenorrhoea - absence of menstruation (c) Dysmenorrhoea - irregularity of menstruation (d) Oligomenorrhoea - painful menstruation

21) Find the wrongly matched pair

(a) Bleeding phase- fall in oestrogen and progesterone (b) Follicular phase- rise in oestrogen (c) Luteal phase - rise in FSH level (d) Ovulatory phase - LH surge

22) A – In human male, testes are extra abdominal and lie in scrotal sacs.

R – Scrotum acts as thermoregulator and keeps temperature lower by 2oC for normal sperm production

(a) A and R are true, R is the correct explanation of A (b) A and R are true, R is not the correct explanation of A (c) A is true, R is false (d) Both A and R are false

23) A – Ovulation is the release of ovum from the Graafian follicle.

R – It occurs during the follicular phase of the menstrual cycle.

(a) A and R are true, R is the correct explanation of A (b) A and R are true, R is not the correct explanation of A (c) A is true, R is false (d) Both A and R are false

24) A – Head of the sperm consists of acrosome and mitochondria.

R – Acrosome contains spiral rows of mitochondria.

(a) A and R are true, R is the correct explanation of A (b) A and R are true, R is not the correct explanation of A (c) A is true, R is false (d) Both A and R are false

25) Which of the following is correct regarding HIV, hepatitis B, gonorrhoea and trichomoniasis?

(a) Gonorrhoea is a STD whereas others are not. (b) Trichomoniasis is a viral disease whereas others are bacterial. (c) HIV is a pathogen whereas others are diseases. (d) Hepatitis B is eradicated completely whereas others are not.

26) Which one of the following groups includes sexually transmitted diseases caused by bacteria only?

(a) Syphilis, gonorrhoea and candidiasis (b) Syphilis, chlamydiasis and gonorrhoea (c) Syphilis, gonorrhoea and trichomoniasis (d) Syphilis, trichomoniasis and pediculosis

27) Identify the correct statements from the following

(a) Chlamydiasis is a viral disease (b) Gonorrhoea is caused by a spirochaete bacterium, Treponema palladium (c) The incubation period for syphilis is is 2 to 14 days in males and 7 to 21 days in females (d) Both syphilis and gonorrhoea are easily cured with antibiotics

28) A contraceptive pill prevents ovulation by

(a) blocking fallopian tube (b) inhibiting release of FSH and LH (c) stimulating release of FSH and LH (d) causing immediate degeneration of released ovum.

29) The approach which does not give the defined action of contraceptive is

(a) Hormonal contraceptive- Prevents entry of sperms, prevent ovulation and fertilization (b) Vasectomy- Prevents spermatogenesis (c) Barrier method- Prevents fertilization (d) Intra uterine device-Increases phagocytosis of sperms, suppresses sperm motility and fertilizing capacity of sperms

30) Read the given statements and select the correct option

and vaults are made of rubber and are inserted into the female reproductive tract to cover the cervix before coitus.

Statement 2: They are chemical barriers of conception and are reusable.

(a) Both statements 1 and 2 are correct and statement 2 is the correct explanation of statement 1. (b) Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1. (c) Statement 1 is correct but statement 2 is incorrect (d) Both statements 1 and 2 are incorrect

31) Match column I with column II and select the correct option from the codes given below.

Column I	Column II
A. Copper releasing IUD	(i) LNG-20
B. Hormone releasing	(ii) Lippes loop IUD
C. Non medicated IUD	(iii) Saheli
D. Mini pills	(iv) Multiload-375

(a) A-(iv), B-(ii), C-(i), D-(iii) (b) A-(iv), B-(i), C-(iii), D-(ii) (c) A-(i), B-(iv), C-(ii), D-(iii) (d) A-(iv), B-(i), C-(ii), D-(iii)

32) Select the incorrect action of hormonal contraceptive pills from the following

(a) Inhibition of spermatogenesis. (b) Inhibition (c) Changes in cervical mucus impairing its ability to allow passage and transport of sperms (d) Alteration in uterine endometrium to make it unsuitable for implantation

of
ovulation

33) Haemophilia is more common in males because it is a
(a) Recessive character carried by Y-chromosome (b) Dominant character carried by Y-chromosome (c) Dominant trait carried by X-chromosome (d) Recessive trait carried by X-chromosome

34) ABO blood group in man is controlled by
(a) Multiple alleles (b) Lethal genes (c) Sex linked genes (d) Y-linked genes

35) Three children of a family have blood groups A, AB and B. What could be the genotypes of their parents?
(a) $I^A I^B$ and ii (b) $I^A I^o$ and $I^B I^o$ (c) $I^B I^B$ and $I^A I^A$ (d) $I^A I^A$ and ii

36) Which of the following is not correct?
(a) Three or more alleles of a trait in the population are called multiple alleles (b) A normal gene undergoes mutations to form many alleles (c) Multiple alleles map at different loci of a chromosome (d) A diploid organism has only two alleles out of many in the population

37) Which of the following phenotypes in the progeny are possible from the parental combination AxB?
(a) A and B only (b) A,B and AB only (c) AB only (d) A,B,AB and O

38) Which of the following phenotypes is not possible in the progeny of the parental genotypic combination $I^A I^O$ X $I^A I^B$?
(a) AB (b) O (c) A (d) B

39) Which of the following is true about Rh factor in the offspring of a parental combination DdXDd (both Rh positive)?
(a) All will be Rh-positive (b) Half will be Rh positive (c) About ¾ will be Rh negative (d) About one fourth will be Rh negative

40) What can be the blood group of offspring when both parents have AB blood group?
(a) AB only (b) A, B and AB (c) A, B, AB and O (d) A and B only

41) If the childs blood group is 'O' and fathers blood group is 'A' and mother's blood group is 'B' the genotype of the parents will be
(a) $I^A I^A$ and $I^B I^o$ (b) $I^A I^o$ and $I^B I^o$ (c) $I^A I^o$ and $I^o I^o$ (d) $I^o I^o$ and $I^B I^B$

42) XO type of sex determination and XY type of sex determination are examples of
(a) Male heterogamety (b) Female heterogamety (c) Male homogamety (d) Both (b) and (c)

43) In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred?
(a) 'O' and Rh negative (b) 'O' and Rh positive (c) 'B' and Rh negative (d) 'AB' and Rh positive

44) Father of a child is colourblind and mother is carrier for colourblindness, the probability of the child being colourblind is
(a) 25% (b) 50% (c) 100% (d) 75%

45) A marriage between a colourblind man and a normal woman produces
(a) All carrier daughters and normal sons (b) 50% carrier daughters, 50% normal daughters (c) 50% colourblind sons, 50% normal sons (d) All carrier offsprings

46) Mangolism is a genetic disorder which is caused by the presence of an extra chromosome number
(a) 20 (b) 21 (c) 4 (d) 23

47) Klinefelters' syndrome is characterized by a karyotype of
(a) XYY (b) XO (c) XXX (d) XXY

48) Females with Turners' syndrome have
(a) Small uterus (b) Rudimentary ovaries (c) Underdeveloped breasts (d) All of these

49) Pataus' syndrome is also referred to as
(a) 13-Trisomy (b) 18-Trisormy (c) 21-Trisormy (d) None of these

50) Who is the founder of Modern Eugenics movement?
(a) Mendel (b) Darwin (c) Fransis Galton (d) Karl pearson

51) Improvement of human race by encouraging the healthy persons to marry early and produce large number of children is called
(a) Positive eugenics (b) Negative eugenics (c) Positive euthenics (d) Positive euphenics

52) The _____deals with the control of several inherited human diseases especially inborn errors of metabolism
(a) Euphenics (b) Eugenics (c) Euthenics (d) All of these

53) "Universal Donor" and "Universal Recipients" blood group are _____and_____respectively
(a) AB, O (b) O, AB (c) A, B (d) B, A

54) ZW-ZZ system of sex determination occurs in
(a) Fishes (b) Reptiles (c) Birds (d) All of these

55) Co-dominant blood group is
(a) A (b) AB (c) B (d) O

56) Which of the following is incorrect regarding ZW-ZZ type of sex determination?
(a) It occurs in birds and some reptiles (b) Females are homogametic and males are heterogametic (c) Male produce two types of gametes (d) It occurs in gypsy moth

57) Hershey and Chase experiment with bacteriophage showed that
(a) Protein gets into the bacterial cells (b) DNA is the genetic material (c) DNA contains radioactive sulphur (d) Viruses undergo transformation

58) DNA and RNA are similar with respect to
(a) Thymine as a nitrogen base (b) A single-stranded helix shape (c) Nucleotide containing sugars, nitrogen bases and phosphates (d) The same sequence of nucleotides for the amino acid phenyl alanine

59) A mRNA molecule is produced by
(a) Replication (b) Transcription (c) Duplication (d) Translation

60) The total number of nitrogenous bases in human genome is estimated to be about
(a) 3.5 million (b) 35000 (c) 35 million (d) 3.1 billion

61) E. coli cell grown on ^{15}N medium are transferred to 14N medium and allowed to grow for two generations. DNA extracted from these cells is ultracentrifuged in a cesium chloride density gradient. What density distribution of DNA would you expect in this experiment?
(a) One high and one low density band (b) One intermediate density band. (c) One intermediate density band. (d) One low and one intermediate density band

62) What is the basis for the difference in the synthesis of the leading and lagging strand of DNA molecules?
(a) Origin of replication occurs only at the 5' end of the molecules (b) DNA ligase works only in the 3' → 5' direction (c) DNA polymerase can join new nucleotides only to the 3' end of the growing stand. (d) Helicases and single-strand binding proteins that work at the 5' end

63) Which of the following is the correct sequence of event with reference to the central dogma?
(a) Transcription, Translation, Replication (b) Transcription, Replication, Translation (c) Duplication, Translation, Transcription (d) Replication, Transcription, Translation

64) Which of the following statements about DNA replication is not correct?
(a) Unwinding of DNA molecule occurs as hydrogen bonds break. (b) Replication occurs as each base is paired with another exactly like it (c) Process is known as semi conservative replication because one old strand is conserved in the new molecule. (d) Complementary base pairs are held together with hydrogen bonds

65) Which of the following statements is not true about DNA replication in eukaryotes?
(a) Replication begins at a single origin of replication. (b) Replication is bidirectional from the origins. (c) Replication occurs at about 1 million base pairs per minute (d) There are numerous different bacterial chromosomes, with replication ocurring in each at the same time.

66) The first codon to be deciphered was _____ which codes for _____.
(a) AAA, proline (b) GGG, alanine (c) UUU, Phenylalanine (d) TTT, arginine

67) Meselson and Stahl's experiment proved
(a) Transduction (b) Transformation (c) DNA is the genetic material (d) Semi-conservative nature of DNA replication

68) An operon is a:
(a) Protein that suppresses gene expression (b) Protein that accelerates gene expression (c) Cluster of structural genes with related function (d) Gene that switched other genes on or off

69) When lactose is present in the culture medium:
(a) Transcription of lac y, lac z, lac a genes occurs. (b) Repressor is unable to bind to the operator. (c) Repressor is able to bind to the operator. (d) Both (a) and (b) are correct.

70) The first life on earth originated
(a) in air (b) on land (c) in water (d) on mountain

71) Who published the book "Origin of species by Natural Selection" in 1859?
(a) Charles Darwin (b) Lamarck (c) Weismann (d) Hugo de Vries

72) Which of the following was the contribution of Hugo de Vries?
(a) Theory of mutation (b) Theory of natural Selection (c) Theory of inheritance of acquired characters (d) Germplasm theory

73) The wings of birds and butterflies is an example of
(a) Adaptive radiation (b) convergent evolution (c) divergent evolution (d) variation

74) The phenomenon of " Industrial Melanism" demonstrates

(a) Natural selection (b) induced mutation (c) reproductive isolation (d) geographical isolation

75) Darwin's finches are an excellent example of
(a) connecting links (b) seasonal migration (c) adaptive radiation (d) parasitism

76) Who proposed the Germplasm theory?
(a) Darwin (b) August Weismann (c) Lamarck (d) Alfred Wallace

77) The age of fossils can be determined by
(a) electron microscope (b) weighing the fossils (c) carbon dating (d) analysis of bones

78) Fossils are generally found in
(a) igneous rocks (b) metamorphic rocks (c) volcanic rocks (d) sedimentary rocks

79) Evolutionary history of an organism is called
(a) ancestry (b) ontogeny (c) phylogeny (d) paleontology

80) The golden age of reptiles was
(a) Mesozoic era (b) Cenozoic era (c) Paleozoic era (d) Proterozoic era

81) Which period was called "Age of fishes"?
(a) Permian (b) Triassic (c) Devonian (d) Ordovician

82) Modern man belongs to which period?
(a) Quaternary (b) Cretaceous (c) Silurian (d) Cambrian

83) The Neanderthal man had the brain capacity of
(a) 650 – 800cc (b) 1200cc (c) 900cc (d) 1400cc

84) According to Darwin, the organic evolution is due to
(a) Intraspecific competition (b) Interspecific competition (c) Competition within closely related species. (d) Reduced feeding efficiency in one species due to the presence of interfering species.

85) A population will not exist in Hardy- Weinberg equilibrium if
(a) Individuals mate selectively (b) There are no mutations (c) There is no migration (d) The population is large

86) A 30 year old woman has bleedy diarrhoea for the past 14 hours, which one of the following organisms is likely to cause this illness?
(a) Streptococcus pyogens (b) Clostridium difficile (c) Shigella dysenteria (d) Salmonella enteritidis

87) Exo-erythrocytic schizogony of Plasmodium takes place in _____
(a) RBC (b) Leucocytes (c) Stomach (d) Liver

88) The sporozoites of Plasmodium vivax are formed from _____
(a) Gametocytes (b) Sporoblasts (c) Oocysts (d) Spores

89) Amphetamines are stimulants of the CNS, whereas barbiturates are _____
(a) CNS stimulant (b) both a and b (c) hallucinogenic (d) CNS depressants

90) The Athlete's foot disease in human is caused by _____
(a) Bacteria (b) Fungi (c) Virus (d) Protozoan

91) Choose the correctly match pair.
(a) Amphetamines - Stimulant (b) LSD - Narcotic (c) Heroin - Psychotropic (d) Benzodiazepine - Pain killer

92) Cirrhosis of liver is caused by chronic intake of _____
(a) Opium (b) Alcohol (c) Tobacco (d) Cocaine

93) The sporozoite of the malarial parasite is present in _____
(a) saliva of infected female Anopheles mosquito (b) RBC of human suffering from malaria. (c) Spleen of infected humans (d) Gut of female Anopheles mosquito

94) Paratope is an
(a) Antibody binding site on variable regions (b) Antibody binding site on heavy regions (c) Antigen binding site on variable regions (d) Antigen binding site on heavy regions

95) Allergy involves
(a) IgE (b) IgG (c) lgA (d) IgM

96) Spread of cancerous cells to distant sites is termed as
(a) Metastasis (b) Oncogenes (c) Proto-oncogenes (d) Malignant neoplasm

97) AIDS virus has
(a) Single stranded RNA (b) Double stranded RNA (c) Single stranded DNA (d) Double stranded DNA

98) B cells that produce and release large amounts of antibody are called
(a) Memory cells (b) Basophils (c) Plasma cells (d) killer cells

99) Which of the following microorganism is used for production of citric acid in industries?
(a) Lactobacillus bulgaris (b) Penicillium citrinum (c) Aspergillus niger (d) Rhizopus nigricans

100) Which of the following pair is correctly
(a) Acetobacter aceti - Antibiotics (b) Methanobacterium - Lactic acid (c) Penicilium notatum - Acetic acid (d) Saccharomyces cerevisiae - Ethanol

101) The most common substrate used in distilleries for the production of ethanol is_____
(a) Soyameal (b) Groundgram (c) Molasses (d) Corn meal

102) Cry toxins obtained from Bacillus thuringiensis are effective against for_____
(a) Mosquitoes (b) Flies (c) Nematodes (d) Bollworms

103) Cyclosporin – A is an immunosuppressive drug produced from _____
(a) Aspergillus niger (b) Manascus purpureus (c) Penicillium notatum (d) Trichoderma polysporum

104) Which of the following bacteria is used extensively as a bio-pesticide?
(a) Bacillus thurigiensis (b) Bacillus subtilis (c) Lactobacillus acidophilus (d) Streptococcus lactis

105) Which of the following is not involved in nitrogen fixation?
(a) Pseudomonas (b) Azotobacter (c) Anabaena (d) Nostac

106) CO_2 is not released during
(a) Alcoholic fermentation (b) Lactate fermentation (c) Aerobic respiration in animals (d) Aerobic respiration in plants

107) The purpose of biological treatment of waste water is to _____
(a) Reduce BOD (b) Increase BOD (c) Reduce sedimentation (d) Increase sedimentation

108) The gases produced in anaerobic sludge digesters are
(a) Methane, oxygen and hydrogen sulphide (b) Hydrogen sulphide, methane and sulphur dioxide (c) Hydrogen sulphide, nitrogen and methane (d) Methane, hydrogen sulphide and CO_2.

109) The first clinical gene therapy was done for the treatment of
(a) AIDS (b) Cancer (c) Cystic fibrosis (d) SCID

110) Dolly, the sheep was obtained by a technique known as
(a) Cloning by gene transfer (b) Cloning without the help of gametes (c) Cloning by tissue culture of somatic cells (d) Cloning by nuclear transfer

111) The genetic defect adenosine deaminase deficiency may be cured permanently by
(a) Enzyme replacement therapy (b) periodic infusion of genetically engineered lymphocytes having ADA cDNA (c) administering adenosine deaminase activators (d) introducing bone marrow cells producing ADA into embryo at an early stage of development.

112) How many amino acids are arranged in the two chains of Insulin
(a) Chain A has 12 and Chain B has 13 (b) Chain A has 21 and Chain B has 30 amino acids (c) Chain A has 21 and Chain B has 30 amino acids (d) Chain A has 12 and chain B has 20 amino acids.

113) PCR proceeds in three distinct steps governed by temperature, they are in order of
(a) Denaturation, Annealing, Synthesis (b) Synthesis, Annealing, Denaturation (c) Annealing, Synthesis, Denaturation (d) Denaturation, Synthesis, Annealing

114) Which one of the following statements is true regarding DNA polymerase used in PCR?
(a) It is used to ligate introduced DNA in recipient cells (b) It serves as a selectable marker (c) It is isolated from a Virus (d) d) It remains active at a high temperature

115) ELISA is mainly used for
(a) Detection of mutations (b) Detection of pathogens (c) Selecting animals having desired traits (d) Selecting plants having desired traits

116) Transgenic animals are those which have
(a) Foreign DNA in some of their cells (b) Foreign DNA in all their cells (c) Foreign RNA in some of their cells (d) Foreign RNA in all their cells

117) Recombinant Factor VIII is produced in the _____ cells of the Chinese Hamster
(a) Liver cells (b) blood cells (c) ovarian cells (d) brain cells.

118) Vaccines that use components of a pathogenic organism rather than the whole organism are called
(a) Subunit recombinant vaccines (b) attenuated recombinant vaccines (c) DNA vaccines (d) conventional vaccines

119) All populations in a given physical area are defined as
(a) Biome (b) Ecosystem (c) Territory (d) Biotic factors

120) Organisms which can survive a wide range of temperatuer are called
(a) Ectotherms (b) Eurytherms (c) Endotherms (d) Stenotherms

121) The interaction in nature, where one gets benefit on the expense of other is...
(a) Predation (b) Mutualism (c) Amensalism (d) Commensalism

122) Predation and parasitism are which type of interactions?
(a) (+,+) (b) (+, O) (c) (--, --) (d) (+, --)

123) Competition between species leads to

(a) Extinction (b) Mutation (c) Amensalism (d) Symbiosis

124) Which of the following is an r-species

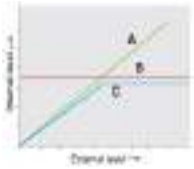
(a) Human (b) Insects (c) Rhinoceros (d) Whale

125) Match the following and choose the correct combination from the options given below.

Column I	Column II
A. Mutalism	1. Lion and deer
B. Commensalism	2. Round worm and man
C. Parasitism	3. Birds compete with squirrels for nuts
D. Competition	4. Sea anemone on hermit crab
E. Predation	5. Bernacles attached to Whales.

(a) A- 4, B-5, C-2, D – 3, E-1 (b) A- 3, B-1, C-4, D – 2, E-5 (c) A- 2, B-3, C-1, D – 5, E-4 (d) A- 5, B-4, C-2, D – 3, E-1

126) The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent respectively.



(a)

A	B	C
Conformer	Regulator	Partial Regulator

(b)

A	B	C
Regulatorr	Partial Regulator	Conformer

(c)

A	B	C
Partial Regulatorr	Regulator	Conformer

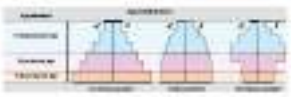
(d)

A	B	C
Regulatorr	Conformerr	Partial Regulatorr

127) The relationship between sucker fish and shark is_____

(a) Competition (b) Commensalism (c) Predation (d) Parasitism.

128) What type of human population is represented by the following age pyramid?



(a) Vanishing population (b) Stable population (c) Declining population (d) Expanding population

129) Which of the following is correct for r-selected species

(a) Large number of progeny with small size (b) large number of progeny with large size (c) small number of progeny with small size (d) small number of progeny with large size

130) Animals that can move from fresh water to sea called as_____

(a) Stenothermal (b) Eurythermal (c) Catadromous (d) Anadromous

131) Some organisms are able to maintain homeostasis by physical means _____

(a) Conform (b) Regulate (c) Migrate (d) Suspend.

132) Which of the following region has maximum biodiversity

(a) Taiga (b) Tropical forest (c) Temperate rain forest (d) Mangroves

133) Conservation of biodiversity within their natural habitat is

(a) Insitu conservation (b) Exsitu conservation (c) In vivo conservation (d) In vitro conservation

134) Which one of the following is not coming under insitu conservation

(a) Sanctuaries (b) Natural parks (c) Zoological park (d) Biosphere reserve

135) Which of the following is considered a hotspots of biodiversity in India

(a) Western ghats (b) Indo-gangetic plain (c) Eastern Himalayas (d) A and C

136) The organization which published the red list of species is

(a) WWF (b) IUCN (c) ZSI (d) UNEP

137) Who introduced the term biodiversity?

(a) Edward Wilson (b) Walter Rosen (c) Norman Myers (d) Alice Norman

138) Which of the following forests is known as the lungs of the planet earth?

(a) Tundra forest (b) Rain forest of north east India (c) Taiga forest (d) Amazon rain forest

139) Which one of the following are at high risk extinction due to habitat destruction

(a) Mammals (b) Birds (c) Amphibians (d) Echinoderms

140) Assertion: The Environmental conditions of the tropics are favourable for speciation and diversity of organisms.

Reason: The climate seasons, temperature, humidity and photoperiod are more or less stable and congenial.

(a) Both Assertion and Reason are true and Reason explains Assertion correctly. (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion. (c) Assertion is true, but (d) Both Assertion and

Reason is false. Reason are false.

141) Right to Clean Water is a fundamental right, under the Indian Constitution
(a) Article 12 (b) Article 21 (c) Article 31 (d) Article 41

142) With which of the following, the Agenda 21' of Rio Summit, 1992 is related to?
(a) Sustainable developmentpopulation (b) Combating the consequences of (c) Mitigation norms of Green House Gases (GHGs) emission (d) Technology transfer mechanism to developing countries for 'clean-energy' production

143) Which among the following awards instituted by the Government of India for individuals or communities from rural areas that have shown extraordinary courage and dedication in protecting Wildlife?
(a) Indira Gandhi Paryavaran Puraskar (b) Medini Puruskar Yojana (c) Amrita Devi Bishnoi Award (d) Pitambar Pant National Award

144) The 'thickness' of Stratospheric Ozone layer is measured in/on:
(a) Sieverts units (b) Dobson units (c) Melson units (d) Beaufort Scale

145) Which among the following is the most abundant Green-House-Gas (GHG) in the earth's atmosphere?
(a) Carbon dioxide (b) Water Vapour (c) Sulphur Dioxide (d) Tropospheric Ozone

146) As per 2017 statistics, the highest per capita emitter of Carbon dioxide in the world is
(a) USA (b) China (c) Qatar (d) Saudi Arabia

147) The use of microorganism metabolism to remove pollutants such as oil spills in the water bodies is known as
(a) Biomagnification (b) Bioremediation (c) Biomethanation (d) Bioreduction

148) The Ozone Day is observed every year on September 16 as on this day in 1987 the _____was signed for launching efforts to arrest the depletion of the fragile ozone layer in the stratosphere that prevents the harmful ultra-violet rays of the sun from reaching the earth. Fill the correct word in blank.
(a) Montreal Protocol (b) Geneva Protocol (c) Kyoto Protocol (d) Nagoya Protocol

149) Which among the following always decreases in a Food chain across tropic levels?
(a) Number (b) Accumulated chemicals (c) Energy (d) Force

150) In the E- waste generated by the Mobile Phones, which among the following metal is most abundant?
(a) Copper (b) Silver (c) Palladium (d) Gold

151) The Hydrochlorofluorocarbons (HCFCs) are the compounds which have the following molecules:
(a) Hydrogen (b) Carbon (c) Chlorine (d) Fluorine

152) SMOG is derived from :
(a) Smoke (b) Fog (c) Both A and B (d) Only A

153) Excess of fluoride in drinking water causes:
(a) Lung disease (b) Intestinal infection (c) Fluorosis (d) None of the above

154) Choose the correct statement from the following
(a) Gametes are involved in asexual reproduction (b) Bacteria reproduce asexually by budding (c) Conidia formation is a method of sexual reproduction (d) Yeast reproduce by budding

155) An eminent Indian embryologist is
(a) S.R.Kashyap (b) P.Maheswari (c) M.S. Swaminathan (d) K.C.Mehta

156) Identify the correctly matched pair
(a) Tuber - Allium cepa (b) Sucker - Pistia (c) Rhizome - Musa (d) Stolon - Zingiber

157) Pollen tube was discovered by
(a) J.G.Kolreuter (b) G.B.Amici (c) E.Strasburger (d) E.Hanning

158) Size of pollen grain in Myosotis
(a) 10 micrometer (b) 20 micrometer (c) 200 micrometer (d) 2000 micrometer

159) First cell of male gametophyte in angiosperm is
(a) Microspore (b) megaspore (c) Nucleus (d) Primary Endosperm Nucleus

160) Match the following
I) External fertilization i) pollen grain
II) Androecium ii)anther wall
III) Male gametophyte iii)algae
IV) Primary parietal layer iv)stamens
(a) I-iv;II-i;III-ii;IV-iii (b) I-iii;II-iv;III-i;IV-ii (c) I-iii;II-iv;III-ii,IV-i (d) I-iii;II-i;III-iv;IV-ii

161) Arrange the layers of anther wall from locus to periphery
(a) Epidermis,middle layers, tapetum, (b) Tapetum, middle layers, epidermis, (c) Endothecium, epidermis, middle (d) Tapetum, middle layers endothecium

endothecium endothecium layers, tapetum epidermis

162) Identify the incorrect pair
(a) sporopollenin - exine of pollen grain (b) tapetum – nutritive tissue for developing microspores (c) Nucellus – nutritive tissue for developing embryo (d) obturator – directs the pollen tube into micropyle

163) Assertion : Sporopollenin preserves pollen in fossil deposits
Reason : Sporopollenin is resistant to physical and biological decomposition
(a) assertion is true; reason is false (b) assertion is false; reason is true (c) Both Assertion and reason are not true (d) Both Assertion and reason are true.

164) Choose the correct statement(s) about tenuinucellate ovule
(a) Sporogenous cell is hypodermal (b) Ovules have fairly large nucellus (c) sporogenous cell is epidermal (d) ovules have single layer of nucellus tissue

165) Which of the following represent megagametophyte
(a) Ovule (b) Embryo sac (c) Nucellus (d) Endosperm

166) In Haplopappus gracilis, number of chromosomes in cells of nucellus is 4. What will be the chromosome number in Primary endosperm cell?
(a) 8 (b) 12 (c) 6 (d) 2

167) Transmitting tissue is found in
(a) Micropylar region of ovule (b) Pollen tube wall (c) Stylar region of gynoecium (d) Integument

168) The scar left by funiculus in the seed is
(a) tegmen (b) radicle (c) epicotyl (d) hilum

169) A Plant called X possesses small flower with reduced perianth and versatile anther. The probable agent for pollination would be
(a) water (b) air (c) butterflies (d) beetles

170) Consider the following statement(s)
i) In Protandrous flowers pistil matures earlier
ii) In Protogynous flowers pistil matures earlier
iii) Herkogamy is noticed in unisexual flowers
iv) Distyly is present in Primula
(a) i and ii are correct (b) ii and iv are correct (c) ii and iii are correct (d) i and iv are correct

171) Coelorhiza is found in
(a) Paddy (b) Bean (c) Pea (d) Tridax

172) Parthenocarpic fruits lack
(a) Endocarp (b) Epicarp (c) Mesocarp (d) seed

173) In majority of plants pollen is liberated at
(a) 1 celled stage (b) 2 celled stage (c) 3 celled stage (d) 4 celled stage

174) Extra nuclear inheritance is a consequence of presence of genes in
(a) Mitrochondria and chloroplasts (b) Endoplasmic reticulum and mitrochondria (c) Ribosomes and chloroplast (d) Lysososmes and ribosomes

175) In order to find out the different types of gametes produced by a pea plant having the genotype AaBb, it should be crossed to a plant with the genotype
(a) aaBB (b) AaBB (c) AABB (d) aabb

176) How many different kinds of gametes will be produced by a plant having the genotype AABbCC?
(a) Three (b) Four (c) Nine (d) Two

177) Which one of the following is an example of polygenic inheritance?
(a) Flower colour in Mirabilis Jalapa (b) Production of male honey bee (c) Pod shape in garden pea (d) Skin Colour in humans

178) In Mendel's experiments with garden pea, round seed shape (RR) was dominant over wrinkled seeds (rr), yellow cotyledon (YY) was dominant over green cotyledon (yy). What are the expected phenotypes in the F2 generation of the cross RRYY x rryy?
(a) Only round seeds with green cotyledons (b) Only wrinkled seeds with yellow cotyledons (c) Only wrinkled seeds with green cotyledons (d) Round seeds with yellow cotyledons an wrinkled seeds with yellow cotyledons

179) Test cross involves
(a) Crossing between two genotypes with recessive trait (b) Crossing between two F_1 hybrids (c) Crossing the F_1 hybrid with a double recessive genotype (d) Crossing between two genotypes with dominant trait

180) In pea plants, yellow seeds are dominant to green. If a heterozygous yellow seed pant is crossed with a green seeded plant, what ratio of yellow and green seeded plants would you expect in F_1 generation?
(a) 9:1 (b) 1:3 (c) 3:1 (d) 50:50

181) The genotype of a plant showing the dominant phenotype can be determined
(a) Back cross (b) Test cross (c) Dihybrid corss (d) Pedigree analysis

182) Select the correct statement from the ones given below with respect to dihydrid cross
(a) Tightly linked genes on the same chromosomes show very few combinations (b) Tightly linked genes on the same chromosomes show higher combinations (c) Genes far apart on the same chromosomes show very few recombinations (d) Genes loosely linked on the same chromosomes show similar recombinations as the tightly linked ones

183) Which Mendelian idea is depicted by a cross in which the F1 generation resembles both the parents
(a) Incomplete dominance (b) Law of dominance (c) Inheritance of one gene (d) Co-dominance

184) Fruit colour in squash is an example of
(a) Recessive epistatsis (b) Dominant epistasis (c) Complementary genes (d) Inhibitory genes

185) In his classic experiments on Pea plants, Mendel did not use
(a) Flowering position (b) Seed colour (c) Pod length (d) Seed shape

186) The epistatic effect, in which the dihybrid cross 9:3:3:1 between AaBb Aabb is modified as
(a) Dominance of one allele on another allele of both loci (b) Interaction between two alleles of different loci (c) Dominance of one allele to another alleles of same loci (d) Interaction between two alleles of some loci

187) In a test cross involving F1 dihybrid flies, more parental type offspring were produced than the recombination type offspring. This indicates
(a) The two genes are located on two different chromosomes (b) Chromosomes failed to separate during meiosis (c) The two genes are linked and present on the some chromosome (d) Both of the characters are controlled by more than one gene

188) The genes controlling the seven pea characters studied by Mendel are known to be located on how many different chromosomes?
(a) Seven (b) Six (c) Five (d) Four

189) Which of the following explains how progeny can posses the combinations of traits that none of the parent possessed?
(a) Law of segregation (b) Chromosome theory (c) Law of independent assortment (d) Polygenic inheritance

190) “Gametes are never hybrid”. This is a statement of
(a) Law of dominance (b) Law of independent assortment (c) Law of segregation (d) Law of random fertilization

191) Gene which suppresses other genes activity but does not lie on the same locus is called as
(a) Epistatic (b) Supplement only (c) Hypostatic (d) Codominant

192) Pure tall plants are crossed with pure dwarf plants. In the F1 generation, all plants were tall. These tall plants of F1 generation were selfed and the ratio of tall to dwarf plants obtained was 3:1. This is called
(a) Dominance (b) Inheritance (c) Codominance (d) Heredity

193) The dominant epistatis ratio is
(a) 9:3:3:1 (b) 12:3:1 (c) 9:3:4 (d) 9:6:1

194) Select the period for Mendel’s hybridization experiments
(a) 1856 - 1863 (b) 1850 - 1870 (c) 1857 - 1869 (d) 1870 - 1877

195) Among the following characters which one was not considered by Mendel in his experimentation pea?
(a) Stem – Tall or dwarf (b) Trichomal glandular or non-glandular (c) Seed – Green or yellow (d) Pod – Inflated or constricted

196) An allohexaploidy contains
(a) Six different genomes (b) Six copies of three different genomes (c) Two copies of three different genomes (d) Six copies of one genome

197) The A and B genes are 10 cM apart on a chromosome. If an AB/ab heterozygote is testcrossed to ab/ab, how many of each progeny class would you expect out of 100 total progeny?
(a) 25 AB, 25 ab, 25 Ab, 25 aB(b) 10 AB, 10 ab(c) 45 AB, 45 ab(d) 45 AB, 45 ab, 5 Ab, 5aB

198) Match list I with list II

List I	list II
A. A pair of chromosomes extra with diploid	i) monosomy
B. One chromosome extra to the diploid	ii) tetrasomy
C. One chromosome loses from diploid	iii) trisomy
D.Two individual chromosomes lose from diploid	iv) double monosomy

(a) A-i, B-iii, C-ii, D-iv (b) A-ii, B-iii, C-iv, D-i (c) A-ii, B-iii, C-i, D-iv (d) A-iii, B-ii, C-i, D-iv

199) Which of the following sentences are correct?

1. The offspring exhibit only parental combinations due to incomplete linkage
2. The linked genes exhibit some crossing over in complete linkage
3. The separation of two linked genes are possible in incomplete linkage
4. Crossing over is absent in complete linkage

(a) 1 and 2 (b) 2 and 3 (c) 3 and 4 (d) 1 and 4

200) Accurate mapping of genes can be done by three point test cross because increases

(a) Possibility of single cross over (b) Possibility of double cross over (c) Possibility of multiple cross over (d) Possibility of recombination frequency

201) Due to incomplete linkage in maize, the ratio of parental and recombinants are

(a) 50:50 (b) 7:1:1:7 (c) 96.4: 3.6 (d) 1:7:7:1

202) Genes G S L H are located on same chromosome. The recombination percentage is between L and G is 15%, S and L is 50%, H and S are 20%. The correct order of genes is

(a) GHSL (b) SHGL (c) SGHL (d) HSLG

203) The point mutation sequence for transition, transition, transversion and transversion in DNA are

(a) A to T, T to A, C to G and G to C (b) A to G, C to T, C to G and T to A (c) C to G, A to G, T to A and G to A (d) G to C, A to T, T to A and C to G

204) If haploid number in a cell is 18. The double monosomic and trisomic number will be

(a) 35 and 37 (b) 34 and 37 (c) 37 and 35 (d) 17 and 19

205) Changing the codon AGC to AGA represents

(a) mis-sense mutation (b) non-sense mutation (c) frameshift mutation (d) deletion mutation

206) Assertion (A): Gamma rays are generally use to induce mutation in wheat varieties.
Reason (R): Because they carry lower energy to non-ionize electrons from atom

(a) A is correct. R is correct explanation of A (b) A is correct. R is not correct explanation of A (c) A is correct. R is wrong explanation of A (d) A and R is wrong

207) How many map units separate two alleles A and B if the recombination frequency is 0.09?

(a) 900 cM (b) 90 cM (c) 9 cM (d) 0.9 cM

208) Restriction enzymes are

(a) Not always required in genetic engineering (b) Essential tools in genetic engineering (c) Nucleases that cleave DNA at specific sites (d) both b and c

209) Plasmids are

(a) circular protein molecules (b) required by bacteria (c) tiny bacteria (d) confer resistance to antibiotics

210) EcoRI cleaves DNA at

(a) AGGGTT (b) GTATATC (c) GAATTC (d) TATAGC

211) Genetic engineering is

(a) making artificial genes. (b) hybridization of DNA of one organism to that of the others. (c) production of alcohol by using micro organisms. (d) making artificial limbs, diagnostic instruments such as ECG, EEG etc.,

212) Consider the following statements:

I. Recombinant DNA technology is popularly known as genetic engineering is a stream of biotechnology which deals with the manipulation of genetic materials by man invitro
II. pBR322 is the first artificial cloning vector developed in 1977 by Boliver and Rodriguez from E.coli plasmid
III. Restriction enzymes belongs to a classof enzymes called nucleases.
C hoose the correct option regarding above statements

(a) I & II (b) I & III (c) II & III (d) I,II & III

213) The process of recombinant DNA technology has the following steps

I. amplication of the gene
II. Insertion of recombinant DNA into the host cells
III. Cutting of DNA at specific location using restriction enzyme .
IV. Isolation of genetic material (DNA) Pick out the correct sequence of step for recombinant DNA technology.

(a) ii, iii, iv, and i (b) iv, ii, iii, and i (c) i, ii, iii, and iv (d) iv, iii, i, and ii

214) Which one of the following palindromic base sequence in DNA can be easily cut at about the middle by some particular restriction enzymes?

(a) 5' CGTTCG 3' 3' ATCGTA 5' (b) 5'GATATG 3' 3' CTACTA 5' (c) 5'GAATTC 3' 3' CTTAAG 5' (d) 5'CACGTA 3' 3' CTCAGT 5'

215) pBR 322, BR stands for

(a) Plasmid Bacterial (b) Plasmid Bacterial (c) Plasmid Boliver (d) Plasmid Baltimore

Recombination Replication and Rodriguez and Rodriguez

216) Which of the following one is used as a Biosensors?

(a) Electrophoresis (b) Bioreactors (c) Vectors (d) Electroporation

217)

Column A	Column B
1 Exonuclease	a. add or remove phosphate
2 Endonuclease	b. binding the DNA fragments
3 Alkaline Phosphatase	c. cut the DNA at terminus
4 Ligase	d. cut the DNA at middle

(a) A) a b c d (b) B) c d b a (c) C) a c b d (d) D) c d a b

218) `In which techniques Ethidium Bromide is used?

(a) **Southern Blotting techniques** (b) Western Blotting techniques (c) Polymerase Chain Reaction (d) Agrose Gel Electroporosis

219) Assertion : Agrobacterium tumifaciens is popular in genetic engineering because this bacteriumis associated with the root nodules of all cereals and pulse crops

Reason: A gene incorporated in the bacterial chromosomal genome gets atomatically transferred to the cross with which bacterium is associated.

(a) Both assertion and reason are true. But reason is correct explanation of assertion. (b) Assertion is true, but reason is false. (c) Assertion is false, but reason is true (d) Both assertion and reason are false.

220) Which one of the following is not correct statement

(a) Ti plasmid causes the bunchy top disease (b) Multiple cloning site is known as Polylinkeracid in cell (c) Non viral method transfection of Nucleic (d) Polylactic acid is a kind of biodegradable and bioactive thermoplastic.

221) An analysis of chromosomal DNA using the southern hybridisation technique does not use

(a) Electrophoresis (b) Blotting (c) Autoradiography (d) Polymerase Chain Reaction

222) An antibiotic gene in a vector usually helps in the selection of

(a) Competent cellsc (b) Transformed cells (c) Recombinant cells (d) None of the above

223) Some of the characteristics of Bt cotton are

(a) Long fibre and resistant to aphids (b) Medium yield, long fibre and resistant to beetle pests (c) high yield and production of toxic protein crystals which kill dipteran pests. (d) High yield and resistant to ball worms

224) Totipotency refers to

(a) capacity to generate genetically identical plants. (b) capacity to generate a whole plant from any plant cell / explant. (c) capacity to generate hybrid protoplasts. (d) recovery of healthy plants from diseased plants.

225) Micro propagation involves

(a) vegetative multiplication of plants by using micro-organisms. (b) vegetative multiplication of plants by using small explants. (c) vegetative multiplication of plants by using microspores. (d) Non-vegetative multiplication of plants by using microspores and megaspores.

226) Match the following :

Column A

Column B

1) Totipotency A) Reversion of mature cells into meristerm

2) Dedifferentiation B) Biochemical and structural changes of cells

3) Explant C) Properties of living cells develops into entire plant

4) Differentiation D) Selected plant tissue transferred to culture medium

(a) C A D B (b) A C B D (c) B A D C (d) D B C A

227) The time duration for sterilization process by using autoclave is _____ minutes and the temperature is _____

(a) 10 to 30 minutes and 125° C (b) 15 to 30 minutes and 121° C (c) 15 to 20 minutes and 125° C (d) 10 to 20 minutes and 121° C

228) Which of the following statement is correct

(a) Agar is not extracted from marine algae such as seaweeds (b) Callus undergoes differentiation and produces somatic embryoids. (c) Surface sterilization of explants is done by using mercuric bromide (d) P^H of the culture medium is 5.0 to 6.0

229) Select the incorrect statement from given statement

(a) A tonic used for cardiac arrest is obtained from Digitalis purpuria (b) Medicine used to treat Rheumatic pain is extracted from Capsicum annum (c) An anti malarial drug is isolated from Cinchona officinalis. (d) Anti-cancinogenic property is not seen in Catharanthus roseus.

230) Virus free plants are developed from

(a) Organ culture (b) Meristem culture (c) Protoplast culture (d) Cell suspension culture

231) The prevention of large scale loss of biological interity

(a) Biopatent (b) Bioethics (c) Biosafety (d) Biofuel

232) Cryopreservation means it is a process to preserve plant cells, tissues or organs

(a) at very low temperature by using ether. (b) at very high temperature by using liquid nitrogen (c) at very low temperature of -196 by using liquid nitrogen (d) at very low temperature by using liquid nitrogen

233) Solidifying agent used in plant tissue culture is

(a) Nicotinic acid (b) Cobaltous chloride (c) EDTA (d) Agar

234) Arrange the correct sequence of ecological hierarchy starting from lower to higher level.

(a) Individual organism → Population → Landscape → Ecosystem (b) Landscape → Ecosystem → Biome → Biosphere (c) community → Ecosystem → Landscape → Biome (d) Population → organism → Biome → Landscape

235) Ecology is the study of an individual species is called

i) Community ecology

ii) Autecology

iii) Species ecology

iv) Synecology

(a) i only (b) ii only (c) i and iv only (d) ii and iii only

236) A specific place in an ecosystem, where an organism lives and performs its functions is

(a) habitat (b) niche (c) landscape (d) biome

237) Read the given statements and select the correct option.

i) Hydrophytes possess aerenchyma to support themselves in water.

ii) Seeds of Viscum are positively photoblastic as they germinate only in presence of light.

iii) Hygroscopic water is the only soil water available to roots of plant growing in soil as it is present inside the micropores.

iv) High temperature reduces use of water and solute absorption by roots

(a) i, ii, and iii only (b) ii, iii and iv (c) ii and iii only (d) i and ii only

238) Which of the given plant produces cardiac glycosides?

(a) Calotropis (b) Acacia (c) Nepenthes (d) Utricularia

239) Read the given statements and select the correct option.

i) Loamy soil is best suited for plant growth as it contains a mixture of silt, sand and clay.

ii) The process of humification is slow in case of organic remains containing a large amount of lignin and cellulose.

iii) Capillary water is the only water available to plant roots as it is present inside the micropores.

iv) Leaves of shade plant have more total chlorophyll per reaction centre, low ratio of chl a and chl b are usually thinner leaves.

(a) i, ii and iii only (b) ii, iii and iv only (c) i, ii and iv only (d) ii and iii only

240) Read the given statements and select the correct option.

Statement A : Cattle do not graze on weeds of Calotropis.

Statement B : Calotropis have thorns and spines, as defense against herbivores.

(a) Both statements A and B are incorrect. (b) Statement A is correct but statement B is incorrect (c) Both statements A and B are correct but statement B is not the correct explanation of statement A. (d) Both statements A and B are correct and statement B is the correct explanation of statement A.

241) In soil water available for plants is

(a) gravitational water (b) chemically bound water (c) capillary water (d) hygroscopic water

242) Read the following statements and fill up the blanks with correct option.

i) Total soil water content in soil is called _____

ii) Soil water not available to plants is called _____

iii) Soil water available to plants is called

(a)			(b)			(c)			(d)		
(i)	(ii)	(iii)	i	ii	iii	i	ii	iii	i	ii	iii
Holard	Echard	Chresard	Echard	Holard	Chresard	Chresard	Echard	Holard	Holard	Chresard	Echard

243) Column I represent the size of the soil particles and Column II represents type of soil components. Which of the following is correct match for the Column I and Column II

Column - I	**Column - II**
I) 0.2 to 2.00 mm	i) Slit Soil
II) Less than 0.002	ii) Clayey Soil
III) 0.002 to 0.02 mm	iii) Sandy Soil
IV) 0.002 to 0.2 mm	iv) Loamy Soil

(a) (b) (c) (d) None of the above

I	II	III	IV
ii	iii	iv	i

I	II	III	IV
vi	i	iii	ii

I	II	III	IV
iii	ii	i	iv

244) The plant of this group are adapted to live partly in water and partly above substratum and free from water
(a) Xerophytes (b) Mesophytes (c) Hydrophytes (d) Halophytes

245)

Interaction	Effects on species X	Effects on species Y
Mutualism	A	(+)
B	(+)	(-)
Competition	(-)	C
D	(-)	o

(a)

A	B	C	D
(+)	Parasitism	(-)	Amensalism

(b)

A	B	C	D
(-)	Mutualism	(+)	Competition

(c)

A	B	C	D
(+)	Competition	(0)	Mutualism

(d)

A	B	C	D
(O)	Amensalism	(+)	Parasitism

246) Ophrys an orchid resembling the female of an insect so as to able to get pollinated is due to phenomenon of
(a) Myrmecophily (b) Ecological equivalents (c) Mimicry (d) None of these

247) A free living nitrogen fixing cyanobacterium which can also form symbiotic association with the water fern Azolla
(a) Nostoc (b) Anabaena (c) chlorella (d) Rhizobium

248) Pedogenesis refers to
(a) Fossils (b) Water (c) Population (d) Soil

249) Mycorrhiza promotes plant growth by
(a) Serving as a plant growth regulators (b) Absorbing inorganic ions from soil (c) Helping the plant in utilizing atmospheric nitrogen (d) Protecting the plant from infection

250) Which of the following plant has a non-succulent xerophytic and thick leathery leaves with waxy coating
(a) Bryophyllum (b) Ruscus (c) Nerium (d) Calotropis

251) In a fresh water environment like pond, rooted autotrophs are
(a) Nymphaea and typha (b) Ceratophyllum and Utricularia (c) Wolffia and pistia (d) Azolla and lemna

252) Match the following and choose the correct combination from the options given below:

Column I (Interaction)	**Column II (Examples)**
I. Mutualism	i) Trichoderma and Penicillium
II. Commensalism	ii) Balanophora, Orobanche
III. Parasitism	iii) Orchids and Ferns
IV. Predation	iv) Lichen and Mycorrhiza
V. Amensalism	v) Nepenthes and Diaonaea

(a)

I	II	III	IV	V
i	ii	iii	iv	v

(b)

I	II	III	IV	V
ii	iii	iv	v	i

(c)

I	II	III	IV	V
iii	iv	v	i	ii

(d)

I	II	III	IV	V
iv	iii	ii	v	i

253) Strong, sharp spines that get attached to animal's feet are found in the fruits of
(a) Argemone (b) Ecballium (c) Heritier (d) Crossandra

254) Sticky glands of Boerhaavia and Cleome support
(a) Anemochory (b) Zoochory (c) Autochory (d) Hydrochory

255) Which of the following is not a abiotic component of the ecosystem?
(a) Bacteria (b) Humus (c) Organic compounds (d) Inorganic compounds

256) Which of the following is / are not a natural ecosystem?
(a) Forest ecosystem (b) Rice field (c) Grassland ecosystem (d) Desert ecosystem

257) Pond is a type of
(a) forest ecosystem (b) grassland ecosystem (c) marine ecosystem (d) fresh water ecosystem

258) Pond ecosystem is
(a) not self sufficient and self regulating (b) partially self sufficient and self regulating (c) self sufficient and not self regulating (d) self sufficient and self regulating

259) Profundal zone is predominated by heterotrophs in a pond ecosystem, because of
(a) with effective light penetration (b) no effective light penetration (c) complete absence of light (d) a and b

260) Solar energy used by green plants for photosynthesis is only
(a) 2 – 8% (b) 2 – 10% (c) 3 – 10% (d) 2 – 9%

261) Which of the following ecosystem has the highest primary productivity?
(a) Pond ecosystem (b) Lake ecosystem (c) Grassland ecosystem (d) Forest ecosystem

262) Ecosystem consists of
(a) decomposers (b) producers (c) consumers (d) all of the above

263) Which one is in descending order of a food chain

(a) Producers → Secondary consumers → Primary consumers → Tertiary consumers

(b) Tertiary consumers → Primary consumers →Secondary consumers → Producers

(c) Tertiary consumers → Secondary consumers → Primary consumers → Producers

(d) Tertiary consumers → Producers → Primary consumers → Secondary consumers

264) Significance of food web is / are

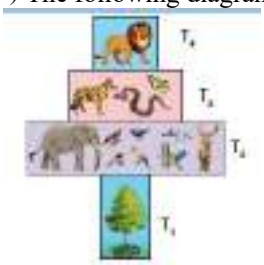
(a) it does not maintain stability in nature

(b) it shows patterns of energy transfer

(c) it explains species interaction

(d) b and c

265) The following diagram represents



(a) pyramid of number in a grassland ecosystem

(b) pyramid of number in a grassland ecosystem

(c) pyramid of number in a pond ecosystem

(d) pyramid of biomass in a pond ecosystem

266) Which of the following is / are not the mechanism of decomposition

(a) Eluviation (b) Catabolism (c) Anabolism (d) fragmentation

267) Which of the following is not a sedimentary cycle

(a) Nitrogen cycle (b) Phosphorous cycle (c) Sulphur cycle (d) Calcium cycle

268) Which of the following are not regulating services of ecosystem services

i) Genetic resources

ii) Recreation and aesthetic values

iii) Invasion resistance

iv) Climatic regulation

(a) i and iii (b) ii and iv (c) i and ii (d) i and iv

269) Which of the following would most likely help to slow down the greenhouse effect.

(a) Converting tropical forests into grazing land for cattle.

(b) Ensuring that all excess paper packaging is buried to ashes.

(c) Redesigning landfill dumps to allow methane to be collected.

(d) Promoting the use of private rather than public transport.

270) With respect to Eichhornia

Statement A: It drains off oxygen from water and is seen growing in standing water.

Statement B: It is an indigenous species of our country.

(a) Statement A is correct and Statement B is wrong

(b) Both Statements A and B are correct

(c) Statement A is correct and Statement B is wrong.

(d) Both statements A and B are wrong

271) Find the wrongly matched pair.

(a) Endemism - Species confined to a region and not found anywhere else.

(b) Hotspots - Western ghats

(c) Ex-situ Conservation - Zoological parks

(d) Sacred groves - Saintri hills of Rajasthan

(e) Alien sp. Of India - Water hyacinth

272) Depletion of which gas in the atmosphere can lead to an increased incidence of skin cancer?

(a) Ammonia (b) Methane (c) Nitrous oxide (d) Ozone

273) One green house gas contributes 14% of total global warming and another contributes 6%. These are respectively identified as

(a) N_2O and CO_2 (b) CFC_s and N_2O (c) CH_4 and CO_2 (d) CH_4 and CFCS

274) One of the chief reasons among the following for the depletion in the number of species making endangered is

(a) over hunting and poaching

(b) green house effect

(c) competition and predation

(d) Habitat destruction

275) Deforestation means

(a) growing plants and trees in an area where there is no forest

(b) growing plants and trees in an area where the forest is removed

(c) growing plants and trees in a pond

(d) Removal of plants and trees

276) Deforestation does not lead to

(a) Quick nutrient cycling

(b) soil erosion

(c) alternation of local weather conditions

(d) Destruction of natural habitat weather conditions

277) The unit for measuring ozone thickness

(a) Joule (b) Kilos (c) Dobson (d) Watt

278) People's movement for the protection of environment in Sirsi of Karnataka is
(a) Chipko movement (b) Amirtha Devi Bishwas movement (c) Appiko movement (d) None of the above

279) The plants which are grown in silivpasture system are
(a) Sesbania and Acacia (b) Solenum and Crotalaria (c) Clitoria and Begonia (d) Teak and sandal

280) Assertion: Genetic variation provides the raw material for selection
Reason: Genetic variations are differences in genotypes of the individuals.
(a) Assertion is right and reason is wrong. (b) Assertion is wrong and reason is right (c) Both reason and assertion is right. (d) Both reason and assertion is wrong.

281) While studying the history of domestication of various cultivated plants _____ were recognized
earlier
(a) Centres of origin (b) Centres of domestication (c) Centres of hybrid (d) Centres of variation

282) Pick out the odd pair
(a) Mass selection - Morphological characters (b) Purline selection - Repeated self pollination (c) Clonal selection - Sexually propagated (d) Natural selection - Involves nature

283) Match Column I with Column II
Column I Column II
i) William S. Gaud I) Heterosis
ii) Shull II) Mutation breeding
iii) Cotton Mather III) Green revolution
iv) Muller and Stadler IV) Natural hybridization
(a) i – I, ii – II, iii – III, iv – IV (b) i – III, ii – I, iii – IV, iv – II (c) i – IV, ii – II, iii – I, iv – IV (d) i – II, ii – IV, iii – III, iv – I

284) The quickest method of plant breeding is
(a) Introduction (b) Selection (c) Hybridization (d) Mutation breeding

285) Desired improved variety of economically useful crops are raised by
(a) Natural Selection (b) hybridization (c) mutation (d) biofertilisers

286) Plants having similar genotypes produced by plant breeding are called
(a) clone (b) haploid (c) autopolyploid (d) genome

287) Importing better varieties and plants from outside and acclimatising them to local environment is called
(a) cloning (b) heterosis (c) selection (d) introduction

288) Dwarfing gene of wheat is
(a) pal 1 (b) Atomita 1 (c) Norin 10 (d) pelita 2

289) Crosses between the plants of the same variety are called
(a) interspecific (b) inter varietal (c) intra varietal (d) inter generic

290) Progeny obtained as a result of repeat self pollination a cross pollinated crop to called
(a) pure line (b) pedigree line (c) inbreed line (d) heterosis

291) Jaya and Ratna are the semi dwarf varieties of
(a) wheat (b) rice (c) cowpea (d) mustard

292) Which one of the following are the species that are crossed to give sugarcane varieties with high sugar, high yield, thick stems and ability to grow in the sugarcane belt of North India?
(a) Saccharum robustum and Saccharum officinarum (b) Saccharum barberi and Saccharum officinarum (c) Saccharum sinense and Saccharum officinarum (d) Saccharum barberi and Saccharum robustum

293) Match column I (crop) with column II (Corresponding disease resistant variety) and select the correct option from the given codes.
Column I Column II
I) Cowpea i) Himgiri
II) Wheat ii) Pusa komal
III) Chilli iii) Pusa Sadabahar
IV) Brassica iv) Pusa Swarnim
(a) iv iii ii i (b) ii i iii iv (c) ii iv i iii (d) i iii iv ii

294) A wheat variety, Atlas 66 which has been used as a donor for improving cultivated wheat, which is rich in
(a) iron (b) carbohydrates (c) proteins (d) vitamins

295) Which one of the following crop varieties correct matches with its resistance to a disease?
(a) (b) (c) (d)

Variety	Resistance to disease	Variety	Resistance to disease	Variety	Resistance to disease	Variety	Resistance to disease
Pusa Komal	Bacterial blight	Pusa Sadabahar	White rust	Pusa Shubhra	Chilli mosaic virus	Brassica	Pusa swarnim

296) Which of the following is incorrectly paired?
(a) Wheat - Himgiri (b) Milch breed - Sahiwal (c) Rice - Ratna (d) Pusa Komal - Brassica

297) Match list I with list II

List I	List II
Biofertilizer	Organisms
i) Free living N2	a) Aspergillus
ii) Symbiotic N2	b) Amanita
iii) P Solubilizing	c) Anabaena azollae
iv) P Mobilizing	d) Azotobactor

(a) ic, iia, iiib, ivd (b) id, iic, iiia, ivb. (c) ia, iic, iiib, ivd (d) ib, iia, iiid, ivc

298) Consider the following statements and choose the right option.
i) Cereals are members of grass family.
ii) Most of the food grains come from monocotyledon.
(a) (i) is correct and (ii) is wrong (b) Both (i) and (ii) are correct (c) (i) is wrong and (ii) is correct (d) Both (i) and (ii) are wrong

299) Assertion: Vegetables are important part of healthy eating.
Reason: Vegetables are succulent structures of plants with pleasant aroma and flavours.
(a) Assertion is correct, Reason is wrong (b) Assertion is wrong, Reason is correct (c) Both are correct and reason is the correct explanation for assertion. (d) Both are correct and reason is not the correct explanation for assertion.

300) Groundnut is native of _____
(a) Philippines (b) India (c) North America (d) Brazil

301) Statement A: Coffee contains caffeine
Statement B: Drinking coffee enhances cancer
(a) A is correct, B is wrong (b) A and B – Both are correct (c) A is wrong, B is correct (d) A and B – Both are wrong

302) Tectona grandis is coming under family
(a) Lamiaceae (b) Fabaceae (c) Dipterocaipaceae (d) Ebenaceae

303) Tamarindus indica is indigenous to
(a) Tropical African region (b) South India, Sri Lanka (c) South America, Greece (d) India alone

304) New world species of cotton
(a) Gossipium arboretum (b) G.herbaceum (c) Both a and b (d) G.barbadense

305) Assertion: Turmeric fights various kinds of cancer
Reason: Curcumin is an anti-oxidant present in turmeric
(a) Assertion is correct, Reason is wrong (b) Assertion is wrong, Reason is correct (c) Both are correct (d) Both are wrong

306) Find out the correctly matched pair.
(a) Rubber-Shorea robusta (b) Dye-Lawsonia inermis (c) Timber-Cyperus papyrus (d) Pulp-Hevea brasiliensis

307) Observe the following statements and pick out the right option from the following:
Statement I – Perfumes are manufactured from essential oils.
Statement II – Essential oils are formed at different parts of the plants.
(a) Statement I is correct (b) Statement II is correct (c) Both statements are correct (d) Both statements are wrong

308) Observe the following statements and pick out the right option from the following:
Statement I: The drug sources of Siddha include plants, animal parts, ores and minerals.
Statement II: Minerals are used for preparing drugs with long shelf-life.
(a) Statement I is correct (b) Statement II is correct (c) Both statements are correct (d) Both statements are wrong

309) The active principle trans-tetra hydro canabial is present in
(a) Opium (b) Curcuma (c) Marijuana (d) Andrographis

310) Which one of the following matches is correct?
(a) Palmyra - Native of Brazil (b) Saccharun - Abundant in Kanyakumari (c) Steveocide - Natural sweetener (d) Palmyra sap - Fermented to give ethanol

311) The only cereal that has originated and domesticated from the New world.
(a) Oryza sativa (b) Triticum asetumn (c) Triticum duram (d) Zea mays

312) Colostrum provides
(a) Naturally acquired (b) Naturally acquired (c) Artificially (d) Artificially acquired

active immunity | passive immunity | acquired active immunity | passive immunity

313) Paratope is an
(a) Antibody binding site on variable regions (b) Antibody binding site on heavy regions (c) Antigen binding site on variable regions (d) Antigen binding site on heavy regions

314) Allergy involves
(a) IgE (b) IgG (c) IgA (d) IgM

315) Anaphylactic shock is due to
(a) Allergic reaction (b) Secretion of toxins (c) Secretion of histamines (d) All the above

316) Spread of cancerous cells to distant sites is termed as
(a) Metastasis (b) Oncogenes (c) Proto-oncogenes (d) Malignant neoplasm

317) AIDS virus has
(a) Single stranded RNA (b) Double stranded RNA (c) Single stranded DNA (d) Double stranded DNA

318) All are peripheral lymphoid organs except
(a) Lymph nodes (b) Spleen (c) Mucosa associated lymphoid tissue (d) Thymus

319) Which is not a macrophage?
(a) Monocyte (b) Microglia (c) Kupffer cell (d) Lymphocyte

320) True about interferon is that
(a) It is synthetic antiviral agent (b) It inhibits viral replication in cells (c) It is specific for a particular virus (d) It causes infection

321) Cell mediated iriununity is carried out by _____ while humoral immunity is mainly carried out by
(a) B cells/T cells (b) Epitopes/antigens (c) T cells/B cells (d) antibodies/antigens

322) B Cells are activated by
(a) Complement (b) Antibody (c) Interferon (d) Antigen

323) In agglutination and precipitation reactions, the antigen is a _____ and _____ respectively
(a) Whole cell/soluble molecule (b) Soluble molecule/whole cell (c) Bacterium/virus (d) Protein/Antibody

324) B cells that produce and release large amounts of antibody are called
(a) Memory cells (b) Basophils (c) Plasma cells (d) killer cells

325) Raja is injured and got swelling. The swelling is due to the infection of tissue is an example of
(a) Mechanical barrier (b) Physiological barrier (c) Phagocytosis (d) Inflammation

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MCQ BOT CREATIVE

12th Standard

Biology

272 x 1 = 272

1) The unit of reproductive structure used in vegetative propagation is called as _____
(a) Diplospores (b) Aplanospores (c) Diaspores (d) Conidiospores

2) Which of the following aquatic plant is popularly known as the "Terror of Bengal"?
(a) Eichomia crassipes (b) Vallisneria spiralis (c) Pistia stratiotes (d) Zostera marina

3) The genetic ability of a plant cell to produce the entire plant is said to be _____
(a) Multipotency (b) Totipotency (c) Pleuripotency (d) Differentiation

4) A typical anther is _____
(a) Bisporangiate (b) Tetrasporangiate (c) Unisporangiate (d) Multisporangiate

5) Innermost layer of anther wall is _____
(a) Endothecium (b) Endothecum (c) Endothelium (d) Tapetum

6) Name the person who discovered the pollen tube?
(a) E. Strasburger (b) Hofmeister (c) Nehemiah Grew (d) G.B.Amici

7) Cleavage polyembryony is noticed in _____
(a) Orchids (b) Casuarina (c) Balanophora (d) Syzygium

8) Pick out the non-spermous seed
(a) Wheat (b) Sunflower (c) Bean (d) Orchids

9) The type of endosperm noticed in Hydrilla seed is _____
(a) Ruminate endosperm (b) Nuclear endosperm (c) Cellular endosperm (d) Helobial endosperm

10) Which is not a part of mature seed?
(a) Funiculus (b) Testa and tegma (c) hilum (d) Chalaza

11) Select the wrong statement(s) regarding cross-pollination.
(a) Pollination depends on external agent and so it is certain.
(b) New varieties are produced.
(c) Continuous cross-pollination leads to weaker progeny.
(d) Germination capacity is highly declined.
(a) a and d (b) b and c (c) a, band d (d) a, c and d

12) Which of the following characters does not exist in Ornithophilous flowers?
(a) Huge sized flowers (b) Bright coloured (c) Scented flowers (d) Nectar is secreted in large

13) Which of the following plant was introduced as a contaminant into India along with wheat?
(a) Parthenium hysterophorus (b) Zea mays (c) Rosa indica (d) Mangifera indica

14) The most common type of ovule noticed in dicots and monocots is
(a) Orthotropous (b) Anatropous (c) Campylotropus (d) Amphitropous

15) Generally, the pollen grains are liberated from another at _____
(a) 2-celled stage (b) 4-celled stage (c) 6-celled stage (d) 8-celled stage

16) Assertion (A): Self - pollination is certain in cleistogamous flowers.
Reason (R): Flowers never open and do not expose reproductive organs.
(a) Both A and R are incorrect. (b) A is correct R is incorrect. (c) R explains A correct explanation for A. (d) Both A and R are correct. R is not

17) Assertion (A): Entomophily is the most common type of pollination.
Reason (R): Birds and animals bring out effective pollination.
(a) Both A and R are incorrect. (b) A is correct R is incorrect. (c) R explains A. (d) Both A and R are correct. R is not a correct explanation for A.

18) Statement 1: Primary sporogenous cell functions as megaspore mother cell.
Statement 2: Megaspore mother cell undergoes mitotic division producing megaspores.
(a) Statement 1 is correct and statement 2 is incorrect. (b) Statement 1 is incorrect and statement 2 is correct. (c) Both the statements 1 and 2 are correct. (d) Both the statements 1 and 2 are incorrect.

19) Statement 1: Apomixis does not involve meiosis and syngamy.
Statement 2: The term Apomixis was introduced by Winkler.
(a) Statement 1 is correct and statement 2 is incorrect. (b) Statement 1 is incorrect and statement 2 is correct (c) Both the statements 1 and 2 are correct. (d) Both the statements 1 and 2 are incorrect.

20) Statement 1: The pollen grains are deposited on the receptive surface of style.
Statement 2: After landing, the first visible change in pollen is hydration.
(a) Statement 1 is correct (b) Statement 1 is (c) Both the (d) Both the

and statement 2 is incorrect. | incorrect and statement 2 is correct. | statements 1 and 2 are correct. | statements 1 and 2 are incorrect

21) Identify the incorrect statement regarding vegetative reproduction.
(a) Only one parent is required for propagation. | (b) New individuals are genetically dissimilar. | (c) Easy mode of reproduction | (d) Variation does not exist.

22) Identify the mismatched pair:
(a) Epidermal layer - Protective infunction | (b) Eridothecium layer - Helps in dehiscence of anther | (c) Middle layer - Persistent layer | (d) Tapetum - Nutritive in function

23) Identify the mismatched pair:
(i) Sucker - Chrysanthemum
(ii) Bulbils - Agave
(iii) Stolon - Fragaria
(iv) Runner - Lilium
(a) i only | (b) ii only | (c) iii only | (d) iv only

24) Assertion (A): Epidermis is protective in function.
Reason (R): Epidermis is outermost unilayer of another wall.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

25) Assertion (A): Microspores are the first cell of male gametophyte.
Reason (R): Microspores undergo development and form pollen grains.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

26) Assertion (A): Carica papaya is a dioecious plant.
Reason (R): Both male and female flowers are borne on same plant.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

27) Assertion (A): Anemophilous pollination occurs by animals.
Reason (R): Pollen grains are sticky for easy attachment on animals.
(a) A is correct R is incorrect | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and Rare correct.R does not explain A.

28) Assertion (A): Fusion of male and female gametes results in zygote.
Reason (R): Product of triple fusion is PEN.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

29) Assertion (A): Zea mays is a monocotyledonous plant.
Reason (R): Shield shaped cotyledon is called scutellum.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

30) Assertion (A): In Bryophyllum, vegetative propagation occurs through leaf.
Reason (R): Epiphyllous buds are noticed in Bryophyllum.
(a) A is correct R is incorrect. | (b) R explains A. | (c) Both A and R are incorrect. | (d) Both A and R are correct. R does not explain A.

31) Assertion (A): Androecium and Gynoecium are essential whorls of flower
Reason (R): Androecium and Gynoecium assist the reproduction.
(a) A is correct R is incorrect | (b) R explains A | (c) Both A and R are incorrect | (d) Both A and R are correct. R does not explain A

32) Identify the correct statement.
(a) Grafting is a modem method of artificial propagation. | (b) The plant which is used for graft is Scion. | (c) In tongue grafting, the scion bud is placed inside the incision beneath bark. | (d) Grafting is usually carried out in monocot plants.

33) Statement 1: Flower is a highly condensed shoot for reproductive purpose.
Statement 2: A complete flower possesses four whorls.
(a) Both the statements are incorrect. | (b) Statement 1 is correct and Statement 2 is incorrect. | (c) Both the statements are correct | (d) Statement 1 is incorrect and statement 2 is' correct.

34) Identify the incorrect statement.
(a) One seeded fruit of paddy is caryopsis. | (b) Primitive root is called coleorhiza. | (c) Sctellum is a part of mono cot seed. | (d) Embryonic axis above the cotyledon is epicotyl.

35) Identify the incorrect statement.
(a) The stalk of the ovule is funiculus. | (b) Nucellus is composed ofsclerenchymatous tissue | (c) Basal region of the ovule is chalaza end. | (d) Micropyle is always oriented opposite to chalaza

36) Identify the parthenocarpic fruit

(a) Banana (b) Pear (c) Papaya (d) More than one option is correct

37) A mature angiospermic embryo sac is _____

(a) 8 celled and 8 nucleated (b) 8 celled and 8 nucleated (c) 8 celled and 7 nucleated (d) 7 celled and 8 nucleated

38) Identify the type of ovule, where the nucellus acquires a horse-shoe shaped structure.

(a) Anatropus (b) Hemianatropus (c) Campylotropus (d) Amphitropus

39) The egg apparatus is made up of_____

(a) 1 egg cell and 2 antipodals (b) 1 egg cell and 2 polar nuclei (c) 1 egg cell and 1 secondary nuycleus (d) 1 egg cell and 2 synergids

40) Product of triple fusion is _____

(a) PEN (b) PEG (c) PVC (d) PPT

41) Ex-albuminous seeds are _____

(a) Pea, castor, paddy (b) Paddy, Coconut, Groundnut (c) Beans, coconut, castor (d) Groundnut, pea, beans

42) The white edible part of coconut is _____

(a) Epicarp (b) Endosperm (c) Embryo (d) Mesocarp

43) Observe the diagram and select the correct option mentioning the parts A, B, C and D

(a)

A	B	C	D
Radicle	Cotyledon	Testa	Plumule

(b)

A	B	C	D
Plumule	Cotyledon	Testa	Radicle

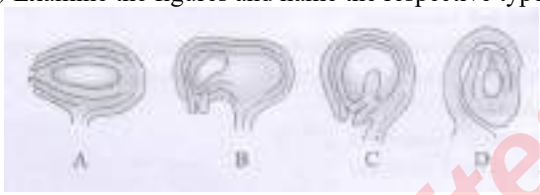
(c)

A	B	C	D
Cotyledon	Testa	Plumule	Radicle

(d)

A	B	C	D
Plumule	Radicle	Testa	Cotyledon

44) Examine the figures and name the respective type of ovule.



(a)

A	B	C	D
Campylotropus	Amphitropus	Circinotropus	Anatropus

(b)

A	B	C	D
Anatropus	Hemianatropu	Amphitropus	Campylotropus

(c)

A	B
Campylotropus	Circino

45) Attractants and rewards are required for _____

(a) Anemophily (b) Entamophily (c) Malacophily (d) Cheiropterophily

46) Filiform apparatus is a special cellular thickening which is seen in _____

(a) Antipodals (b) Polar nuclei (c) Nucellus (d) Synergids

47) In anatropous ovule, the micropyle faces _____

(a) Right side (b) Left side (c) Upward (d) Downward

48) Observe the diagram and select the correct option mentioning the parts A, B, C and D.

(a)

A	B	C	D
Synergid	Egg	polar nuclei	Antipodals

(b)

A	B	C	D
Antipodals	Synergid	polar nuclei	Egg

(c)

A	B	C	D
Egg	Synergid	Antipodals	polar nuclei

(d)

A	B	C	D
Antipodals	polar nuclei	Egg	Synergid

49) Which of the following post fertilization change is incorrectly matched?

(a) Secondary nucellus - Endosperms (b) Antipodals - Degenerates (c) Nucellus - Testa and tegma (d) Funicle - Seed stalk

50) Identify the correct adaptation that checks autogamy

(a) Homogamy (b) Cleistogamy (c) Herkogamy (d) None of the above

51) In monoecious plants,

(a) Both autogamy and geitonogamy are prevented (b) Both autogamy and geitonogamy are takes place (c) Autogamy takes place preventing geitonogamy (d) Autogamy is prevented whereas geitonogamy takes place

52) Identify the correct sequence of anther wall layers from periphery towards core part.

(a) Epidermis → endothelium → stomium → lapetum (b) Epidermis → middle layer → endothecium → endothelium (c) Epidermis → endothelium → middle layers → tapetum (d) Epidermis → endothelium → endothecium → tapetum

53) The proteins responsible for rejection reaction present in exine cavities of pollen is a derivative of _____
(a) Stomium (b) Endothecium (c) Tapetum (d) Ubisch bodies

54) Pick out the mismatched pair:
(a) Entomophily - Insects (b) Malacophily - Mammals (c) Cheiropterophily - Bats (d) Omithophily - Birds

55) Which is the most common type of style seen in monocots
(a) Open type (b) Closed type (c) Solid type (d) Half closed type

56) The term 'Genetics' was introduced by_____
(a) Gregor Mendel (b) Bateson (c) Hugo de Vries (d) Carl Correns

57) Which is not a correct statement?
(A) Variations are the raw materials for evolution
(B) Variations provide genetic material for natural selection
(C) It helps the individual to adapt to the changing environment
(D) Variations allow breeders to improve the crop field
(a) A and D (b) B only (c) C and D (d) none of he above

58) An allede is_____
(a) another word for a gene (b) Alternate forms of a gene (c) morphological expression of a gene (d) genetic make up of an organism

59) Gregor Mendel _____
(i) was born in Czechoslovakia
(ii) did his experiments in Pisum fulvum
(iii) was the first systemic researcher in genetics
(iv) Published his results in the paper "Experiments on Plant Hybrids"
(a) All are correct (b) (ii), (iii), (iv) are correct (c) (i), (iii),(iv) are correct (d) (i), (iii), (iv) are correct

60) How many characters studied by Mendel in pisum sativum
(a) Three (b) Five (c) Seven (d) Nine

61) Mendel's work were rediscovered by_____
(a) Hugo de Vries (b) Tschermak (c) Carl Correns (d) all the above

62) Crossing of F I to anyone of the parent refers to _____
(a) selfing (b) back cross (c) test cross (d) all of the above

63) In an intergenic interaction, the gene that suppresses the pherotype of a gene is said to be _____
(a) Dominant (b) Inhibitory (c) Epistatic (d) Hypostatic

64) Assertion (A): Test cross is done between F2 hybrid with F. recessive
Reason (R): It helps to identify the homozygosity of hybrids
(a) A and R are correct R explains A (b) A and R are incorrect (c) A is correct R is incorrect (d) A is incorrect R is correct

65) Assertion (A): Codominance is an example of intragenic interaction
Reason (R): Interaction takes place between the alleles of the same gene
(a) A and R are correct R explains A (b) A and R are incorrect (c) A is correct R is incorrect (d) A is incorrect R is correct

66) Assertion (A): Pleiotropic gene affects multiIple traits
Reason (R): ABO blood group is an example for Pleiotropism
(a) A and R are correct R explains A (b) A and R are incorrect (c) A is correct R is incorrect (d) A is incorrect R is correct

67) Assertion (A): Cytoplasmic male sterility is a Mendelian inheritance
Reason (R): The genes for cytoplasmic male sterility in peal maize is located at mitochondrial DNA
(a) A and R are correct R explains A (b) A and R are incorrect (c) A is correct R is incorrect (d) A is incorrect R is correct

68) What is the phenotypic ratio in case of incomplete dominance?
(a) 9: 7 (b) 3: 1 (c) 1: 2 : 1 (d) 1: 1 : 1 : 1

69) Identify the mismatched pair
(a) Chloroplast inheritance - Gregor Mendel (b) Polygenic inheritance - H. Nilsson - E. Baur (c) Lethal genes (d) Incomplete dominance - Carl Correns

70) Statement 1: Intergenic gene interaction occurs between alleles at the same locus
Statement 2: Co-dominance is an example of intergenic gene interaction
(a) Statement 1 is correct (b) Statement 1 is (c) Both (d) Both Statements

& Statement 2 is incorrect | incorrect & Statement 2 is correct | Statements 1 & 2 are correct | 1 & 2 are incorrect

71) Statement 1: Test cross is done between F1 individual with homozygous recessive
Statement 2: If F 1 individual is homozygous, the rate of a monohybrid cross will be 1:1
(a) Statement 1 is & Statement 2 is incorrect | (b) Statement 1 is incorrect & Statement 2 is correct | (c) Both Statements 1 & 2 are correct | (d) Both Statements 1 & 2 are incorrect

72) Identify the incorrect statement
(a) In incomplete dominance, the traits are blended not the genes | (b) Incomplete dominance is noticed in Mirabilis jalapa by Carl Correns | (c) It is a type of Intragenic gene interaction | (d) Incomplete dominance F2 ratio is 1 : 3 : 1

73) Incase of co-dominance, monohybrid F 1 _____ is 1: 2: 1
(a) Genotype ratio (b) Phenotype ratio (c) Both genotype & Phenotype ratio (d) Ratio is wrong

74) Identify the wrong statement(s)
(i) Monohybrid cross involves the inheritance of two alleles of a gene
(ii) The dwarf traits reappeared in F2
(iii) Law of dominance was proved by monohybrid cross
(iv) F 1 monohybrid was an heterozygous
(a) i and ii (b) iii and iv (c) i only (d) none of the above

75) Result of incomplete dominance is _____
(a) Intermediate genotype (b) Intermediate phenotype (c) Recessive phenotype (d) Epistasis

76) Heterozygous Tall mono hybrid is cross with homozygous dwarf. What will be characteristic of offspring?
(a) 25 % recessive 75% dominant | (b) 75 % recessive 25% dominant | (c) 50 % recessive 50% dominant | (d) All are dominants

77) ABO blood group is a classical example for _____
(a) Polygenic inheritance (b) Incomplete dominance (c) Epistasis (d) Dominance

78) RR (Red) flower of Mirabilis is crossed with White (WW) flowers. Resultant offspring are pink RW. This is an example of _____
(a) Epistasis (b) Co-dominance (c) Incomplete dominance (d) Pleiotropism

79) How many genetically different gametes are produced by a plant have genotype TtYyRr?
(a) 2 (b) 4 (c) 6 (d) 8

80) When a single gene influences multiple traits then the phenomenon is called _____
(a) Pleiotropy (b) Polygenic inheritance (c) Epistasis (d) Atavism

81) According to Mendel which character shown dominance
(a) Yellow flower color (b) Yellow cotyledon color (c) Wrinkled seeds (d) Inflated pod

82) Ratio of recessive epistasis is _____
(a) 12: 3 : 1 (b) 9: 7 (c) 9: 3 : 4 (d) 9: 6 : 1

83) According to Mendel, which is not a dominant trait?
(a) Wrinkled seeds (b) Purple flower (c) Inflated pod form (d) Axial flower portion

84) Identify the allelic interaction
(a) Dominant epistasis (b) Co-dominance (c) Recessive epistasis (d) Duplicate genes

85) 'Gametes are never hybrid' is concluded by _____
(a) Law of dominance | (b) Law of segregation | (c) Law of independent environment | (d) Law of lethality

86) Factor hypothesis was proposed by _____
(a) Reginald Punnett (b) W. Bateson (c) Gregor Mendel (d) Carl Correns

87) The 1 : 2 : 1 ratio of co-dominance process Mendel's _____
(a) Law of dominance | (b) Law of recessiveness | (c) Law of segregation | (d) Law of independent assortment

88) Name the scientist(s) who rediscovered the Mendelian work?
(i) Hugo de Vries
(ii) Carl Correns
(iii) Tschermak
(iv) T.H. Morgan
(a) i and iv (b) i, ii and iv (c) i, ii and iii (d) ii, iii and iv

89) Which is not a feature of the chromosomal theory of inheritance?
(a) Somatic cells of organisms are derived from zygote by repeated meiosis. | (b) Chromosomes retain their structural uniqueness throughout the life of an organism. | (c) Mendelian factors are located in chromosomes | (d) Sutton and Boveri independently proposed the theory.

90) The following sequence represents the location of genes in a chromosome. A - B - C - M - R - S - y -Z. Which of the gene pairs will have least chance of getting inherited together?
(a) A and M (b) Sand Y (c) M and Z (d) A and Y

91) Number of chromosomes (2n) in Ophioglossum is _____
(a) 1226 (b) 1622 (c) 1262 (d) 2126

92) Identify the syntenic gene from the given genes sequence of a chromosome G-H-I-J-K-L-M-A-B
(a) G and H (b) J, K and L (c) G andB (d) AandB

93) Incomplete linkage was reported by Hutchinson in _____
(a) Drosophila (b) Maize (c) Neurospora (d) Lathyrus odoratus

94) Mechanism of crossing over involves the following stages. Select the correct sequence.
(a) Tetrad stage ~ Synapsis ~ Bivalent stage ~ cross over
(b) Syndesis ~ Tetrad ~ Crossing over ~ Terminalisation
(c) Terminalisation ~ Tetrad ~ Bivalent ~ Cross over
(d) Cross over ~ Bivalent ~ Tetrad ~ Terminalisation

95) During cross over, chiasma occurs between
(a) Sister chromatids of non-homologous chromosomes
(b) Non-sister chromatids of non-homologous chromosomes
(c) Non-sister chromatids of homologous chromosomes
(d) Sister chromatids of homologous chromosomes

96) At which stage of meiosis, does the chromosomes undergo recombination process
(a) Leptotene stage of prophase I (b) Zygotene stage of prophase I (c) Diplotene stage of prophase I (d) Pachytene stage of prophase I

97) Which of the following statement(s) is/are wrong with respect to Recombination process?
(i) Mitotic crossing over occurs rarely in somatic cells.
(ii) Syndesis refers to pairing of non-homologous chromosome.
(iii) Procentric synapsis starts from telomeres.
(iv) A Bivalent has four chromatids.
(a) i and iv (b) ii and i (c) ii and iii (d) All the above

98) Recombination frequency (RF) is equal to
(a) $\frac{No.of offsprings}{No.of recombinants} \times 100$ (b) $\frac{No.of\ \ recombinants}{No.of parental strains} \times 100$ (c) $\frac{No.of recombinants}{No.of offsprings} \times 100$ (d) $\frac{No.of offsprings}{No.of parental strains} \times 100$

99) In a population of 250 progenies produced, only 120 resemble the parental forms. Calculate the recombinant frequency.
(a) 66% (b) 52% (c) 59% (d) 49%

100) Mutation theory was proposed by_____
(a) T. H. Morgan (b) Hugo de Vries (c) Alfred Sturtevant (d) Sutton and Boveri

101) Identify the mutant variety of castor.
(a) Sharbathi Sonora variety (b) Aruna variety (c) Reimei variety (d) Erectiferm variety

102) Which is not a non-ionizing radiation?
(a) X-rays (b) Gamma rays (c) Alpha rays (d) UVrays

103) Transition type of gene mutation is caused when_____
(a) AC is replaced by GT (b) AG is replaced by TC (c) AC is replaced by TG (d) TC is replaced by AG

104) Pick out the co-mutagen from the following:
(a) Eosin (b) Mustard gas (c) Ascorbic acid (d) Nitrous acid

105) Sharbati Sonara is a mutant wheat variety which is developed by irradiating the seeds with _____
(a) Thermal neutrons (b) Gamma radiation (c) X-rays (d) UV radiations

106) Which one of the following ploidy is irrelevant to others?
(a) Monosomy (b) Trisomy (c) Tetrasomy (d) Pentasomy

107) Statement 1: Euploidy involves entire sets of chromosomes
Statement 2: Aneuploidy involves individual chromosomes within a diploid net.
(a) Statement 1 is correct and Statement 2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

108) Statement 1: In transversion mutation, single purine is changed to pyrimidine.
Statement 2: In transition mutation, a purine replaced by another purine.
(a) Statement 1 is correct and Statement2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

109) Statement 1: Pairing of homologous chromosome is called as syndesis.
Statement 2: Proterminal synapsis occurs from telomeres.
(a) Statement 1 is correct and Statement 2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

110) Statement 1: The widely accepted DNA replication model is Holliday's hybrid DNA model.
Statement 2: The vertical cut in the DNA results in heteroduplex with non-recombinants.

(a) Statement 1 is correct and Statement 2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

111) Statement 1: Self-sterility in Nicotiana is controlled by multiple alleles.
Statement 2: Multiple alleles are always responsible for the same character.
(a) Statement 1 is correct and Statement 2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

112) One of the following is not the kind of euploidy
(a) Diploidy (b) Polyploidy (c) Hyperploidy (d) Autoploidy

113) The chromosomal condition 2n -2 represents
(a) Monosomy (b) Nullisomy (c) Trisomy (d) Tetrasomy

114) Identify the autotriploid plant
(a) Potato (b) Coffee (c) Ground nut (d) Apple

115) Assertion (A): Polyploidy is common in plants.
Reason (R): Polyploids possess more than 2 basic sets of chromosomes.
(a) A is true R is false (b) Both A and R are false (c) A is true, R is not correct explanation for A (d) R explains A

116) Assertion (A): Complete linkage is noticed in male species of Drosophila.
Reason (R): Completely linked genes show some crossing over.
(a) A is true R is false (b) Both A and R are false (c) A is true, R is not correct explanation for A (d) R explains A

117) Assertion (A): Self-sterility is observed in Nicotiana species.
Reason (R): Because the genes are located on chromosome.
(a) A is true R is false (b) Both A and R are false (c) A is true, R is not correct explanation for A (d) R explains A

118) Observe the gene sequence and identify the types of aberration ABC BCD E F?
(a) Tandem duplication (b) Simple duplication (c) Reverse tandem duplication (d) Displaced tandem duplication

119) Which of the following person coined the term biotechnology?
(a) Ernst Hoppe (b) Stanley Cohen (c) Ian Wilmet (d) Karl Ereky

120) Zymology deals with _____
(a) Study of yeast fungus and its practical applications. (b) Study of fermentation and its uses. (c) Study of Bioreactors and their construction methodology. (d) Study of zymase producing microbes and its benefits.

121) Identify the incorrect statement:
(a) French chemist Louis Pasteur demonstrated the fermentation. (b) Fermentor is a vessel providing optimal condition for microbial action. (c) Solvent extraction is an upstream process of fermentation. (d) Distillation and filtration comes under down stream process.

122) Pick out the mismatched pair(s):
(i) Arnphotericin-B - Streptomyces notatum
(ii) Penicillin - Penicillum nodosus
(iii) Streptomycin - Streptomyces grises
(iv) Tetracycline - Streptomyces aureofacins
(a) i and ii (b) ii and iii (c) iii and iv (d) i only

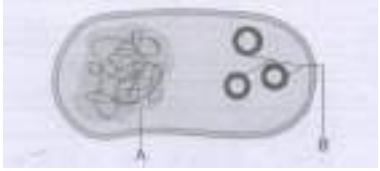
123) Identify the non-fungal species used in SCP production.
(i) Candida
(ii) Chlorella
(iii) Chlamydomonas
(iv) Cellulomonas
(a) i and ii (b) ii and iii (c) ii, iii and iv (d) All the above

124) Select the correct restriction enzyme which breaks the phosphodiester bond within a DNA molecule.
(i) Ba131
(ii) Hind II
(iii) BamHI
(iv) Pvul
(a) i and iii (b) i, ii and iii (c) ii, iii and iv (d) i only

125) Cohesive ends are _____
(a) Blunt ends (b) Flush ends (c) Sticky ends (d) Symmetric cuts

126) Self-ligation is prevented by_____
(a) DNA Polymerase (b) Helicase (c) Alkaline phosphate (d) DNA lipase

127) Observe the diagram and name A and B.



(a) A - Plasmid B - Vector (b) A - Nucleoid - B - Plasmid (c) A - Bacterial chromosome B - Vector (d) A - Nucleoid - B - x phage DNA

128) A vector should_____

(i) contain suitable marker

(ii) contain ori site

(iii) have poly linkess

(iv) be small in size

(a) i, ii and iii (b) ii, iii and iv (c) i, ii and iv (d) all the above

129) Number of base pairs does pBR 322 plasmid contains _____

(a) 322 (b) 4322 (c) 4361 (d) 3264

130) pUC 19 is an example for_____

(a) Shuttle vector (b) Expression vector (c) Cosmid (d) Phagemid vector

131) Statement 1: YAC plasmid behaves like a yeast chromosome.
Statement 2: Circular YAC multiplies in bacteria.

(a) Statement 1 is correct and Statement 2 is also correct. (b) Statement 1 is correct and Statement 2 is incorrect (c) Both the statements are incorrect. (d) Statement 1 is incorrect and Statement 2 is correct.

132) Statement 1: Liposomes are the artificial lipoprotein vesicles.
Statement 2: Liposomes are highly used in gene transfer.

(a) Statement 1 is correct and Statement 2 is also correct. (b) Statement 1 is correct and Statement 2 is incorrect. (c) Both the statements are incorrect. (d) Statement 1 is incorrect and Statement 2 is correct

133) Statement 1: DNA is a hydrophobic molecule.
Statement 2: T-DNA is a part ofE-coli plasmid.

(a) Statement 1 is correct and Statement 2 is also correct. (b) Statement 1 is correct and Statement 2 is incorrect. (c) Both the statements are incorrect. (d) Statement 1 is incorrect and Statement 2 is correct.

134) Statement 1: Bioventing procedure increases 02 flow to accelerate degradation of pollutants.
Statement 2: Bioaugmentation uses microbes to recover metal pollutants from contaminated sites.

(a) Statement 1 is correct and Statement 2 is also correct. (b) Statement 1 is correct and Statement 2 is incorrect (c) Both the statements are incorrect. (d) Statement 1 is incorrect and Statement 2 is correct.

135) Assertion (A): Golden rice helps to overcome childhood blindness.
Reason (R): It is rich in J3carotene.

(a) Both A and R are wrong. (b) A is right R is wrong. (c) R explains A. (d) A and R are right, R does not explain A.

136) Assertion (A): Expression vectors are suitable for expressing foreign proteins.
Reason (R): pBR 322 is an expression vectors.

(a) Both A and R are wrong. (b) A is right R is wrong. (c) R explains A. (d) A and R are right, R does not explain A.

137) Assertion (A) : Pseudomonas putida is utilized in the production of Biological hydrogen.
Reason (R): During photosynthesis, it releases oxygen.

(a) Both A and R are wrong. (b) A is right R is wrong. (c) R explains A. (d) A and R are right, R does not explain A.

138) Assertion (A): DMH -11 is a transgenic mustard.
Reason (R): It is developed by using bamase/ barstar technology.

(a) Both A and R are wrong. (b) A is right R is wrong. (c) R explains A. (d) A and R are right, R does not explain A.

139) Green fluorescent protein (GFP) was isolated from_____

(a) Aequorea victoria (b) Arabidopsis thaliana (c) Agrobacterium tumifaciens (d) Escherichia coli

140) Tetracycline is obtained from_____

(a) S.nodosus (b) S.aureofacins (c) S.grises (d) P. chryosogenum

141) Today more than_____ restriction enzymes have been isolated.

(a) 800 (b) 900 (c) 1000 (d) 870

142) Which of the following statements does not hold true for restriction enzyme?

(a) It recognizes a (b) It is an (c) It is (d) It produces the same kind of

palindromic nucleotide sequence | endonucleaseisolated from viruses | sticky ends in different DNA molecules

143) Identify the group of scientists who developed the intergenic hybrid - the pomato.
(a) Yamada et al. (b) Horsh et al. (c) Takebe et al. (d) Melchers et al.

144) The production of secondary metabolites require the use of _____.
(a) Protoplast culture (b) Organ culture (c) Cell suspension culture (d) Virus free germ culture

145) Which of the following condition favours callus induction?
(a) Temperature of 25°C ± 5°C with 12 hours of photoperiod | (b) Temperature of 25°C ± 2°C with 18 hours of photoperiod | (c) Temperature of 25°C ± 5°C with 14 hours of photoperiod | (d) Temperature of 25°C ± 2°C with 16 hours of photoperiod

146) Protoplast are the cells devoid of _____
(a) Cell wall (b) Cell membrane (c) Plasma membrane (d) both A and B

147) A widely used fusogen in protoplast culture is _____
(a) Polymethyl glycol (b) Polyethylene glycol (c) Polyethylene chloride (d) Polyvinyl chloride

148) Synseeds are developed by encapsulating embryoids with _____.
(a) Sodium chloride (b) Potassium iodide (c) Sodium alginate (d) Potassium dichromate

149) The optimal pH of culture medium is generally _____.
(a) Acidic (b) Basic (c) Neutral (d) Slightly basic

150) Identify the correct sequence regarding steps involved in PTC
(a) Sterilization → Incubation → Inoculation → Embryogenesis → Hardening | (b) Inoculation → Induction → Sterilization → Hardening → Embryogenesis | (c) Induction → Incubation → Inoculation → Hardening → Sterilization | (d) Sterilization → Inoculation → Incubation → Embryogenesis → Hardening

151) Dimethyl sulphoxide is a _____.
(a) Solidifying agent (b) Cryoprotectant (c) Fusogenic agent (d) Stimulant

152) Assertion (A) : Incubation is followed by Inoculation.
Reason (R) : Explant is inoculated to media.
(a) Both A and R are correct but R is not a correct explanation to A (b) R explains A

153) Assertion (A) : Sterilization helps to overcome microbes.
Reason (R) : Explants are autoclaved.
(a) Both A and R are correct but R is not a correct explanation to A (b) R explains A is incorrect (c) A is correct R (d) Both A and R incorrect

154) Assertion (A) : Protoplasts are cells devoid of cell wall.
Reason (R) : Secondary metabolites are synthesized by protoplasmic fusion.
(a) Both A and R are correct but R is not a correct explanation to A (b) R explains A is incorrect (c) A is correct R (d) Both A and R are incorrect

155) Assertion (A) : Development of root from callus is called caulogenesis.
Reason (R) : Caulogenesis is the final step of protoplasmic fusion.
(a) Both A and R are correct but R is not a correct explanation to A (b) R explains A is incorrect (c) A is correct R (d) Both A and R are incorrect

156) Assertion (A) : Liquid nitrogen is used in cryopreservation techniques.
Reason (R) : Gene bank DNA bank are the parts of germplasm conservation.
(a) Both A and R are correct but R is not a correct explanation to A (b) R explainsis incorrect A (c) A is correct R (d) Both A and R are incorrect

157) Identify the cryoprotectant
(a) Dimethyl formamide (b) Fructose (c) Glycerol (d) Sodium alginate

158) Identify the wrong statement:
(a) Artificial seeds are stored for long time under cryopreservation | (b) Somatic embryos are used for artificial seed production | (c) Period of dormancy of artificial seeds is greatly reduced | (d) Encapsulation of embryoids is done using cryoprotectant

159) Identify the plant tissue used for virus free germplasm
(a) Apical meristem (b) Intercalary meristem (c) Lateral meristem (d) Plate meristem

160) Identify the incorrect statement:
(a) Exp1ants are surface sterilized
(b) Nutrient media are autoclaved
(c) Culture rooms are UV radiated for 15 minutes
(d) Glasswares and accessories are autoclaved
(a) a only (b) b and c (c) d only (d) none of the above

161) The enzymatic mixture for chemical isolation of protoplast is
(a) 0.5% macrozyme, 2% onozuka cellulase, | (b) 1.5% macrozyme, 0.5% onozuka | (c) 2% macrozyme, 0.5% onozuka | (d) 0.1% macrozyme, 2% onozuka cellulase,

13% mannitol cellulase, 12% sorbitol cellulase, 13% sorbitol 15% mannitol

162) The term used to define the ability of a cell to generate entire individual is
(a) Pleuripotent (b) Totipotent (c) Multipotent (d) Unipotent

163) The phenomenon of reversion of mature cells to meristematic state leading to callus formation is_____
(a) Redifferentiation (b) Dedifferentiation (c) either (a) or (b) (d) none of these

164) Somatic hybridization is achieved through _____
(a) Protoplast fusion (b) r-DNA technology (c) Transformation (d) Grafting

165) Identify the mismatched pair:
(a) Digoxin - Digitalis purpuria (b) Codeine - Capsicum annum (c) Vincristine - Catharanthus roseus (d) Quinine - Cinchona officinalis

166) Autoecology deals with the study of _____.
(a) Community (b) Population (c) Individual species (d) Niche of species

167) Environment of any community is called
(a) Paratope (b) Ecotype (c) Opitope (d) Biotope

168) The study of soil is called as _____
(a) Lithotripsy (b) Lithosphere (c) Pedology (d) Pedigree analysis

169) Identify the indicators of fire.
(a) Pucinia (b) Pyricularia (c) Pyronema (d) Peziza

170) Statement 1: Latitudes represent distance from the equator.
Statement 2: Height above the seal level from longitude.
(a) Statement 1 is correct. Statement 2 is incorrect (b) Statement 1 is incorrect. Statement 2 is correct (c) Both the statements are correct. (d) Both the statements are incorrect

171) Statement 1: Holoparsites depend totally on other organisms for nutrition.
Statement 2: Durnta is holoparasite.
(a) Statement 1 is correct. Statement 2 is incorrect. (b) Statement 1 is incorrect. Statement 2 is correct (c) Both the statements are correct. (d) Both the statements are incorrect

172) Statement 1: Ephemerals are drought evaders.
Statement 2: They are not true xerophytes.
(a) Statement 1 is correct. Statement 2 is incorrect. (b) Statement 1 is incorrect. Statement 2 is correct. (c) Both the statements are correct. (d) Both the statements are incorrect

173) Assertion (A) : Plains and valleys are rich in vegetation
Reason (R): Slow drain of surface water and better water retention is noticed.
(a) A is true R is false (b) R explains A (c) A and R are false (d) A and R are true. But R doesnot explains A

174) Utricularia is a _____.
(a) Rooted floating hydrophyte (b) Submerged floating hydrophyte (c) Rooted submerged hydrophyte (d) Amphibious hydrophyte

175) Earth day is observed on
(a) April 22nd (b) March 21st (c) July 07th (d) September 16th

176) Ecosystem is the structural and functional unit of ecology. This statement was given by _____
(a) Tansley (b) Odum (c) Charles Elton (d) Edwin

177) Identify the incorrect option among the following component sequence.
(a) air, water, sunlight and temperature (b) latitude, altitude, direction of mountain and aptitude (c) soil air, pH of soil, saltwater and soil moisture (d) carbohydrate, protein, lipids and humic substances

178) Pick out the edaphic factor among the following.
(a) Rain fall (b) Temperature (c) Soil pH (d) Latitude

179) Which is not a macro consumer?
(a) Herbivore (b) Carnivore (c) Ominivore (d) Decomposer

180) Photosynthetically Active Radiation ranges between the wavelength of _____
(a) 400 - 600 nm (b) 600 - 700 nm (c) 400 - 500 nm (d) 400 - 700 nm

181) Identify the incorrect statement
(a) Carbon stored in oil is referred as Grey carbon (b) Carbon stored in atmosphere is referred as Blue carbon (c) Carbon stored in industrialized forests is referred as Green carbon (d) Carbon emitted from gas, died engine is referred as Black carbon

182) Which group of organism occupies the third tropic level in an ecosystem?
(a) Primary consumers (b) Secondary consumers (c) Secondary carnivores (d) Omnivores

183) Which is irrelevant to the first law of thermodynamics?
(a) Energy can be transmitted (b) Energy transformation (c) Energy can (d) Energy in

from one system to other in many forms. | results in reduction of free energy. | neither be created nor destroyed. | the universe is constant.

184) If 1200 Joules of solar energy is trapped by producers, how much of Joules of energy does the organism in the third trophic level will receive?
(a) 120 Joules (b) 12 Joules (c) 1.2 Joules (d) 0.12 Joules

185) Which of the following food chain is in improper sequence?
(a) Plants ~ snake ~ rabbit ~ lizard ~ eagle (b) Plants ~ grasshopper ~ lizard ~ snake ~ hawk (c) Plants ~ lizard ~ rabbit ~ snake ~ eagle (d) Plants ~ rabbit ~ lizard ~ hawk ~ eagle

186) Which one ofthe following is not a functional unit of an ecosystem?
(a) Productivity (b) Conductivity (c) Energy flow (d) Decomposition

187) The upright pyramid is not a feature of _____
(a) Pond ecosystem (b) Grassland ecosystem (c) Forest ecosystem (d) Terminal ecosystem

188) The type of ecosystem with maximum net primary productivity is_____
(a) Desert ecosystem (b) Deciduous forest ecosystem (c) Tropical rain forest ecosystem (d) Grassland ecosystem

189) Pyramid of numbers with broad base indicates _____
(a) High population of old individuals (b) Low population of young individuals (c) High population of young individuals (d) Low population of old individuals

190) Spindle shaped pyramid is a character of _____
(a) Pond ecosystem (b) Grassland ecosystem (c) Parasite ecosystem (d) Forest ecosystem

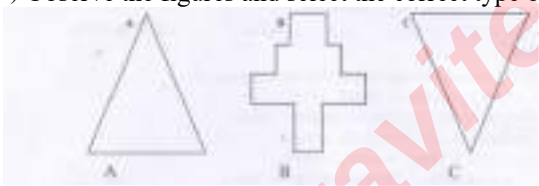
191) Read the statement and select the correct terminology for the same:
"Carrying away of inorganic compounds of soil by water".
(a) Eluviation (b) Fragmentation (c) Humification (d) Mineralisation

192) Complete the food chain by filling the link X:
Paddy ~ Grassopper ~ Frog ~ X ~ Hawk
(a) King cobra (b) Gorilla (c) Rabbit (d) Tasmanial wolf

193) Which of the following is abundant in rock deposits and guano?
(a) Nitrogen (b) Phosphorous (c) Oxygen (d) Calcium

194) The bottom most zone of a pond is termed as .
(a) Limnetic zone (b) Littoral zone (c) Benthic zone (d) Profundal zone

195) Observe the figures and select the correct type of pyramid of numbers.



(a)

A	B	C
Grassland ecosystem	Forest ecosystem	Parasite ecosystem

(b)

A	B	C
Grassland ecosystem	Pond ecosystem	Forest ecosystem

(c)

A	B	C
Forest ecosystem	Grassland ecosystem	Parasite ecosystem

(d)

A	B	C
Pond ecosystem	Forest ecosystem	Grassland ecosystem

196) Lotic ecosystem refers to_____
(a) Open water ecosystem (b) Running water ecosystem (c) Standing water ecosystem (d) Ocean water ecosystem

197) Identify the correct sequence of various zones from surface to depth in a pond ecosystem.
(a) Profundal, limnetic, littoral and benthic (b) Benthic, littoral, profundal and limnetic (c) Limnetic, profundal, littoral and benthic (d) Littoral, limnetic, profundal and benthic

198) Which type of ecosystem service does the genetic resources comes under?
(a) Provisioning services (b) Supporting services (c) Regulating services (d) Cultural services

199) Assertion (A): Pyramid of energy is upright.
Reason (R): During the energy transfer at successive trophic levels from producers there will be a gradual decrease
(a) Both A and R are wrong (b) A is right R is wrong (c) R explains A (d) A is right R is not the correct explanation for A

200) Assertion (A): In forest ecosystem, the pyramid of number is spindle shaped.
Reason (R): Tropical level (Tl) of the pyramid occupies large trees which are maxium in number.
(a) Both A and R are wrong (b) A is right R is wrong (c) R explains A (d) A is right R is not the correct explanation for A

201) Succession initiating on a sand referred as
(a) Hydrosere (b) Psammosere (c) Halosere (d) Lithosere

202) Statement (I): Allogenic succession occurs as a result of abiotic factors.
Statement (II): Autogenic succession occurs as result of biotic factors.
(a) Statement I is correct; (b) Statement I is (c) Both Statements (d) Both Statements

Statement II is incorrect. incorrect; Statement II is correct. I and II are correct. I and II are incorrect.

203) Statement (I): The first invaded plants in a barren area are called as pioneers.
Statement (II): Marsh meadow stage of hydro sere succession is also called as amphibious stage.
(a) Statement I is correct; Statement II is incorrect. (b) Statement I is incorrect; Statement II is correct. (c) Both Statements I and II are correct. (d) Both Statements I and II are incorrect.

204) _____is the climax community of hydro sere.
(a) Reed swamp stage (b) Marsh medow stage (c) Shrub stage (d) Forest stage

205) _____ is not a method of waste water treatment.
(a) oxidation ponds (b) Anaerobic lagoons (c) Catalytic converter (d) Anaerobic bioreactor

206) Which is not a greenhouse gas?
(a) CO_2 (b) N_2O (c) O_3 (d) CFC

207) Identify the incorrect statement with regard to Global warming
(a) Leads to species enrichment (b) Decrease irrigation (c) Increases vector population (d) Frequent heat waves

208) The total ozone layer over the earth surface is _____
(a) 30 DU (b) 300 DU (c) 3000 DU (d) 0.3 DU

209) Methane is _____ times as effective as CO_2 at trapping heat.
(a) 5 (b) 10 (c) 20 (d) 100

210) Which is not a beneficial aspect of Agroforestry?
(a) Nutrient cycling is improved (b) Balance in O_2 - CO_2 composition (c) Suitable for wetland where rainfall is maximum (d) Reduces water run-off problem

211) Which is not reduced by deforestation?
(a) Amount of habitat (b) Amount of animal population (c) Amount of biodiversity (d) Amount of agricultural land

212) Identify the potent cause for deforestation.
(a) Agriculture (b) Soil erosion (c) Afforestation (d) Forest fire

213) Total number of forestry extension centres in Tamil Nadu is _____
(a) 16 (b) 32 (c) 18 (d) 51

214) Who is celebrated as Forest Man of India?
(a) Anand Mohan Chakrabarthy (b) Dr. M.S. Swaminathan (c) Jadav Molai Payeng (d) Choudhary Ram Dhan

215) Invasive species _____
(a) alter the soil system (b) are more adapted (c) are fast growing (d) all the above

216) Pick out the odd one out _____
(a) Biosphere reserve (b) National parks (c) Wild life sanctuaries (d) Botanical gardens

217) Which is not true with respect to prosopis julifiora?
(a) Invasive species native to Mexico (b) Arrest wind erosion (c) Absorb hazardous chemical from soil (d) Decreases O_2 content of water bodies

218) How many numbers of sacred grooves were documented in Tamil Nadu?
(a) 484 (b) 844 (c) 488 (d) 448

219) Biochar is _____
(i) a kind of char coal used as a soil amendment
(ii) a potent way of sequestering carbon
(iii) made from biomass via pyrolysis
(iv) a notable solid, rich in carbon.
(a) (i) and (ii) is correct (b) (ii) and (iv) is correct (c) (i) and (ii) is correct (d) all the above is correct

220) Which is not a true statement regarding rainwater harvesting?
(a) Mitigates groundwater quality (b) Reduces soil erosion (c) Decreases soil salinity (d) No wastage of land for storing

221) EIA stands for _____
(a) Ecological Information Analysis (b) Environmental Information Assessment (c) Environmental Impact Analysis (d) Environmental Impact Assessment

222) _____ is the 100th Satellite launched to watch border surveillance.
(a) GSAT-6A (b) SCAT SAT-I (c) INSAT 3DR (d) CARTOSAT-2

223) The ozone layer of _____ is called bad ozone.
(a) Stratosphere (b) Mesosphere (c) Troposphere (d) Exosphere

224) When does World Ozone Day is observed?
(a) June 17th (b) December 1st (c) October 12th (d) September 16th

225) Clean Development Mechanism (CDM) is defined in _____
(a) Copenhagen Acord (b) Montreal Protocol (c) Paris Agreement (d) Kyoto Protocol

226) _____ is a plant species which acts as an indicator of Nitrate pollution.
(a) Petunia (b) Lichens (c) Gladiolus (d) Pinus

227) Identify the plant species that is not used as a live fence.
(a) Sesbania grandiflora (b) Acacia species (c) Petunia species (d) Erythrina species

228) Assertion (A): CO_2 is a main cause for global warming
Reason (R): Greenhouse gases trap the radiant heat from sun
(a) A is correct R is incorrect. (b) A is incorrect R is correct. (c) R explains A. (d) Both A and R are incorrect.

229) Assertion (A): Ozone acts as a natural sunblock.
Reason (R): UV rays reaching the earth are deviated from earth.
(a) A is correct R is incorrect. (b) A is incorrect R is correct. (c) R explains A. (d) Both A and R are incorrect.

230) Assertion (A): Social forestry refers to management of forests and afforestation on barren lands.
Reason (R): Afforestation involves the cutting of trees.
(a) A is correct R is incorrect. (b) A is incorrect R is correct. (c) R explains A. (d) Both A and R are incorrect.

231) Assertion (A): Prosopis juliflora is native to Afghanistan.
Reason (R): Alien species refers to non-native species.
(a) A is correct R is incorrect. (b) A is incorrect R is correct. (c) R explains A. (d) Both A and R are incorrect.

232) Assertion (A): In zoological parks, the animals are maintained in their natural habitat.
Reason (R): Ex-situ conservation refers to protecting species in their natural habitat.
(a) A is correct R is incorrect. (b) A is incorrect R is correct. (c) R explains A. (d) Both A and R are incorrect.

233) _____is the process of bringing a plant species under human control.
(a) Emasculation (b) Hybridization (c) Domestication (d) Acclimatization

234) Which of the following scientist developed world's first cotton hybrid?
(a) Dr. B.P. Pal (b) C.T. Patel (c) Dr. K. Ramiah (d) N.G.P. Rao

235) Identify the incorrect statement:
(a) Bio-inoculants are efficient in solubilising phosphate (b) Bio-inoculants are ecofriendly organic agro outputs (c) Bio-inoculants are obtained from dead organic matters (d) Bio-inoculants are designed to improve soil fertility

236) Which is not a free-living nitrogen-fixing species?
(a) Azotobacter (b) Clostridium (c) Nostoc (d) Anabaena

237) Arbuscular mycorrhizae is a symbiotic association between _____
(a) Algae and fungi (b) Angiosperm roots and fungi (c) Blue-green algae and Azolla fern (d) Cyanobacteria and corolloid root

238) Azolla is best suited biofertilizer for _____
(a) Sugar cane cultivation (b) Paddy cultivation (c) Wheat cultivation (d) Cotton cultivation

239) Assertion (A): SLF promotes vigorous growth and provide resistance against diseases.
Reason (R): SLF is made from kelp containing more than 70 minerals.
(a) Both A and R are true. R explains A. (b) A is true R is false (c) A is false R is true. (d) Both A and R are false

240) Assertion (A): Pure line varieties show homozygosity.
Reason (R): Pure line species are obtained through cross-pollination.
(a) Both A and R are true. R explains A. (b) A is true R is false (c) A is false R is true (d) Both A and R are false

241) Assertion (A): Hybrids show increased growth and elevated yield.
Reason (R): F1 hybrids show Heterosis.
(a) Both A and R are true. R explains A. (b) A is true R is false (c) A is false R is true (d) Both A and R are false

242) Statement (1): Trichoderma species is a free-living bacteria.
Statement (2): It acts as a potent bio-control agent
(a) Statement 1 is correct and Statement 4 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

243) Statement (1): Clonal selection is carried out in asexually propagating plants.
Statement (2): Clones show similar genotypes.
(a) Statement 1 is correct and Statement 2 is incorrect (b) Statement 1 is incorrect and Statement 2 is correct (c) Both the statements are correct (d) Both the statements are incorrect

244) Identify the proper sequence of hybridisation technique
(a) Emasculation (b) Harvesting (c) Selection (d) Selection

→ Selection → Bagging → Crossing → Harvesting

→ Selection → Crossing → Emasculation → Bagging

→ Harvesting → Crossing → Emasculation → Bagging

→ Emasculation → Bagging → Crossing → Harvesting

245) Intraspecific hybridization is also termed as _____

(a) Intravarietal hybridization (b) Intervarietal hybridization (c) Interspecific hybridization (d) Intergeneric hybridization

246) Superiority of hybrids over parents only in vegetative growth not in yield. This phenomenon is termed as _____

(a) Euheterosis (b) Balanced euheterosis (c) Luxuriance (d) Mutational heterosis

247) The term green revolution was coined by _____

(a) William S Gaud (b) M.S. Swaminathan (c) Dr. B.P. Pal (d) Dr. N.E. Borla

248) Who is popularly called as the "father of green revolution in India"?

(a) Nel Jeyaraman (b) Dr. M.S. Swaminathan (c) Dr. Nammalvar (d) N.G.P. Rao

249) Pusa swarnim variety of Brassica species show resistance to _____

(a) White rust (b) Leaf curl (c) Black rot (d) Hill bunt

250) The first established Atomic Garden in India was _____

(a) Bhabha Atomic Research Institute (b) Indira Gandhi Centre for Atomic Research (c) Indian Agricultural Research Institute (d) Bose Research Institute

251) Triticale is polyploid breed of _____

(a) Triticum cereale x Secale sativus (b) Triticum durum x Secale cereale (c) Triticum cereale x Secale sativus (d) Triticum sativus x Secale cereale

252) Raphanobrassica is an example for_____

(a) Autopolyploid (b) Allopolyploid (c) Polyploid (d) Polysomy

253) Atlas 66 is an improved variety of _____

(a) Rice (b) Maize (c) Wheat (d) Spinach

254) Pusa Sawani variety of okra is resistant against _____

(a) Aphids (b) Fruit borers (c) Shoot and fruit borers (d) Jassids

255) Damping off of tomato is controlled by

(a) Beauveria species (b) Trichoderma species (c) Acacia species (d) Pseudomonas species

256) Atomita 2 - rice is a product by _____

(a) Polyploid breeding (b) Hybridization (c) Mutation breeding (d) Clonal selection

257) Luxuriance is the term used on par with _____

(a) Heterosis (b) Anthesis (c) Hybrids (d) Mutant breeds

258) Paddy, Wheat and Sorghum, etc., comes under the category of cereals. All the members ofcereals belong to which of the following family?

(a) Fabaceae (b) Poaceae (c) Leguminoneae (d) Caesalpinaeceae

259) Match the common names of the given plant species with their respective binomial

(A)	Paddy	(I)	Vigna radiata
(B)	Lady's finger	(II)	Titicum aestivum
(C)	Wheat	(III)	Oryza sativa
(D)	Green gram	(IV)	Abelmoschus esculentus

(a) A-iii, B-iv, C-ii and D-i (b) A-ii, B-iii, C-i and D-iv (c) A - i, B - iii, C - iv and D - ii (d) A - i, B - ii, C - iv and D - iii

260) Given below are the plant species and their parts used. Which is the incorrect pair(s)?

(i) Cajanus cajan : Seeds

(ii) Anacardium occidentale: nuts

(iii)Borassusflabellifer: Endosperm

(iv) Capsicum annum: leaves

(a) i and ii (b) ii and iii (c) iii only (d) iv only

261) Identify the tamil name for flaked rice

(a) Nel (b) Aval (c) Pori (d) Umi

262) Pigeon pea is the common name for _____

(a) Vigna radiata (b) Vigna mungo (c) Cajanus cajan (d) Sorghum vulgare

263) Statement 1: Arachis hypogea belongs to Fabaceae

Statement 2: It is a native of Brazil.

(a) Statement 1 is correct and Statement 2 is also correct (b) Statement 1 is correct and Statement 2 is incorrect (c) Statement 1 is incorrect and Statement 2 is correct (d) Both the Statements are incorrect

264) Statement 1: Chinese discovered the paper.

Statement 2: Eucalyptus and Casuarina are the widely used tree species for making paper pulp.

(a) Statement 1 is correct and Statement 2 is also (b) Statement 1 is correct and Statement 2 (c) Statement 1 is incorrect and Statement 2 (d) Both the Statements are

correct	is incorrect	is correct	incorrect

265) Statement 1: Andrographis paniculata is known as King of Bitters.
Statement 2: The decoction of Andrographis is used against Diabetes mellitus.

(a) Statement 1 is correct and Statement 2 is also correct	(b) Statement 1 is correct and Statement 2 is incorrect	(c) Statement 1 is incorrect 'and Statement 2 is correct	(d) Both the Statements are incorrect

266) Statement 1: Aloe vera belongs to the family Asphodelaceae.
Statement 2: Jasminum grandiflorum belongs to the family of Oleaceae.

(a) Statement 1 is correct and Statement 2 is also correct	(b) Statement 1 is correct and Statement 2 is incorrect	(c) Statement 1 is incorrect and Statement 2 is correct	(d) Both the Statements are incorrect

267) Assertion (A): Turmeric is used to treat cancer.
Reason (R): Curcumin is biomolecule present in turmeric.

(a) A is right R is wrong	(b) Both A and R are wrong	(c) A is wrong R is right	(d) A and R are right. R explains A.

268) Assertion (A): Black pepper is a spice.
Reason (R): Condiments are flavouring substances, generally added after the cooking of food.

(a) A is right R is wrong	(b) R explains A	(c) Both A and R are right. R is not correct explanation for A.	(d) Both A and R are wrong

269) Select the new world species of cotton.
(i) Gossypium hirsutum
ii) Gossypium barbadense
(iii) Gossypium arboreum
(iv) Gossypium herbacecum

(a) i and ii only	(b) i and iii only	(c) iii and iv only	(d) ii and iv only

270) The plant source of Marijuana is _____

(a) Andrograph is paniculata	(b) Phyllanthus maderspatensis	(c) Cannabis sativa	(d) Papaver somniferum

271) Identify the incorrect statements:
(a) Morphine is used as potent hepatoprotective.
(b) Phyllanthin is used as a strong analgesic in surgery.
(c) Indian Acalypha is used to cure skin diseases.
(d) Cissus quadrangularis is widely used for treating bone fractures.

(a) a and c	(b) a and d	(c) b and c	(d) a and b

272) Identify the mismatched pair:

(a) Holy basil - Ocimum sanctum	(b) Indian gooseberry - Phyllanthus amarus	(c) Vilvam - Aegle marmelos	(d) Veldt grape - Cissus quadrangularis

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RAVI MATHS TUITION CENTER, NEAR VILLIVAKKAM RLY STATION, CHENNAI – 82. WHATSAPP - 8056206308

MCQ ZOO CREATIVE 1

12th Standard

Biology

311 x 1 = 311

1) Transverse Binary fission is seen is _____
(a) Vorticella (b) Paramecium (c) Plasmodium (d) Euglena

2) In, dinoflagellates the types of asexual reproduction seen is _____
(a) Simple Binary fission (b) Multiple fission (c) Oblique binary fission (d) Longitudinal binary fission

3) Multiple fission is seen in _____
(a) Vorticella and ceratium (b) Plasmodium and paramecium (c) Amoeba and cyanobacteria (d) Vorticella and plasmodium

4) During favourable conditions _____ shows multiple fission.
(a) Plasmodium (b) Amoeba (c) Planaria (d) Euglena

5) Plasmotomy is observed in _____
(a) Giant Amoeba (b) Hydra (c) Plasmodium (d) Ceratium

6) Giant Amoeba refers to _____
(a) Opalina (b) Pelomyxa (c) Ceratium (d) Trichonympha

7) _____ is seen in Aurelia.
(a) Binary fission (b) Regeneration (c) Sporulation (d) Strobilation

8) Budding is seen in _____
(a) Noctiluca (b) Amoeba (c) Nostoc (d) Planaria

9) Gemmules are _____
(a) Exogenous growth (b) Daughter nuclei (c) Internal buds (d) Regenerated parts

10) Regeneration is not seen in _____
(a) Starfish (b) Lizard (c) Hydra (d) Sea Anemone

11) Autogamy is seen in _____
(a) Paramecium (b) Plasmodium (c) Hydra (d) Amoeba

12) If the entire organism behaves as a gamete the Phenomenon is called _____
(a) Autogamy (b) Syngamy (c) Morphallaxis (d) Hologamy

13) Conjugation is a type of _____
(a) Asexual reproduction (b) Autogamy (c) External fertilization (d) Sexual reproduction

14) Conjugation is seen in _____
(a) Vorticella (b) Amoeba (c) Reptiles (d) Actinosphaerium

15) Paedogamy is the sexual union of _____
(a) morphologically different gametes (b) physiologically different gametes (c) young individuals immediately after the formation from parents (d) dissimilar gametes

16) _____ is a seasonal breeder.
(a) Poultry (b) Honey bees (c) Deers (d) Rabbit

17) Technique used for cultivation of sponges is based on _____
(a) Multiple fission (b) Parthenogenesis (c) Regeneration (d) Autogamy

18) External fertilization is seen is _____
(a) Mammals and birds (b) Reptiles and sponges (c) Fishes and birds (d) Sponges and amphibians

19) Isogamy is observed in _____
(a) Monocystis (b) Mammals (c) Trichonympha (d) Reptiles

20) Human beings exhibit _____
(a) Hologamy (b) Exogamy (c) Isogamy (d) Paedogammy

21) Paedogenesis is seen in _____
(a) Gall fly (b) Honey bees (c) Aphis (d) Hydra

22) Ovovivipary is seen in _____
(a) Solenobia (b) Humans (c) Birds (d) Shark

23) Which statement is incorrect regarding the type of binary fission?
(a) Transverse binary fission in seen in Planaria. (b) Longitudinal binary fission in seen in Euglena (c) Oblique binary fission in seen in flagellates (d) Simple binary fission in seen in Amoeba

24) All of the following are methods of asexual reproduction except
(a) Regeneration (b) Conjugation (c) Sporulation (d) Fragmentation

25) This is a method of sexual reproduction in which individuals of the same species temporarily write and exchange certain. amount of nuclear material and then get separated.
(a) Syngamy (b) Conjugation (c) Parthenogenesis (d) Paedogenesis

26) All the following animals are continuous breeders, except.
(a) Frogs (b) Honey bees (c) Poultry (d) Rabbit

27) In honey bees, the mode of reproduction is
(a) Sexual and Asexual (b) Sexual and Parthenogenesis (c) Asexual and Parthenogenesis (d) All the above

28) In honey bees, the unfertilized egg produces
(a) Queen bee (b) Worker bee (c) Drones (d) Worker bee and male honey bee

29) This is the sexual union of young individuals produced immediately after the division of the adult parent cell by mitosis.
(a) Paedogamy (b) Hologamy (c) Merogamy (d) Anisogamy

30) Paramecium and planaria show _____ types of division during asexual reproduction
(a) Transverse binary fission (b) Longitudinal binary fission (c) Simple binary fission (d) Oblique binary fission

31) Special type of transverse division seen in Aurelia is called _____
(a) plasmotomy (b) strobilation (c) pedal laceration (d) sporulation

32) Fragmentation in sea Anemone is also known as _____
(a) morphallaxis (b) pedal laceration (c) archaeocytes (d) epimorphosis

33) Endogenous buds are seen in _____
(a) Trichonympha (b) Hydra (c) Actinosphaerium (d) Noctiluca

34) The gravid proglottids are cut off from the parent body in _____
(a) Tapeworm (Taenia solium) (b) Liver fluke (c) Planaria (d) Blood fluke

35) Regeneration was first studied by _____
(a) A.G. Tansley (b) Charles Bonnet (c) Abraham Trembley (d) Walter Gilbert

36) Regeneration was first studied in _____
(a) star fish (b) Planaria (c) Hydra (d) Aurelia

37) Starfish shown _____ type of regeneration.
(a) epimorphosis - reparative (b) epimorphosis (restorative) (c) morphallaxis (d) paedogenesis

38) The sexual union of young individuals produced immediately after the division of the parent Cellis called _____
(a) Paedogamy (b) hologamy (c) merogamy (d) isogamy

39) _____ refers to the fusion of small sized, morphologically different gametes.
(a) Isogamy (b) Hologamy (c) Paedogamy (d) Merogamy

40) Fusion of morphologically and physiologically similar gametes is called _____
(a) anisogamy (b) hologamy (c) isogamy (d) merogamy

41) Exchange of certain amount of nuclear material during sexual reproduction is called _____
(a) strobilation (b) conjugation (c) pedal laceration (d) sporulation

42) Paedogenetic parthenogenesis is seen in _____
(a) planula larvae of enidarians (b) Cydippid larvae of pleurobranchia (c) Redia larvae ofliver fluke (d) Trochophore larvae of Annelids

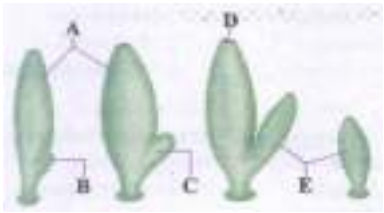
43) In _____ types of natural parthenogenesis only females are produced.
(a) Thelytoky (b) Arrhenotoky (c) Amphitoky (d) Arrhenotoky

44) _____ is a process by which the proglottids are cut off from the tapeworm.
(a) Apolysis (b) pedal laceration (c) budding (d) plasmotomy

45) In _____ types of parthenogenesis egg can develop into individuals of any sex.
(a) Thelytoky (b) paedogenesis (c) Amphitoky (d) Arrhenotoky

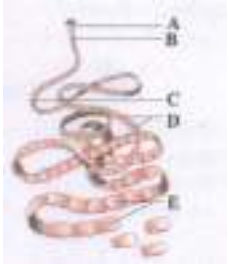
46)

Identify the correct option to label the diagram
1 - Archaeocytes
2 - Inner membrane
3 - Micropyle
4 - Outer membrane
5 - Monaxonspicules
(a) 1-A 2-D 3-B 4-C 5-E (b) 1-C 2-B 3-A 4-E 5-D (c) 1-D 2-E 3-B 4-C 5-A (d) 1-A 2-E 3-D 4-B 5-C

47) 

Identify the correct option to label the diagram
1 - Bud forming
2 - Osculum
3 - Bud growing
4 - Daughter individual
5 - Individual parent

(a) 1-A 2-D 3-B 4-C 5-E (b) 1-B 2-D 3-C 4-E 5-A (c) 1-D 2-E 3-B 4-C 5-A (d) 1-A 2-E 3-D 4-B 5-C

48) 

Identify the correct option to label the diagram Identify the structure
1- Immature proglottids
2 - Gravid proglottids
3 - Scolex
4 - Mature proglottids
5 - Neck

(a) 1-C 2-E 3-A 4-D 5-B (b) 1-B 2-D 3-C 4-E 5-A (c) 1-D 2-E 3-B 4-C 5-A (d) 1-A 2-E 3-D 4-B 5-C

49) "Nothing lives forever, but life continues". What does it mean?

(a) Older dies but new ones are produced by reproduction (b) Nothing can produce without death (c) Death has nothing to do with the continuation of life (d) Parthenogenesis is must for sexual reproduction

50) A few statements describing certain features of reproduction are given below. Select the options that are true for both sexual and asexual reproduction from the options given:
(i) Gametic fusion takes place
(ii) Transfer of genetic material takes place
(iii) Reduction division takes place
(iv) Progeny have some resemblance, with parents

(a) i and ii (b) ii and iii (c) ii and iv (d) i and ii

51) A few statements with regard to sexual reproduction are given below:
i. Sexual reproduction does not always require two individuals
ii. Sexual reproduction generally involves gametic fusion
iii. Meiosis never occurs during sexual reproduction
iv. External fertilization is a rule during sexual reproduction
Choose the correct statements from the options below:

(a) i and iv (b) i and ii (c) ii and iii (d) i and iv

52) Given below, are a few statements related to external fertilization. Choose the correct statements:
i. The male and female gametes are formed and released simultaneously
ii. Only a few gametes are released into the medium
iii. Water is the medium in a majority of organism exhibiting external fertilization
iv. Offspring formed as a result of external fertilization have better chance of survival than those formed inside the organism

(a) iii and iv (b) i and iii (c) ii and iv (d) i and iv

53) Which of the following statements, support the view that elaborate sexual reproductive process develops much later in the organic evolution?
i. Lower groups of organisms have simpler body design
ii. Asexual reproduction is common- in lower groups
iii. Asexual reproduction is common in higher groups of organisms
iv. The high incidence of sexual reproduction is in angiosperms and vertebrates.

(a) i, ii and iii (b) i, iii and iv (c) i, ii and iv (d) ii, iii and iv

54) Transverse binary fission is noticed in _____
(a) Amoeba (b) Planaria (c) Ceratium (d) Vorticella

55) Multiple fission occurring in the oocyte of Plasmodium is called _____
(a) Schizogony (b) Merogamy (c) Syngamy (d) Sporogony

56) Taenia solium _____ requires as a secondary host to complete its life cycle.
(a) Mosquito (b) pig (c) dog (d) human

57) Which type of parthenogenesis only females are produced?
(a) Arrhenotoky (b) Amphitoky (c) Thelytoky (d) Both (a) and (b)

58) Which among the following animal is not a continuous breeder?
(a) Hen (b) Rabbit (c) Honey bees (d) Frogs

59) Identify the incorrect statement regarding parthenogenesis.
(a) Development of sperm without fertilization. (b) It was first discovered by Charles Bonnet. (c) Honey bees exhibit incomplete parthenogenesis (d) Amphitoky is a type of natural parthenogenesis.

60) Identify the wrong statement.
(a) Oviparous animals lays eggs. (b) Viviparous animals give rise to young ones (c) Ovoviviparous animals lays eggs and then hatch it to young ones. (d) Amphibians are oviparous animals

61) Assertion (A): Organisms show three phases in their life cycle.
Reason (R): Juvenile phase is a degenerative phase.
(a) A is correct R but is incorrect (b) Both A and R are correct (c) R is the correct explanation for A (d) A is not correct but R is correct

62) Identify the mismatched pair.
(a) Paedogenesis - Liver fluke (b) Strobilation - Aurelia (c) Amphitoky - Honeybee (d) Encystment - Amoeba

63) Identify the proper sequence.
(a) juvenile phase, senescent phase, vegetative phase (b) juvenile phase, maturity phase, senescent phase (c) vegetative phase, maturity phase, juvenile phase (d) senescent phase, juvenile phase, vegetative phase

64) Which of the following types of asexual reproduction is noticed in Amoeba?
(a) Sporulation (b) Encystment (c) Binary fission (d) All the above

65) Pick out the organism whose fertilization occurs internally
(a) reptiles (b) sponges (c) pisces (d) amphibians

66) Assertion (A): Asexual reproduction is called blastogenic reproduction.
Reason (R): It is accomplished by mitotic and meiotic divisions.
(a) A and R are correct (b) A is correct but R is incorrect (c) Both A and R are incorrect (d) R is the correct explanation for A

67) Egg laying hen is an example for _____
(a) Thelytoky (b) Ovovivipary (c) Vivipary (d) Ovipary

68) Assertion (A): Syngamy refers to the fusion of two haploid gametes.
Reason (R): Syngamy leads to zygote formation.
(a) A and R are correct. (b) A and R are incorrect. (c) R is not the right explanation for A (d) A is correct but R is incorrect

69) Identify the correct Sequence of reproductive events in human beings.
(a) Insemination, implanatation and Placetation (b) Fertilization Parturition (c) Implanatation, Fertilization, Insemination, Parturition and Placetation (d) Insemination, Fertilization, Insemination, Parturition and Placetation Implanatation and Placetation

70) Spermatid $\xrightarrow{A}$ Spermatozoa what does 'A' stands for?
(a) Spermatogenesis (b) Spermiation (c) Spermiogenesis (d) Gametogenesis

71) Assertion (A): The acrosome of the Sperm cell contains Sperm lysin.
Reason (R): Sperm lysin destroys the deformed Sperm cells.
(a) R explains A (b) A is right R is wrong (c) A an R are right R does not explains A (d) Both A and R are wrong

72) _____ are endocrine cells.
(a) Inhibitin (b) Leydig cells (c) Oogonia (d) Sertoli cells

73) ____ is not linked to male reproductive system.
(a) Prostate gland (b) Corpus albicans (c) Cowper's gland (d) bulbourethral glands

74) Testosterone is secreted by ____
(a) spermatocytes (b) sperm (c) polar bodies (d) leydig cells

75) _____ is not a part of female reproductive system in human.
(a) Cervix (b) Infundibulum (c) Isthmus (d) Prostate gland

76) The _____ glands in human female are homologous to the bulbouretural glands.
(a) Bartholin's glands (b) Skene's glands (c) mammary glands (d) Cowper's gland

77) The _____ glands in human female are homologous to the prostate gland in male.
(a) Bartholin's glands (b) Skene's glands (c) mammary glands (d) Cowper's gland
78) _____ is popularly known as sperm lysin.
(a) Inhibitin (b) Hyaluronidase (c) Androgen (d) Acrosome
79) The whole process of spermatogenesis takes about _____ days.
(a) 25 (b) 42 (c) 64 (d) 72
80) The _____ is the smallest human cell.
(a) sperm (b) neuron (c) nephron (d) alveoli
81) The corpus luteum secretes large amount of _____
(a) testosterone (b) relaxin (c) oestrogen (d) progesterone
82) _____ is not linked to polymenorrhoea
(a) Shorter cycle (b) Gland activity (c) Malnutrition (d) Pain
83) _____ may be due to cancer of the ovary.
(a) Amenorrhoea (b) Dysmenorrhoea (c) Menorrhagia (d) Oligomenorrhoea
84) _____ is a berry shaped duster of cells.
(a) Blastula (b) Gastrula (c) Morula (d) Zygote
85) The term after birth refers to _____
(a) Parturition (b) Lactation (c) Remains of placenta (d) Corpus albicans
86) 'Let Down' reflex for lactation is caused by _____
(a) Prolactin (b) Oxytocin (c) Lactogenic hormone (d) Progesterone
87) Among the extra embryonic membranes the _____ is the outer most membrane.
(a) amnion (b) chorion (c) allantois (d) vitelline membrane
88) The dividing embryo takes _____ days to move to the uterus from the fallopian tube.
(a) 10 (b) 15 (c) 4-5 (d) 2
89) Capacitation is a _____ event.
(a) physical (b) biochemical (c) both a and c (d) Enzyme mediated
90) The transfer of sperms by the male into the female genital tract is called _____
(a) implantation (b) parturition (c) insemination (d) gastrulation
91) Attachment of blastocyst to the uterine wall is called _____
(a) Implantation (b) Parturition (c) Insemination (d) gastrulation
92) Expulsion of baby from the mother's womb is called _____
(a) implementation (b) parturition (c) insemination (d) gestation
93) Each testis is covered by a fibrous layer _____
(a) tubulus rectus (b) corona radiata (c) vitelline membrane (d) tunica albuginea
94) The scrotum acts as _____ for spermatogenesis.
(a) chemoregulator (b) thermoregulator (c) enzyme regulator (d) photo regulator
95) The _____ is the site for spermatogereis.
(a) epididymis (b) vas deferens (c) seminiferous tubules (d) tubulus rectus
96) _____ cells nourish the sperms.
(a) Leydig cells (b) Interstitial cells (c) Spermatogonic cells (d) Sertoli cells
97) _____ is a hormone produced by sertoli cells.
(a) Inhibin (b) Progesterone (c) Testosterone (d) Oestrogen
98) The _____ cells of the testis are endocrine in nature.
(a) sertoli (b) leydig (c) nurse (d) spermatogonic
99) The male hormones are called _____
(a) estrogen (b) progesterone (c) relaxin (d) androgens
100) _____ stores the sperms temporarily until they mature.
(a) testis (b) epididymis (c) vasa efferentia (d) vas deferens
101) Bulbourethral glands are also called _____
(a) prostate gland (b) Cowper's gland (c) Skene's glands (d) Bartholin's glands
102) The seminal fluid has a coagulating enzyme called _____
(a) vesiculase (b) hyaluronidase (c) amylase (d) lactase
103) The proximal part of the fallopian tube bears a funnel shaped _____
(a) Graafian follicle (b) Oogonia (c) Infundibulum (d) corpus luteum
104) The fmger shaped _____ in the female reproductive system collect the ovum after ovulation.
(a) Infundibulum (b) Fimbriae (c) Ampulla (d) Isthmus
105) _____ is the birth canal.
(a) Cervix (b) Cervical canal (c) Uterus (d) Vagina
106) A mature follicle produces _____ polar bodies during oogenesis.
(a) four (b) three (c) two (d) one
107) The _____ glands occur posterior to the vagina.
(a) Skene's glands (b) Cowper's gland (c) prostate gland (d) Bartholin's glands
108) The _____ glands are located on the anterior wall of vagina.
(a) Skene's glands (b) Bartholin's glands (c) prostate gland (d) Cowper's gland

109) The thin ring of tissue that particularly closes the vaginal opening ____
(a) labia majora (b) hymen (c) labia minora (d) clitoris

110) The _____ are modified sweat gland seen in both sexes
(a) Skene's glands (b) Bartholin's glands (c) Mammary gland (d) Cowper's gland

111) The spermatids are transformed into mature sperms by a process called _____
(a) spermiation (b) spermiogenesis (c) gametogenesis (d) oogenesis

112) Sperms are released into the cavity of the seminiferous tubule by a process called _____
(a) spermiogenesis (b) spermatogenesis (c) spermiation (d) gametogenesis

113) The unequal divisions during oogenesis results in small cells called _____
(a) oogonia (b) primary oocyte (c) secondary oocyte (d) polar bodies

114) Normal menstrual or ovarion cycle occurs once in _____ days.
(a) 28/29 (b) 17/18 (c) 60/65 (d) 58/60

115) The ruptured Graafian follicle forms _____
(a) corpus luteum (b) primary follicle (c) oogonia (d) secondary follicle

116) LH surge is seen in _____ phase of menstrual cycle.
(a) follicular phase (b) luteal phase (c) ovulatory (d) menstrual

117) _____ is a temporary endocine gland formed during pregnancy from the follicle.
(a) oestrogen (b) corpus luteum (c) progesterone (d) relaxin

118) The _____ phase of menstrual cycle is also called secretory phase.
(a) Ovulatory (b) Menstrual (c) Luteal (d) Follicular

119) _____ is a biochemical event which enables a sperm to fertilize an egg.
(a) Capacitation (b) Gastrulation (c) Spermiogenesis (d) Gametogenesis

120) The follicular cells of the ovum are held together by a substance called _____
(a) hyaluronidase (b) progesterone (c) oestrogen (d) hyaluronic acid

121) The _____ prevents poly spermy.
(a) vitelline membrane (b) fertilization membrane (c) zona pellucida (d) corona radiata

122) The stage where the embryo looks like a fluid filled hollow ball is called _____
(a) trophoblast (b) morula (c) gastrula (d) blastocyst

123) The _____ is a double layered embryonic membrane.
(a) chorion (b) amnion (c) allantois (d) yolksac

124) Human pregnancy lasts for ____ days.
(a) 280 (b) 300 (c) 290 (d) 310

125) _____ connects the foetus and maternal tissues.
(a) Chorionic villi (b) Uterus (c) Placenta (d) Corpus albicans

126) The _____ contractions lead to false labour pains.
(a) Let - Down reflex (b) Ferguson reflex (c) Foetal ejection reflex (d) Braxter - Hicks

127) The foetal ejection reflex is also called ____ reflex.
(a) Ferguson (b) Let - Down (c) Braxter - Hicks (d) Parturition

128) _____ is a hormone secreted by the placenta and also found in the corpus luteum
(a) Oxytocin (b) Relaxin (c) Inhibin (d) Testosterone

129) The hormone ____ brings about powerful contraction of uterine muscles during child birth.
(a) Relaxin (b) Oestrogen (c) Progesterone (d) Oxytocin

130) The hormone _____ produced by anterior pituitary plays a major role in lactation.
(a) oxytocin (b) prolactin (c) progesterone (d) oestrogen

131) Colostrum has less _____ than milk.
(a) protein (b) minerals (c) lactose (d) vitamin A

132) _____ is a natural antimicrobial agent to stimulate the maturation of infants immune system.
(a) IgA antibodies (b) Amniotic fluid (c) Milk (d) Colostrum

133) _____ is the first ejaculation of semen.
(a) Azospermia (b) Spermarche (c) Prostatits (d) Orchidectomy

134) Select the incorrect statement.
(a) LH and FSH trigger ovulation in ovary
(b) LH and FSH decrease gradually during the follicular phase
(c) LH triggers secretion of androgens from the Leydig cells.
(d) FSH stimulates the Sertoli cells which help in spermiogenesis

135) Identify the correct statement on 'inhibition'.
(a) is produced by granulose cells in ovary and inhibits the secretion of FSH
(b) is produced by granulose cells in ovary and inhibits the secretion of LH
(c) is produced by nurse cells in testes and inhibits the secretion of LH
(d) inhibits the secretion of LH, FSH and prolactin.

136) Several hormones like heG, hPL, oestrogen and progesterone are produced by
(a) ovary (b) placenta (c) fallopian tube (d) pituitary

137) Match column I with column II and select the correct option using the codes given below

Column I	Column II

Column I	Column II
A. Mono pubs	1. Embryo formation
B. Antrum	2. Sperm
C. Trophectoderm	3. Female external genitalia
D. Nebenkem	4. Graafian follicle

(a)

A	B	C	D
3	4	2	1

(b)

A	B	C	D
3	4	1	2

(c)

A	B	C	D
3	1	4	2

(d)

A	B	C	D
1	4	3	2

138) Which one of the following is not the function of placenta?
(a) To facilitate supply of oxygen and nutrients to embryo (b) To secrete oestrogen (c) To facilitate the removal of carbondi oxide and material from embryo (d) To secrete oxytocin during parturition

139) The testes in human are situated outside the abdominal cavity inside a pouch called scrotum. The purpose served is for
(a) escaping any possible compression by the visceral organs. (b) providing more space for the growth of epididymis. (c) providing a secondary sexual feature for exhibiting the male sex (d) maintaining the scrotal temperature lower than internal body temperature

140) Hormones secreted by placenta to maintain pregnancy are
(a) hCG, hPL, progesterone, estrogen (b) hCG, hPL, estrogen, relaxin, oxytocin (c) hCG, hPL, progesterone, prolactin (d) hCG, progesterone, estrogen, glucocorticoids

141) Match and select the correct option

Column I	Column II
a. Proliferative phase	1. Breakdown of endometrium lining
b. Secretory phase	2. Follicular phase
c. Menstruation	3. Luteal phase

(a)

a	b	c
3	2	1

(b)

a	b	c
3	2	1

(c)

a	b	c
1	3	2

(d)

a	b	c
3	1	2

142) The developing spermatoza are nourished by
(a) Leydig cells (b) Sertoli cells (c) Follicular cells (d) Epididymis

143) Identify the correct sequence of reproductive events in human beings.
(a) Insemination, Implantation, Fertilization, Parturition and Placentation (b) Implantation, Fertilization, Insemination, Placentation and Parturition. (c) Implantation, Insemination, Fertilization, Parturition and Placentation (d) Insemination, Fertilization, Implantation, Placentation and Parturition.

144) Which of the following statement is not correct?
(i) Interstitial cells are seen surrounding the seminiferous tubule.
(ii) Nurse cells secrete inhibin.
(iii)Males have single prostate gland which encircles the urethra.
(iv) Insemination, Fertilization, Implantation, Placentation, and Parturition.
(a) i and ii (b) iii only (c) iii and iv (d) iv only

145) Assertion (A): In scrotum, the temperature is maintained 2 - 3°C lower than body temperature.
Reason (R): Reduced temperature results in efficient sperm production
(a) R explains A. (b) A is right R is wrong. (c) A and R are right. R does not explains A (d) Both A and R are wrong

146) Assertion (A): Human ovum is non - cleidoic
Reason (R): Human does not contain yolk.
(a) R explains A (b) A is right, R is wrong (c) A and R are right. R does not explain A. (d) Both A and R are wrong

147) Assertion (A): Menopause refers to the absence of menstruation during pregnancy.
Reason (R): Ovulation occurs during menstrual phase.
(a) R explains A. (b) A is right, R is wrong (c) A and R are right. R does not explains A. (d) Both A and R are wrong

148) Assertion (A): Cervix is common site of ectopic pregnancies
Reason (R): Implantation of fertilized ovum outside uterus
(a) A is wrong, R is right. (b) A is right, R is wrong (c) A and R are right. R does not explains A. (d) Both A and R are wrong.

149) Which of the following contributes to the seminal plasma?
(i) Cowper's gland
(ii) Seminal vesicles
(iii) Prostate gland
(iv) Bulbourethral gland
(a) ii, iii and ii (b) i, ii, and iii (c) i, iii and iv (d) all the above

150) Organ of copulation in human female is _____
(a) Cevix (b) Fundus (c) Vagina (d) Uterus

151) Identify the gland which is homologous to the Cowper's glands of male.
(a) Bartholin's gland (b) Bulbourethral gland (c) Prostate gland (d) Skene's gland

152) Find out the proper sequence representing the parts of female reproductive system.
(a) Vagina ⟶ Ovary ⟶ Uterus ⟶ Cervix ⟶ Infundibulum ⟶ Oviduct
(b) Vagina ⟶ Ovary ⟶ Oviduct ⟶ Infundibulum ⟶ Cervix ⟶ Uterus
(c) Ovary ⟶ Infundibulum ⟶ Oviduct ⟶ Uterus ⟶ Cervix ⟶ Vagina
(d) Oviduct ⟶ Ovary⟶ Uterus⟶ Infundibulum ⟶ Vagina⟶ Cervix

153) An adult male produces an average of _____ sperms per day
(a) 200 million (b) 300 million (c) 300 million (d) 120 million

154) Statement (1): During spermiation, the sperms are released into the cavity of seminiferous tubule.
Statement (2): During spermiogenesis, the spermatids get mature into sperms.
(a) Statement 1 is correct; statement 2 is incorrect (b) Statement 1 is incorrect; statement 2 is correct (c) Both the statements 1 and 2 are correct. (d) Both the statements 1 and 2 are incorrect

155) Statement (1): Siamese twins are conjoined twins who are joined during birth.
Statement (2): Dizygotic twins will be of same sex
(a) Statement 1 is correct; statement 2 is incorrect. (b) Statement 1 is incorrect; statement 2 is correct. (c) Both the statements 1 and 2 are correct. (d) Both the statements 1 and 2 are incorrect.

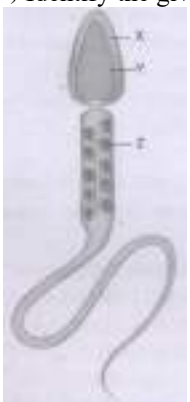
156) Statement (1): The endometrium acts as transitory endocrine gland secreting progesterone
Statement (2): Progesterone maintains pregnancy
(a) Statement 1 is correct; statement 2 is incorrect (b) Statement 1 is incorrect; statement 2-is correct (c) Both the statements 1 and 2 are correct. (d) Both the statements 1 and 2 are incorrect.

157) Statement (1): Human pregnancy lasts for 35 weeks.
Statement (2): During gestation, embryo's heat develops during 12th week
(a) Statement 1 is correct; statement 2 is incorrect (b) Statement 1 is incorrect; statement 2 is correct (c) Both the statements 1 and 2 are correct (d) Both the statements 1 and 2 are correct

158) Statement (1): Menstrual cycle occurs once in every 29 days.
Statement (2): The average age of menopause is 45-50 years.
(a) Statement 1 is correct; statement 2 is incorrect (b) Statement 1 is incorrect; statement 2 is correct (c) Both the statements 1 and 2 are correct (d) Both the statements 1 and 2 are incorrect.

159) Identify the mismatched pair
(a) Castration - Orchidectomy (b) Spermiogenesis - Release of sperms into the cavity of seminiferous tubule (c) Ovulation - Release of egg from ovary (d) Capacitation - Process enabling the sperm to penetrate the eg

160) Identify the given figure and select the correct option representing X,Y and Z



(a)

X	Y	Z
Nucleus	Acrosome	Mitochondria

(b)

X	Y	Z
Acrosome	Nucleus	Mitochondria

(c)

X	Y	Z
Mitochondria	Acrosome	Nucleus

(d)

X	Y	Z
Nucleus	Acrosome	Mitochondria

161) The entire process of spermatogenesis takes about _____ days

(a) 60 days (b) 44 days (c) 64 days (d) 50 days

162) Observe the diagram and select the correct option denoting the proper sequence of parts.

(a)

A	B	C	D
Isthmus	Fimbriae	Infundibulum	Uterus

(b)

A	B	C	D
Fimbriae	Infundibulum	Uterus	Isthmus

(c)

A	B	C	D
Infundibulum	Uterus	Isthmus	Fimbriae

(d)

A	B
Fimbriae	Infundi

163) Pick out the incorrect statements.
(a) The upper rounded portion of ute ius is fundus (b) Uterus open into vagina through narrow cervix (c) Cervix is the organ of copulation in female. (d) Vagina extends from the cervix and opens to exterior

164) What is the role of fimbriae?
(a) Secretion of oestrogen and prolactin. (b) Helps in the collection of the ovum after ovulation (c) Attaches the ovary to the abdominal cavity. (d) Cormects oviduct with ovary

165) Which is not a correct statement regarding Oogenesis?
(i) During foetal development, cells in germinal epithelium of foetal ovary undergo mitosis and produce oogonia.
(ii) Oogonial cell divide and enter into prophase I of meiosis I and from primary oocytes.
(iii)Primary oocytes later develop into primary follicles.
(iv) No oogonia is formed or added after the foetal birth.
(a) Only i (b) ii and iii (c) iv only (d) None of the above

166) In embryo development of human beings, how long does it takes for a zygote to convert into morula?
(a) 24hrs (b) 36hrs (c) 48hrs (d) 72 hrs

167) Identify the hormone which is produced only during the time of pregnancy
(a) Relaxin (b) Oxytocin (c) Progesterone (d) Cortisol

168) The type of antibodies present in colostrum.
(a) Ig E (b) Ig M (c) Ig A (d) Ig B

169) Select the proper harmonal Composition of oral Contraceptive pills
(a) FSH and Prolactin (b) prolactin & TSH (c) TSH & FSH (d) FSH & LH

170) In ZIFT technique the zygote is transferred at the stage of _____
(a) 16 blastomere (b) morula (c) 12 blastomere (d) 8 blastomere

171) The family planning programme was initiated by India in _____
(a) 1953 (b) 1972 (c) 1963 (d) 1951

172) In the year _____ india is expected to become the largest country in population size _____
(a) 2021 (b) 2025 (c) 2022 (d) 2030

173) Sperm remains active for _____ hours in the female reproductive tract
(a) 60 (b) 70 (c) 72 (d) 78

174) Saheli is an example for _____ method
(a) Mechanical barrier (b) Chemical barrier (c) Hormonal barrier (d) Intra uterine devices

175) Formation of chronic ulcer is a symptom of _____
(a) Genital herpes (b) Syphilis (c) Gonorrhoea (d) AIDS

176) Fatigue, Jaundice, stomach pain are the symptoms of _____
(a) Genital warts (b) AIDS (c) Chlamydiasis (d) Hepatitis-B

177) The incubation period for _____ varies between 1-8 months.
(a) HPV (b) HIV (c) HBV (d) candida

178) The incubation period for _____ can be more than 10 years.
(a) HPV (b) HBV (c) Treponema (d) HIV

179) PAP smear can help to detect
(a) Jaundice (b) Cancer (c) AIDS (d) Hepatitis B

180) ____ vaccination of girls between 9-13 years can prevent cervical cancer.
(a) HIV (b) HPV (c) MMR (d) HBV

181) Mayer - Rokitansky syndrome is a condition in which
(a) Ova are not produced (b) Ovaries are not formed (c) Uterus is not functioning (d) Fallopian tube is ruptured

182) Test tube baby is got by _____ technique.
(a) IUI (b) CVS (c) ICSI (d) IVF

183) Cryopreservation of embryos are done when _____
(a) When eggs are not available (b) Sperm count is less (c) More embryos are available than the required (d) there is abnormality in the embryo

184) One sperm directly injected into cytoplasm of the egg in _____ technique.
(a) ICSI (b) GIFT (c) IUT (d) TCSE

185) _____ involves taking a sample of placental tissues to test for chromosomal abnormalities
(a) CVS (b) ICSI (c) TESE (d) IVF

186) _____ is needed for normal functioning of reproductive structures
(a) Vitamin A (b) Vitamin E (c) Vitamin B (d) Vitamin C

187) _____ is observed as world population day
(a) 11th June (b) 11th April (c) 11th July (d) 11th May

188) International diseases refer to _____
(a) Syphilis and AIDS (b) AIDS and Gonorrhoea (c) AIDS and Hepatitis B (d) Syphilis and Gonorrhoea

189) Most of the intrauterine transfer of embryo is done at _____ stage
(a) 8 celled (b) 16 celled (c) 32 celled (d) 4 celled

190) _____ is an epidemic disease.
(a) HPV (b) HIV (c) Cervical cancer (d) Jaundice

191) In India, Family Planning Programme was introduced in
(a) 1941 (b) 1951 (c) 1961 (d) 1971

192) Expansion of the RCH is _____
(a) Reproduction and Children Health Programme (b) Reproductive arid Child's Reproductive and Critical Health Care (c) Child Health Committee (d) Reproduction and Child Health Care

193) One of the following prevents sperm from heading off to penis as the discharge has no sperms in it.
(a) Tubectomy (b) LNG - 20 (c) Vasectomy (d) Cu T 380 Ag

194) This is not Major task of RCH.
(a) Vaccinating the mother and child for infectious diseases (b) Introducing six education in Schools (c) Educating couples about the available with control (d) Creating awareness about care for pregnant Women

195) All the following aims at creating a safe and secure environment for both females and males. Except
(a) Sexual Harassment at work place Act (b) POCSO Act (c) Recommendation of Iustice Verma Committee, 2013 (d) PCPNDT

196) This is an ideal contraceptive for females who want to delay pregnancy
(a) Oral contraceptives (b) IUDs (c) Diaphragms, cervical caps (d) Vaults

197) At which stage the embryo is transferred into the uterus.
(a) 4 celled stage (b) 8 celled stage (c) 12 celled stage (d) 16 celled stage

198) This technique is used to diagnose the chromosomal abnormities.
(a) Assisted Reproductive Technology (ART) (b) Micro Testicular Sperm Extraction (c) Amniocentesis (d) GIFT

199) Identify the bacterial STI
1. Affects the urethra, vectron and throat
2. In females cervix is affected.
3. Pain and pus discharge in the genital tract.
4. Burning sensation during urination.
(a) Gonorrhoea (b) Syphilis (c) Chlanydiasis (d) Lympho

200) An abnormal foetal heart beat rate or pattern indicates the foetus is not getting enough
(a) Nutrients (b) Oxygen (c) Blood (d) Signals

201) Fatigue, jaundice, fever, rash, stomach pain, liver Cirrhosis and liver failure - are the symptoms of
(a) Chalmydiasis (b) Lynphogvanuloma Veneveum (c) Hepatitis (d) Syphilis

202) In this Assisted Reproductive Technology (ART), the sperms and egg are allowed to united outside the body and then transformed into the woman's uterus.
(a) Intra - uterine insemination (IUI) (b) In vitro Fertilization (IVF) (c) Zygote Intra - Fallopian Transfer (ZIFT) (d) Intra uterine transfer (IUT)

203) Cervical Cancer can be diagnosed by X combined with Y test, but the stage of Cancer is determined by Z

(a)			(b)			(c)			(d)		
X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
HPV	PAP Smear	PET Scan	PAP Smear	HPV	PET Scan	MRI	CT Scan	MRI	PET Scan	X-Ray	CT Scan

204) Prevention of children from sexual offences is covered under _____ act
(a) PCPNDT (b) patent act (c) ART (d) POCSO

205) _____ can be diagnosed by PAP smear test.
(a) Cervical cancer (b) Bone cancer (c) Blood cancer (d) Intestinal cancer

206) _____ is a prenatal technique to detect chromosomal abnormalities in the foetus
(a) Amniocentesis (b) PSA test (Prostate Specific Antigens Test) (c) PAP test (d) PT test (Prothrombin Time Test)

207) The problem of overpopulation can be overcome by _____
(a) awareness program (b) free education (c) Birth control (d) meals scheme

208) Foaming tablets and jellies are _____ barriers for birth control.
(a) mechanical (b) Chemical (c) hormonal (d) natural

209) Oral contraceptive pills contain synthetic ____ and hormones
(a) androgen and testosterone (b) Androgen and Oxytocin (c) relaxin and inhibin (d) Progesterone and estrogen

210) _____ is an example of a contraceptive pill.
(a) Alesse (b) Ortho Tri-cyclen (c) Saheli (d) Eryosterol

211) IUD's increase _____ of the sperm within the uterus.
(a) Endocytosis (b) Pinocytosis (c) Phagocytosis (d) Exocytosis

212) The _____ method of contraception has a success rate of 95 - 99% in India.
(a) IUDs Intra-uterine devices (b) Hormonal (c) Chemical (d) mechanical

213) Diseases like _____ are transmitted sexually and by sharing of needless
(a) gonorrhoea (b) genital herpes (c) AIDS/Hepatitis - B (d) candidiasis

214) _____ is a sexually transmitted diseases caused by protozoan
(a) Trichomoniasis (b) Genital warts (c) Syphilis (d) Candidiasis

215) _____ is a sexually transmitted disease caused by a fungus
(a) Chlamydiasis (b) Candidiasis (c) Genital herps (d) Syphilis

216) _____ is a cause of infertility in women.
(a) varicocoele (b) Endometriosis/Uterine fibroids (c) well developed ovaries (d) hormonal balance

217) ____ is a procedure to treat infertile man with low sperm count
(a) Intra-uterine insemination (b) In vitro fertilization (c) Intra-uterine transfer (d) Zygote intra-fallopian transfer

218) _____ is a method for preservation of embryos
(a) Mechanical preservation (b) Chemical preservation (c) Cryopreservation (d) Heat preservation

219) is a condition in which there is absence of spermatozoa in the ejaculate serum
(a) teratozoospermia (b) Asthenozoospermia (c) Oligozoospermia (d) Azoospermia

220) Coitus can be avoided on the 14th day of the menstrual cycle to prevent fertilization, because _____ takes place on that day.
(a) Lactation (b) Ovulation (c) Sperms are more active (d) Uterus is ready for implantation

221) _____ is a method used to detect foetal diseases during early pregnancy
(a) CT scanning (b) MRI scanning (c) Ultrasound scanning (d) PET scanning

222) Usage of _____ greatly reduces the risk of STI.
(a) IUDS (b) Latex Condoms (c) Saheli (d) Lippes loop

223) Which of the following is a hormone releasing Intrauterine Device (IUD)?
(a) Multi load 375 (b) LNG - 20 (c) Cervical cap (d) Vault

224) Assisted reproductive technology, IVF involves the transfer of
(a) Ovum into the fallopian tube (b) Zygote into the falloptan tube (c) Zygote into the uterus (d) Embryo with16 blastomeres into the fallopian tube

225) In context of amniocentesis, which of the following statements is incorrect?
(a) It is usually done when a woman is between 14-16 weeks pregnant (b) It is used for prenatal sex determination (c) It can be used for detection of Down syndrome (d) It can be used for detection of Cleft palate

226) Which of the following approach does not give the defined action of contraceptive?

(a)		(b)		(c)		(d)	
a) Barrier methods	Prevent fertilizers	b) Intra uterine devices	Increases phagocytosis of sperms suppresses sperm motility and fertilizing capacity of sperms.	c) Hormonal contraceptives	Prevent retard entry of sperms, prevent ovulation and fertilization.	d) Vasectomy	Prevents spermatogenesis

227) Which of the following is Not a natural contraceptive?
(a) Rhythm method (b) Lactational amenorrhoea (c) Progestasert (d) Continuous abstinence

228) Identify the fungal STD(s) _____
(i) Trichomoniasis (ii) Genital herps (iii) Candidiasis (iv) Genital warts
(a) Only(i) (b) Only (iii) (c) Only (iv) (d) Both (ii) and (iv)

229) Pick out the incorrect statement regarding the character of an good contraceptive.
(a) It should be user friendly (b) should not affect sexual drive (c) side effects must be least (d) should not be easily available

230) Assertion (A): IUD's are inserted in the ovary.
Reason (R): IUD's Increases phagocytosis of the sperm.
(a) Both A and R are correct (b) Both A and R are incorrect (c) A is correct R is incorrect (d) A is incorrect R is correct

231) Identify the mismatched pair.
(a) Syphilis - Treponema palladium (b) Lymphogranuloma venereum - Chlamydia trachomatis (c) Candidias - Albugo candida (d) Genital warts - Human Papilloma virus

232) Assertion (A): Amniocentesis helps to diagnose the chromosomal aberrations in foetus.
Reason (R): Amniocentesis is legalized is our country.
(a) Both A and R are wrong (b) A is right and R is wrong (c) R explains A (d) A is wrong R is right

233) Legalized marriageable age of female in India is _____
(a) 19 years (b) 20 years (c) 18 years (d) 21 years

234) Identify the correct statement.
(a) Lactational amenorrhea is a permanent birth control method (b) Condoms are made of polyethylene glycol and lambskin (c) LNG -20 is a copper-releasing IUD (d) Diaphragm covers the cervix there by preventing sperm entry

235) According to WHO, India is the _____ largest HIV affected country.
(a) first (b) second (c) third (d) seventh

236) Identify the correct statement.
(a) MTP is the voluntary killing of infant (b) MTP is legalized in India from 1974 (c) Performing MTP during second trimester is more risky. (d) It is a surgical-based abortion.

237) In chorionic villus sampling test, the tissue sample is taken from _____
(a) amniotic fluid (b) placental tissue (c) Intestinal villi (d) foetal liver

238) Given below are the basic steps in IVF treatment cycle. Select the proper sequence.
(i) Ovarian stimulation (ii)Egg retrieval (iii) fertilization (iv) Embryo, culture (v) Embryo transfer
(a) (ii) - (iv) - (v) - (i) - (iii) (b) (i) - (iii) - (ii) - (v) - (iv) (c) (i) - (ii) - (iii) - (iv) - (v) (d) (ii) - (i) - (iii) - (v) - (iv)

239) Enactment of _____ banned the identification of sex and to prevent the prenatal abortion
(a) POCSO Act (b) POTA Act (c) PCPNDT Act (d) GOONDA Act

240) Which is NOT a national health care programme?
(a) Pradhan Mantri Surakshit Matritva Abhiyan (b) Pradhan Mantri Fiscal Bhima Yojana (c) RMNCH +A approach (d) Janani Shishu Suraksha Karyakaram

241) The blood group _____ is called universal donor.
(a) A (b) AB (c) B (d) O

242) The blood group _____ is called universal recipient.
(a) O (b) AB (c) B (d) A

243) The ABO blood group was discovered by _____.
(a) Sturli (b) Decastelle (c) Landsteiner (d) Alexander wiener

244) The inheritance of blood group is determined by multiple alleles as discovered by _____.
(a) Landsteiner (b) Bernstein (c) Alexander castelle (d) lyon

245) The_____ is called null allele.
(a) I^A (b) I^OI^B (c) I^O (d) I^BI^B

246) The secretors have the I allele in _____.
(a) tears (b) Gastric juice (c) Saliva (d) All of these

247) _____ proposed the existence of 8 alleles at a single Rh locus.
(a) Fischer (b) Landsteiner (c) Bernstein (d) Wiener

248) XX - XO type of sex determination is in _____.
(a) Cockroaches (b) Drosophila (c) Humans (d) Moths

249) The lygaeus type (XX - XY) type of sex determination is seen in _____
(a) Fishes (b) Chickens (c) Human beings (d) Gypsy moth

250) The ZO - ZZ type of sex determination is seen is _____.
(a) moths (b) Reptiles (c) Human beings (d) Bugs
251) The ZW - ZZ type of sex determination is seen _____.
(a) Butterflies (b) Drosophila (c) Gypsy moth (d) Human being
252) Sex index is applicable to _____.
(a) Homogenetic condition (b) Heterogametic condition (c) Genic balance (d) Gynandromorphs
253) X chromosomes was discovered by _____.
(a) Landsteiner (b) Henking (c) Stevens (d) Bridges
254) Y chromosomes was discovered by _____.
(a) Stevens (b) Landsteiner (c) Henking (d) Wiener
255) _____ was first reported by John Cotto.
(a) Erythroblastosis foetalis (b) Haemophilia (c) Colour blindness (d) Haplodiploidy
256) Scientists who contributed to karyotyping _____.
(a) Tjio and Levan (b) John Cotto (c) Bridges (d) Wiener
257) Depending on position of centromere and relative length of two arms human chromosomes can be classified into _____ type.
(a) 2 (b) 3 (c) 4 (d) 5
258) _____ are examples of mendelian disorders.
(a) Thalassemia (b) Albinism (c) Phenylketonuria (d) Haemophilia
259) _____ is a disease where abnormal haemoglobin is produced in patients.
(a) Phenylketonuria (b) Huntington's chorea (c) Thalassemia (d) Albinism
260) Phenylketonuria is linked to chromosome_____.
(a) 9 (b) 10 (c) 12 (d) 8
261) Cooley's anaemia refers to _____.
(a) Phenylketonuria (b) Haemophilia (c) Thalassemia (d) Turner's sundrome
262) The gene responsible for _____ is inherited as an autosomal recessive lethal gene in man
(a) Huntington's chorea (b) Albinism (c) Colourblindness (d) Phenylketonuria
263) _____ is an inborn error of metabolism caused due to autosomal recessive gene.
(a) Thalassemia (b) Albinism (c) Phenylketonuria (d) Huntington's chorea
264) Trisomy 21 refers to _____.
(a) Patau's syndrome (b) Down's syndrome (c) Kline filters syndrome (d) Turners syndrome
265) Patau's syndrome is called _____.
(a) Trisomy - 21 (b) Trisomy - 13 (c) xxy males (d) xo females
266) People with _____ have 4S chromosomes.
(a) Turner's syndrome (b) Klinefelter's syndrome (c) Down's syndrome (d) Patau's syndrome
267) Incompatibility of blood groups leading to, dumping of erythrocytes is called_____.
(a) agglutination (b) non -agglutination (c) Inhibition (d) repolarization
268) One gene 'L' controlling blood groups is named after_____.
(a) c. B. Bridges (b) Henking (c) Landsteiner (d) Stevens
269) The allele I^o is called _____
(a) Dominant allele (b) null allele (c) null allele (d) epistatic allele
270) The alleles I^A and I^B are _____
(a) Hypostatic (b) Co-dominant (c) Recessive (d) Epistatic
271) Individuals who possess the I antigens related to gene I in body fluids are called_____.
(a) secretors (b) enzymes (c) Lymph fluids (d) hormones
272) Rh factor was discovered in the blood of _____.
(a) Frog (b) Carp (c) Rhesus monkey (d) Calotes
273) Incompatibility of Rh factor can lead to _____ in a pregnant woman.
(a) Haemophilia (b) Sickle cell anaemia (c) Aplastic anaemia (d) erythroblastosis foetalis
274) The XX - XY type of sex determination is also known as _____ type.
(a) Haploid - diploid (b) Lygaeus (c) Gynandromorphs (d) Genic balance
275) In gypsy moth we find _____ type of sex determination.
(a) ZW - ZZ (b) XX - XY (c) XX - XO (d) ZO - ZZ
276) Genic balance mechanism was first studied by _____.
(a) John Cotto (b) C. B. Bridges (c) Bernstein (d) Wiener
277) Sex switch genes have been reported in _____.
(a) Grasshopper (b) Cockroach (c) Wasp (d) Drosophila
278) In _____ the tissues of male and female genotype type form a mosaic
(a) Haplo-diploidy (b) Gynandromorphy (c) Genic balance (d) Lygaeus type
279) Sex chromatin is also called as _____.
(a) polar body (b) nucleus (c) nucleolus (d) Barr body
280) The number of Barr bodies follows _____.
(a) N-0 Rule (b) N-3 rule (c) N-1 rule (d) N-2 rule

281) Kin selection is seen in _____
(a) Honey bees (b) Drosophila (c) Grasshopper (d) Cockroach

282) The fruit fly Drosophila melanogaster was found to be very suitable for experimental verification of chromosomal theory of inheritance by Morgan and his colleagues because
(a) It reproduces parthenogeneticallyproduces two young flies (b) A single mating (c) Smaller female is easily recognizable from largemale (d) It completes the life cycle in about'two weeks

283) Which one of the following cannot be explained on the basis of Menders Law of Dominance?
(a) The discrete unit controlling a particular character is called a factor (b) Out of one pair factors one is dominant and the other recessive (c) Alleles do not show any blending and both the characters recover as such in F2 generation (d) Factors occur in pairs

284) ABO blood groups in humans are. controlled by the gene I, It has three alleles - IA, IB and i. Since there are three different alleles) six different genotypes are possible. How many phenotypes can occur?
(a) Three (b) One (c) Four (d) Two

285) Which one of the following symbols and its representation, used in human pedigree analysis is correct?
(a) □ = O Mating between relatives (b) O = Unaffected male (c) □ = Unaffected female (d) ◊ = Male affected

286) Which one of the following conditions correctly describes the' manner of determining the sex in the given example?
(a) XO type of sex chromosomes determine male sex in grasshopper (b) XO condition in humans as found in Turner syndrome, determines female sex (c) Homozygous sex chromosomes (XX) produce male in Drosophila (d) Homozygous sex chromosomes (ZZ) determine female sex in birds

287) A normal-visioned man whose father was blind marries a woman whose father was also colour blind. They have their first child as a daughter. What ar.e the chances that this child would be colour blind?
(a) 100% (b) 0% (c) 25% (d) 50%

288) Which of the following statements is not true of two genes that show 50 per cent recombination frequency
(a) The genes may be on different chromosomes (b) The genes are tightly linked (c) The genes show independent assortment (d) If the genes are present on the same chromosome

289) A pleiotropic gene:
(a) Is a gene evolved during Pliocene (b) Controls a trait only in combination with another gene (c) Controls multiple traits in an individual (d) Is expressed only in primitive plants

290) A gene showing codominance has:
(a) Alleles tightly linked on the same chromosome. (b) Alleles that are recessive to each other (c) Both alleles independently expressed in the heterozygote (d) One allele dominant on the other

291) Pick out the correct statements
a) Haemophilia is a sex-linked recessive disease
b) Down's syndrome is due to aneuploidy
c) Phenylketonuria is an autosomal recessive gene disorder
d) Sickle cell anaemia is an X-linked recessive gene disorder
(a) a) A and D are correct (b) Band D are correct (c) A, C and D are correct (d) A, B and C are correct

292) If a colorblind female marries a normal male, their sons will be_____
(a) All normal visioned (b) All color blinded (c) One half normal visioned other half colorblind (d) Three fourth colorblind one fourth normal

293) Excess hair growth on pinna is a feature noticed only in males because of _____
(a) Males produce more testosterone (b) gene responsible for the character is located in Y-chromosome (c) Estrogen suppresses the character in females (d) females act only as a carriers for this character

294) ABO blood group is a classical example for _____
(a) Multiple allelism (b) Pleotropism (c) Incomplete dominance (d) Polygenic mechanism

295) Unit of heredity is _____
(a) allele (b) allelomorph (c) trait (d) gene

296) Identify the proper dominance hierarchy.
(a) $I^A=I^O > I^B$ (b) $I^A=I^B > O$ (c) $I^O=I^B > I^A$ (d) $I^B=I^A > O$

297) Identify the correct statement
(a) Homozygous sex (b) Homozygous sex (c) Heterozygous sex (d) Heterozygous sex

chromosome (XX) produce males in Drosophila | chromosome (ZZ) determine female sex in birds | chromosome (XO) determine male sex in grasshopper | chromosome (ZW) determine male sex in gypsy moth

298) Which blood group doesn't possess antibodies?
(a) I^AI^B (b) I^OI^O (c) I^{AO} (d) I^BI^B

299) Assertion (A): On diagnosis, Ramu is reported to have underdeveloped testis and gynaecomastia.
Reason (R): His karyotype reveals XXY condition
(a) A is right but R is wrong (b) R explains A (c) Both A and R are wrong (d) Both and R are right but R is not the correct explanation of A

300) Pick out the odd man out.
(a) Klinefelter's syndrome (b) Turner's syndrome (c) Huntington's chorea (d) 13-Trisomy

301) Pick out the odd one out regarding Mendelian disorder.
(a) Thalassemia (b) phenylketonuria (c) Albinism (d) Huntington's chorea

302) Identify the proper ratio of normal visioned individuals against colorblind 'individuals, if colorblind carrier female marries a normal male.
(a) 1 : 1 (b) 3 : 1 (c) 1 : 3 (d) All four are normal visioned

303) Pick out the correct statement
(i) Karyotyping helps in gender identification
(ii) Holandric genes are located on X-chromosome
(iii) Trisomy-21 is an allosomal abnormality
(iv) Cooley's anaemia is an autosomal recessive disorder
(a) i, iii, iv are correct (b) ii and iii are correct (c) i and iv are correct (d) iv only correct

304) DOPA stands for _____
(a) 3,4 - dihydroxy phenyl acetate (b) 3,4 - dihydroxy phenyl alanine (c) 3,4 - dihydroxy phenyl asparate (d) 3,4 - dihydroxy phenyl aldehyde

305) The type of antibody generated against Rh antigen is _____
(a) IgE (b) IgG (c) A (d) IgB

306) Which of the following symbol is used in pedigree analysis to represent unspecified sex?
(a)  (b)  (c)  (d) 

307) A colorblind man. marries a woman with normal sight who has no history of color blindness in her family. What is the probability of their grandson being colorblind?
(a) 1/4 (b) 3/4 (c) 2/4 (d) 4/4

308) Multiple alleles are located _____
(a) at different loci on homologous chromosome (b) at same locus on homologous chromosome (c) at different loci on non-homologous chromosome (d) at different chromosomes

309) Identify the incorrect statement regarding haplodiploidy
(a) Haplodiploidy is noticed in honeybees and drosophila (b) Unfertilized eggs develop into drones (c) Fertilized eggs develop into queen and worker bees (d) Males have half the total chromosomal number

310) I^A and I^B genes of ABO blood group are _____
(a) Co-dominant (b) Pleotropic (c) Dominant and recessive (d) Epistatic

311) Which one of the following crosses show 3 : 1 ratio of normal visioned versus carrier blind?
(a) X^CX^C x X+Y (b) X+X^c x X^cY- (c) X+X^c x X+Y- (d) X+X+ x X^cY-

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MCQ ZOO CREATIVE 5-8

12th Standard

Biology

286 x 1 = 286

1) The term gene was coined by _____
(a) Mendel (b) Lyon (c) Johannsen (d) Hershey

2) The classical concept of a gene was given by _____.
(a) Mendel (b) Sutton (c) Johannsen (d) Hofmeister

3) One gene one enzyme hypothesis was proposed by Beadle and Tatum based on _____
(a) Yeast (b) Drosophila (c) E. coli (d) Neurospora

4) Chromosomes were first observed by _____.
(a) Miescher (b) Hofmeister (c) Avery (d) Griffith

5) The term nucleic acid was coined by _____.
(a) Miescher (b) Hofmeister (c) Altman (d) Mcleod

6) Griffith's experiments proved that _____.
(a) RNA is involved in protein synthesis (b) Bacteria undergoes asexual reproduction (c) DNA is the genetic material (d) DNA is made of two strands

7) The experiment conducted by Griffith was based on_____.
(a) Transduction (b) Replication (c) Transformation (d) Conjucation

8) Human Genome was sequenced in _____.
(a) 1979 (b) 2015 (c) 1989 (d) 2001

9) _____ used radioactive labelled molecules to prove that DNA is the genetic material.
(a) Hershey and Chase (b) Wilkins and Franklin (c) Griffith (d) Mcleod and Avery

10) One difference between deoxyribose and Ribose is due to_____.
(a) One Oxygen atom more in Ribose (b) Two Oxygen atoms less in Deoxyribose (c) Two Carbon atoms less in Ribose (d) Four Carbon atoms more in Ribose

11) _____is unique for DNA.
(a) Adenine (b) Uracil (c) Guanine (d) Thymine

12) _____demonstrated that RNA is the genetic material in RNA containing viruses.
(a) Avery (b) Conrat and Singer (c) Griffith (d) Watson and Crick

13) The concept of RNA world was independently proposed by _____
(a) Orgel, Brick and Carl woese (b) Brick, Griffith and Crick (c) Wilkins and Franklin (d) Walter Gilbert

14) The distance between two consecutive base pairs in DNA is_____.
(a) 3.4 nm (b) 0.34 nm (c) 34.0nm (d) $31x10^{-9}$

15) The term _____ refers to DNA of Prokaryotes.
(a) Nuclein (b) Ribozyme (c) Genophore (d) Nucleosome

16) _____ proposed a model for the nucleosome.
(a) Dupraw (b) Messelson (c) Kornberg (d) Griffith

17) A nucleosome has _____ histone protein molecules.
(a) 6 (b) 8 (c) 10 (d) 24

18) Messelson and Stahl _____.
(a) proved that RNA is the genetic material (b) proved that protein synthesis is dependent on DNA (c) proved the semi conservative mode of DNA replication. (d) discovered enzymes involved in replication

19) Replication errors are corrected by repair enzymes such a _____.
(a) Polymerases (b) Kornberg enzyme (c) helicases (d) Nucleases

20) The Okazaki segments are joined by _____.
(a) DNA polymerase (b) RNA polymerase (c) DNA ligase (d) Endonuclease

21) The enzyme polynucleotide phosphorylase is named after _____.
(a) Francis crick (b) Severo Ochoa (c) Marshall Nirenby (d) Kornby

22) The "non-sense' codons refer to.
(a) UAA UUU UGA (b) UUU ACU UAC (c) UAG UGA UAA (d) UAG UAA UUU

23) DNA fmger printing technique was developed by
(a) Frederick Sanger (b) Alex Jeffrey (c) Hershey (d) Rosalind Franklin

24) In genetic code there are _____ possible triplets.
(a) 62 (b) 61 (c) 68 (d) 64

25) The codon _____ codes for phenylalanine
(a) UAA (b) UUU (c) UCU (d) UAC

26) The codon _____ has dual function.
(a) UAA (b) AUG (c) UGA (d) UUU

27) An example of point mutation is _____.
(a) Thalassemia (b) Diabetes (c) Turner syndrome (d) sickle cell anaemia

28) Wobble hypothesis _____.
(a) proves that many tRNAs are. needed to transport specific amino acids (b) proves that the bases in tRNA need not match with mRNA (c) helps in economic usage of tRNA (d) proves that one tRNA can carry many amino acids

29) The term adapter molecule refers to _____.
(a) mRNA (b) DNA (c) rRNA (d) tRNA

30) There are no tRNA, for _____ codons.
(a) AUG (b) GUC (c) UAA (d) AGA

31) Human genome is approximately said to have _____ base
(a) 3 x 10^8 bp (b) 3.4 x 10^9 bp (c) 3.2 X 10^7 bp (d) 3x 10^9bp

32) DNA sequencers were developed by _____.
(a) Frederick Serger (b) Watson (c) Messelson (d) Kornberg

33) In human beings chromosome _____ has one height gene density.
(a) 18 (b) 20 (c) 19 (d) 22

34) Chromosome _____ has 231 genes only.
(a) X (b) 19 (c) Y (d) 22

35) The association of histone H1 with a nudeosome indicates
(a) Transcription is occurring (b) DNA replication is occurring (c) The DNA is condensed into chromatin fiber (d) The DNA double helix is exposed

36) Which of the following is not required for any of the techniques of DNA finger printing available at present?
(a) Zinc finger analysis (b) Restriction enzymes (c) DNA-DNA hybridization (d) polymerase chain reaction

37) Satellite DNA is important because it
(a) codes for proteins needs in cell cycle (b) shows high degree of polymorphism in population and also the same degree of polymorphism in an individual, which is heritable from parents to children (c) Does not code for protein and is same in all members of the population. (d) Codes for enzymes needed for DNA replication.

38) The diagram shows an important concept in the genetic implication of DNA. Fill in the blanks A.to C.

A B C
DNA ⟶ mRNA ⟶ protein⟶ proposed by_____

(a) A - trancscription, B-replication, C- James Watson (b) A - trancscription, B-trancscriptioii, C-Erwin (c) A - transcription, B - translation, C - Crick (d) A- trancscription, B-extension, C-Rosalind Francisin

39) Select the two statements out of the four (I -IV) given below about lac operon,
i. Glucose or galactose may bind with the repressor and inactive it.
ii. In the absence of lactose, the repressor binds with the operator region
iii. The z-gene codes for permease.
iv. This was elucidated by Francois Jacob and Jacques Monod.
The correct statements are
(a) i and ii (b) ii and iii (c) ii and iv (d) i and ii

40) Which one of the following pairs of codons is correctly matched with their function or the single for the particular amino acid?
(a) GUU, GCU - Alanine (b) UAG, UGA - Stop codon (c) AUG, ACG - start/methionine (d) UUA, UCA - Leucine

41) The Okazaki fragments in DNA chain growth
(a) Result in transcription (b) Polymerise in the 3' to 5' direction and forms replication fork (c) Prove semi-conservative nature of DNA replication (d) Polymerises in the 5' to 3' direction and explain 3'to 5' DNA replication

42) During translation initiation in prokaryotes, a GTP molecules is needed in
(a) association of 30 s, mRNA with formyl met tRNA (b) association of 50s subunit of ribosome with initiation complex (c) formation of formyl met tRNA (d) binding of 30 s subunit of ribosome with mRNA

43) Reverse transcriptase is
(a) RNA dependent RNA polymerase (b) DNA dependent RNA polymerase (c) DNA dependent DNA polymerase (d) RNA dependent DNA polymerase

44) Escherichia coli fully labeled with N14 medium. The two strands of DNA molecules of the first generation bacteria have
(a) Different density and (b) Different density (c) Same density (d) Same density but do

do not resemble parent DNA | but resemble parent DNA | and resemble parent DNA | not resemble parents DNA

45) Whose experiment finally provided convincing evidence that DNA is the genetic material?
(a) Griffith experiment | (b) Avery, Macleod and McCarty's experiment | (c) Hershey-Chase experiment | (d) Urey-Miller's experiment

46) In Hershey - Chase experiment, the DNA of T_2 phase was made radioactive by using_____
(a) 32p | (b) 35_S | (c) 35p | (d) 32_S

47) A nucleoside is composed of _____
(a) Sugar and Phosphate | (b) Nitrogen base and Phosphate | (c) Sugar and Nitrogen base | (d) Sugar, Phosphate and Nitrogenous base

48) Identify the incorrect statement
(a) a base is a substance that accepts H+ ion | (b) Both DNA and RNA have four bases | (c) Purines have single carbon-nitrogen ring | (d) Thymine is unique for DNA

49) Watson and Crick proposed their double helical DNA model based on the X-ray diffraction analysis of _____
(a) Erwin Chargaff | (b) Meselson and Stahl | (c) Wilkins and Franklin | (d) Griffith

50) If the length of E. coli DNA is 1.36 mm, the number of base pairs is _____
(a) 0.36×10^6m | (b) 4×10^6m | (c) $0.34 \times 1O^{-9}$mm | (d) 4×10^{-9}m

51) Identify the proper sequence in the organization of eukaryotic chromosome.
(a) Nucleosome - Solenoid - Chromatid | (b) Chromatid - Nucleosome - Solenoid | (c) Solenoid - chromatin - DNA | (d) Nucleosome - solenoid - genophore

52) Assertion (A): Genophore is noticed in prokaryotes.
Reason (R): Bacteria possess circular DNA without chromatin organisation.
(a) Both A and R are correct | (b) A is correct R is incorrect | (c) R explains A | (d) A is incorrect R is correct

53) Assertion (A): Heterochromatin is transcriptionally active.
Reason (R): Tightly packed chromatin which stains dark
(a) Both A and R are correct | (b) A is correct R is incorrect | (c) R explains A | (d) A is incorrect R is correct

54) Assertion (A): Semi-conservative model was proposed by Hershey and Chase.
Reason (R): The daughter DNA contains only new strands.
(a) Both A and R are incorrect | (b) A is correct R is incorrect | (c) R explains A | (d) A is incorrect R is correct

55) Replication of DNA occurs at _____ phase of cell cycle.
(a) M | (b) S | (c) G_1 | (d) G_2

56) Semi-conservative model of replication was proved by _____
(a) Hershey and Chase | (b) Griffith | (c) Meselson and Stahl | (d) Macleod and McCarty

57) How many types of DNA polymerases does a eukaryotic cell possess?
(a) two | (b) three | (c) four | (d) five

58) Identify the incorrect statement
(a) Replication occurs at ori - site of DNA | (b) Deoxy nucleotide triphosphate acts as a substrate | (c) Unwinding of DNA strand is carried out by topoisomerase | (d) DNA polymerase catalyses the polymerization at 3'-OH

59) Which is NOT a part of transcription unit?
(a) Promoter | (b) Operator | (c) Structural gene | (d) Terminator

60) The RNA polymerase of prokaryotes binds with _____ factor to initiate polymerization.
(a) rho | (b) theta | (c) sigma | (d) psi

61) Precursor mRNA $\xrightarrow{A}$ hnRNA
(a) Capping | (b) Tailing | (c) Splicing | (d) Transcribing

62) Which of the following feature is absent in prokaryotes?
(a) Prokaryotes possess three major types of RNAs | (b) Structural genes are polycistronic | (c) Initiation process of transcription requires 'P' factor | (d) Split gene feature

63) Which of the following sequence has completely translated?
(i) AGA, UUU, UGU, AGU, UAG
(ii) AUG, UUU, AGA, UAC, UAA
(iii) AAA, UUU, UUG, UGU, UGA
(iv) AUG, AAU, AAC, UAU, UAG
(a) i and ii | (b) ii only | (c) i and iii | (d) ii and iv

64) Capping of mRNA occurs using _____
(a) Poly A residues | (b) Methyl guanosine triphosphate | (c) Deoxy ribonucleotide triphosphate | (d) Ribonucleotide triphosphate

65) One of the aspect is not a feature of genetic code?

(a) Specific (b) Degenerate (c) Universal (d) Ambiguous

66) Which of the triplet codon is not a code of proline?
(i) CCU (ii) CAU (iii) CCG (iv) CAA
(a) i only (b) ii and iv (c) iii only (d) all the above

67) Coding sequences found in split genes are called _____
(a) Operons (b) Introns (c) Exons (d) Cistron

68) Which of the following mRNA yields 6 amino acids after translation?
(a) UCU UAU AGU CGA UGC AGU AAA UUU (b) UGA AGA UAG UGA GAG CAU UAU GAU (c) GUC UGC UGG CCC UAC AGC AUU (d) AUG UAC CAU GCU GAU UAA AGG UGC UGA UGC AGG AGC CCG

69) The transcription termination factor associated with RNA polymerase in prokaryotes is
(a) θ (b) σ (c) ρ (d) Σ

70) In a DNA double strand, if guanine is of 30%, what will be the percentage of thymine?
(a) 100% (b) 20% (c) 10% (d) 70%

71) Identify the triplet pairs that code for Tyrosine
(a) UUU, UUC (b) UAU, UAU (c) UGC, UGU (d) CAU, CAC

72) AUG code is for _____
(a) Arginine (b) Tyrosine (c) Tryptophan (d) Methionine

73) The sequence of bases in coding strand of DNA is GAGTTAGCAGGC, then the sequence of codons in primary transcript is _____
(a) C U C A U A C G C C C G (b) C U C A A U C G U C C G (c) U C A G A U C U G C G C (d) U U C A A U C G U G C G

74) The promoter region of eukaryote is _____
(a) TATAA (b) AUGUT (c) UUUGA (d) AAAAU

75) In sickle cell anaemia, the _____ codon of β - globin gene is modified
(a) Eighth (b) Seventh (c) Sixth (d) Nineth

76) Pick out the incorrect statement
(a) tRNA acts as an adapter molecule (b) Stop codons do not have tRNA's (c) Addition of amino acid leads to hydrolysis of tRNA (d) tRNA has four major loops

77) Which of the following antibiotic inhibits the interaction between tRNA and mRNA?
(a) Neomycin (b) Streptomycin (c) Tetracycline (d) Chloramphenicol

78) Repressor protein of Lac operon binds to _____ of operon.
(a) Promoter region (b) Operator region (c) terminator region (d) inducer region

79) Lac Z gene codes for _____
(a) Permease (b) transacetylase (c) β-galactosidase (d) Aminoacyl transferase

80) How many structural genes are located in lac operon of E.Coli?
(a) 4 (b) 3 (c) 2 (d) 1

81) SNP stands for
(a) Single nucleotide Polymorphism (b) Single Nucleoside Polypeptide (c) Single nucleotide Polymorphism (d) Single nucleotide polymer

82) Which one of the following is wrongly matched?
(a) Transcription - Copying information from DNA to RNA (b) Translation - Decoding information from mRNA to protein (c) Replication - Making of DNA copies (d) Splicing - Joining of exons with introns

83) The solar system is estimated to be _____years old.
(a) 4.5 billion years (b) 4 billion years (c) 4.5 trillion years (d) 6.4 billion years

84) Carbon dioxide in the primitive earth is said to have been formed from _____
(a) Methane & Oxygen (b) Methane & Ammonia (c) Carbon and Oxygen (d) Carbon & Methane

85) The term biogenesis was coined by
(a) Thomas Huxley (b) Henry Bastian (c) Haldane (d) Weinberg

86) _____ was not a part of theory of chemical evolution.
(a) Sea served as chemical laboratory (b) Oxygen was not present (c) Physical forces such as UV, lightning contributed to changes. (d) Solar energy was not available

87) Origin of fishes occurred in _____ period
(a) Devonian (b) Silurian (c) Cambrian (d) Permian

88) _____ is called age of fishes
(a) Silurian (b) Ordovician (c) Devonian (d) Cambrian

89) _____ is called age of Invertebrates
(a) Cambrian (b) Devonian (c) Pennsylvanian (d) Mississippian

90) _____ era is called Golden age of reptiles.
(a) Paleozoic (b) Mesozoic (c) Precambrian (d) Cenozoic

91) Origin of egg laying mammal a occurred in _____ period.
(a) Jurassic (b) Carboniferous (c) Triassic (d) Cretaceous

92) Human evolution occured in _____ era
(a) Paleozoic (b) Cenozoic (c) Mesozoic (d) Precambrian

93) _____ era is called age of mammals
(a) Precambrian (b) Permian (c) Cenozoic (d) Paleozoic

94) Choose the correct sequence
(a) Ordovician, Triassic, Permian, Cretaceous (b) Devonian, Permian, Cretaceous, Cambrian (c) Devonian, Triassic, Cretaceous, Ordovician (d) Silurian, Devonian, Permian, Triassic

95) Emergence of modern birds occurred in _____ period.
(a) Devonian (b) Silurian (c) Jurassic (d) Cretaceous

96) Origin of first man like apes occured in _____ epoch
(a) Oligocene (b) Miocene (c) Pliocene (d) Paleocene

97) _____ are not examples of homologous organs.
(a) Thorn and tendrils (b) Forelimb of animals and wing of bat (c) wing of bat and bird (d) Flippers of penguins and dolphins

98) _____ is not a vestigial organ.
(a) Nictitating membrane (b) Wisdom teeth (c) Ear muscles (d) Wing ofInsect

99) Presence of tail in human baby is an example for _____
(a) Vestigial organ (b) Atavism (c) Homologous organ (d) Analogous organ

100) Lamarck theory was disproved by _____
(a) Weinberg (b) August Weismann (c) Haeckel (d) Wallace

101) _____ was a Neo Darwinist
(a) Mendel (b) Osborn (c) Packard (d) Spencer

102) Human exploitation of forests, oceans etc leads to _____-
(a) Chromosomal mutations (b) Artificial Selection (c) Gene recombination (d) Natural selection

103) Centrifugal selection refers to _____
(a) Directional selection (b) Disruptive selection (c) Stabilising selection (d) Kin selection

104) Founder's effect is related to
(a) Genetic drift (b) Gene mutation (c) Extinction (d) Artificial selection

105) Australian ape Man refers to
(a) Ramapithecus (b) Australopithecus (c) Dryopithecus (d) Sivapithecus

106) _____ Was the first human like being
(a) Homo habilis (b) Homo erectus (c) Homo sapiens (d) Homo erectus

107) Homo sapiens or modern human arose in _____
(a) Australia (b) Africa (c) Germany (d) Eurasia

108) Morphological isolation is also known as _____
(a) Physiological isolation (b) Cytological isolation (c) Mechanical isolation (d) Seasonal isolation

109) Mule is an example of _____
(a) Hybrid inviability (b) Hybrid sterility (c) Hybrid breakdown (d) Hybridization

110) Which of the following is not a chromosomal mutation.
(a) Deletion (b) Translation (c) Point mutation (d) Addition

111) Chose the Hardy Weinberg equation
(a) $(p + q)^2 = p2 + 2pq + q^2$ (b) $(p^2 + q^2) = p^2 + 2pq + q^2$ (c) $(p + q) = p^2 + 4pq + q^2$ (d) $2(p + q) = 2p + 4pq + 2q$

112) The factor which affects Hardly Weinberg equation
(a) Gene flow (b) Random mating (c) No mutation (d) none of the above

113) Homo erectus did not display this feature.
(a) Flat skull (b) Large brain capacity (c) Vegetarian (d) Thicker than modern man

114) According to big bang theory, the primitive earth had all the following. Except:
(a) Ammonia (b) Methane (c) Oxygen (d) Hydrogen and water vapour

115) Who coined the term prebiotic soup?
(a) Haldane (b) Darwin (c) Thomas Huxley (d) Henry Bastian

116) Which statement is wrong regarding the Coacervates?
(a) Coavervates are the first pre-cells which gradually transferred into living cells. (b) Haldane suggested that the organic compounds could have undergone a serious of reactions leading to more complex molecular. (c) These are large colloidal particulars that precipitate out in aqueous medium. (d) They were able to absorb and assimitate organic compounds from the environment.

117) All the following provided the energy for chemical reaction in the primitive earth. Except:
(a) Rain (b) Lightning (c) UV radiations (d) volcanic activity

118) In, this type of selection no speciation takes place but the phenotype stability is maintained within the population over generation.

(a) Stabilizing selection (b) Directional selection (c) Disruptive selection (d) Adaptive radiation

119) This is a waveform of selection but leads to formation of two or more different species
(a) Adaptive radiation (b) Directional selection (c) Centipetal selection (d) Stabilizing selection

120) This does not produce any genetic variations but once such variations occur, it favours some genetic changes while rejecting others.
(a) Genetic recombination (b) Chromosomal mutation (c) Reproductive isolation (d) Natural selection

121) This can be explained clearly through industrial mechanism.
(a) Mutation (b) Natural selection (c) Struggle for existence (d) Prodigality of production.

122) Darwin's finches in Galapagos islands and Australian Marsupials are the example of
(a) Industrial mechanism (b) Reproductive isolation (c) Genetic recombination (d) Adaptive recombination

123) According to Neo Darwinism change in the frequency of genes in population arise due to all. Except.
(a) Natural selection (b) Mutation (c) Struggle for existence (d) Variation

124) Who believed that gradual accumulation of all variations are the causative factor in the origin of new species
(a) Sewell Wright (b) Lamarck and Darwin (c) Huxley (d) Simpson and Haeckel

125) Biogenetic law was proposed by.
(a) Angust Weismann (b) Ernst von Haeckel (c) Wallace (d) Heinvich

126) This type of isolation is due to the differences in their external genitalia that is seen in two different species.
(a) Morphological isolation (b) Physiological isolation (c) Seasonal isolation (d) Ethological isolation

127) Which one of the following brings about evidence for convergent evolution?
(a) Homologous structure (b) Analogous structure (c) Vestigial organs (d) Atavistic organs

128) All the following are vestigial organs in human. Except:
(a) Coccyx (b) Law muscles (c) Tail in human boy (d) Nictitating membrane of the eye

129) All the following are examples of ontogeny recapitulates phylogeny. Except:
(a) Tubular heart (b) Appearance of pharyngeal gill slits (c) Yolk sac (d) Appearance of tail in human body

130) Molecule which is used to study the evolution of respiratory pathway is.
(a) DNA (b) RNA (c) r RNA (d) cytochrome C

131) Rearrange the six periods of the Eva Paleozoic from the oldest to the youngest in correct order.
(a) Devonian
(b) Ordovician
(c) Cambrian
(d) Putman
(e) Carboniferous
(f) Silurian

(a) Cambrian → Ordovician → Silurian → Devonian → Carboniferous → Permian
(b) Ordovician → Devonian → Silyrian → Permian → Carboniferous → Cambrian
(c) Silurian → Carboniferous → Devonian → Cambrian → Ordovician → Silurian
(d) Devonian → Ordovician → Cambrian → Carboniferous → Silurian → Permian

132) Abiotically produce molecules can spontaneously self assemble into droplets into droplets that enclose a watery solution and maintain a chemical environment different from their surrounding is called.
(a) Liposomes (b) Coacervates (c) protobionts (d) protoviruses

133) In this type of fossilization, the molecules of the dead body is replaced for molecules by minerals and the original substance being lost through disintegration.
(a) Actual remains (b) petrifaction (c) natural moulds (d) cast formation

134) Hardy Weinberg's assumption includes all. Except:
(a) No mutation (b) No natural selection (c) Random mating (d) Very small population

135) Theory of chemical evolution was proposed by _____
(a) Stanley (b) Urey (c) Lamarck (d) Wiessmann

136) The period which witnessed decline of mammals and beginning of human social life
(a) Triassiac (b) Quaternary (c) Tertiary (d) Devonian

137) _____ is not a vestigial organ.
(a) Ear muscles (b) Wings of bat (c) Wisdom teeth (d) Coccyx

138) _____ propounded Biogenetic law.

(a) Urey (b) Haldane (c) Von Haeckel (d) Dobzhansky

139) Apple maggot flies are example of _____
(a) Hybrid breakdown (b) Physiological isolation (c) Allopatric speciation (d) Species Extinction

140) Failure in fertilization due to differences in chromosome numbers _____
(a) Physiological isolation (b) Chromosomal mutation (c) Mechanical isolation (d) Cytological isolation

141) Heritable changes in or more characteristics of a population of _____ from one generation to other is called evolution.
(a) Individuals (b) species (c) genus (d) organisms

142) Living organisms originated from non-living materials and occurred through stepwise chemical and molecular evolution is called _____ and this started in the theory of _____
(a) Coaceatvates, biogenesis (b) Abiogenesis, spontaneous generation. (c) Pre-existing life, chemical evolution. (d) Pre-cell, special creation.

143) Peripatus is the connection link between Annelida and _____
(a) Arthropoda (b) Platyhelminthes (c) Mollusca (d) Echinodermata

144) Due to change in the diet containing less cellulose,_____ inhuman become functionless and is reduced to a Vermiform appendix.
(a) Small intensive (b) large intensive (c) Rectum (d) caecum

145) Native offered positive selection pressure to the _____ coloured moths in the industrial mechanism.
(a) White (b) black (c) red (d) red and black

146) The wings of a bird and of an insect are
(a) homologous structure and represent convergent evolution (b) homologous structure and represent divergent evolution (c) analogous structure and represent convergent evolution (d) analogous structure and represent divergent evolution

147) Which one of the following statement is correct?
(a) stem cells are specialized cells (b) there is no evidence of the existence of gills during embryogenesis of mammals (c) all plant and animal cells are totipotent (d) Ontogeny repeats phylogeny

148) In Hardy - Weinberg equation, the frequency of heterozygous individual is represented by
(a) P_2 (b) 2pq (c) pq (d) q^2

149) The correct order in Era is
(a) Palaeozoic---- Archaeozoic --- Coenozoic (b) Archaeozoic --- Palaeozoic------ Proterozoic (c) Palaeozoic------ Mesozoic ----- Coenozoic (d) Mesozoic ---- Archaeozoic---- Proterozoic

150) The most apparent change during the evolutionary history of Homo sapiens is raced in
(a) loss of body hair (b) walking upright (c) shortening of jaws (d) remarkable increase in the brain size.

151) The process by which organisms with different evolutionary history evolve similar phenotypic adaptations in response to a common environmental challenge is called
(a) Natural selection (b) Convergent evolution (c) Non-random evolution (d) Adaptive radiation Human health and diseases

152) Identify the incorrect statement in concern with Neanderthals
(a) Neanderthal human were found in Germany (b) They possessed flat cranium (c) They used to bury their dead (d) Their brain size is of 650 - 800 cc

153) Which of the following statement does not satisfy Hardy Weinberg principle?
(a) A population undergoing random mating (b) Small sized population (c) Population where there is no mutation or gene flow (d) Absence of natural selection

154) Placental mammals develop during _____
(a) Eocene (b) Oligocene (c) Pliocene (d) Paleocene

155) Anatomical structures that have similar functions but not similar structures are called
(a) Homologous structures (b) Vestigial structures (c) Analogus structures (d) Generalized structures

156) Who propounded the theory of recapitulation?
(a) Ernst Von Haeckel (b) Charles Darwin (c) Thomas Huxley (d) Oparin

157) Mammal in human male is _____
(a) Atavistic organ (b) Rudimentary Organ (c) Vestigial organ (d) Homologous structure

158) Which of the following is/are not examples of analogous structure
(a) Wings of Birds and Bats
(b) Wings of Birds and Insects

(c) Thorn of Bougainvillea and Tendril of Cucurbita
(d) Flippers of Penguins and Dolphins
(a) a, b, c (b) a and c (c) band d (d) All the above

159) Identify the mismatched pairs
(a) Thorn of Bougainvillea and Tenrdril of cucurbita - Analogy (b) Forelimbs of whale and cat - Analogy (c) Octopus eye & Mammalian eye - Homology (d) Root of sweet potato & stem of potato - Homology

160) Witnesses for evolution are found in _____
(a) Rocks (b) Ocean beds (c) Fossils (d) Desert

161) Assertion (A): Oparin used the term coacervases
Reason (R): Coacervates are colloidal particles in aqueous environment
(a) Both A and R are incorrect (b) Both A and R are correct (c) Both A and R are correct. R explains A. (d) A is correct R is incorrect

162) According to the theory of spontaneous generation, life originated from _____
(a) Cosmic particles (b) Non-living materials (c) Coacervates (d) Sea

163) Assertion (A): Hardy - Weinberg principle states that allelic frequency of a population remain constant
Reason (R): Constancy is maintained through natural selection and mutation
(a) A is true R is false (b) A is false R is true (c) Both A and R are true (d) R explains A

164) Calculate the allelic frequency of Aa, if 'A' allelic has frequency of 0.3 and 'a' allele has frequency of 0.7
(a) 0.67 (b) 0.42 (c) 0.36 (d) 0.59

165) Genetic drift leads to
(a) Mutation (b) Bottle neck effect (c) Immigration (d) Isolation

166) Atavism refers to _____
(a) Inheritance oftriat by mother (b) Inheritance of trial by father (c) Criss-cross inheritance (d) Inheritance of characters not shown by parents

167) _____is a non infective disease.
(a) Cold (b) Arthritis (c) Chickenpox (d) Shigellos

168) Rigidity of the Jaw muscle is a symptom of_____
(a) Typhoid (b) Kala azar (c) Tetanus (d) Chikungunya

169) The site of infection for yersinia pestis is _____
(a) Intestine (b) Lungs (c) Lymph nodes (d) Nervous system

170) Choose the symptom applicable for mumps
(a) Muscular stiffness (b) Enlargement of parotid gland (c) Flu like illness (d) Respiratory failure

171) _____is a pandemic disease
(a) Polio (b) Swine flu (c) Dysentery (d) Dengue fever

172) _____is a carrier for transmitting entamoeba
(a) House fly (b) Mosquito (c) Sand fly (d) Tsetse fly

173) Yellowish eyes is a symptom of_____
(a) Plague (b) Measles (c) Hepatitis (d) Sleeping sickness

174) Vector control research Centre is located in_____
(a) Chennai (b) Delhi (c) Puducherry (d) Hyderabad

175) _____is a dermotropic disease
(a) Influenza (b) Measles (c) Cold (d) Rabies

176) _____Can be confirmed by widal test.
(a) Tuberculisis (b) Cholera (c) Typhoid (d) Hepatitis

177) _____is not a symptom of Kala-azar
(a) Anemia (b) Fever (c) Spleen enlargement (d) Muscle spasms

178) Cycles of fever in malaria is caused during_____
(a) Production of gametes (b) Lysis ofRBC (c) Release of sporozoites (d) Sporogony

179) Disease eradicated by immunization programmes in India
(a) Chicken pox (b) Small pox (c) Measle (d) Diphtheria

180) Identify the rat flea vector
(a) Xersinia (b) Tsetse fly (c) Xenopsylla cheopis (d) Musca

181) _____is a DNA virus
(a) Rubella (b) Varicella (c) Polio (d) Mumps

182) _____is a type of Ringworms
(a) Ascariasis (b) helminthiasis (c) Dandruf (d) Athlete's foot

183) _____can lead to nutritional deficiency in the infected person
(a) Amoebiasis (b) Pneumonig (c) Ascariasis (d) Tetanus

184) _____is a plant with hallucinogenic properties
(a) Atropa belladonna (b) Rauwolfia vomitoria (c) Jatropha curcas (d) Pongamia

185) Cystic fibrosis is_____in origin and it is a_____disease
(a) fungal, infectious (b) protozoan, Communicable (c) degenerative, pathogenic (d) genetic, non-communicable

186) Mode of infection of cholera is_____
(a) Droplet infection (b) through contaminated food and water (c) through wound infection (d) through wound infection

187) The pathogenic bacteria causing bubonic plague is_____
(a) yersinia pestis (b) Clostridium tetani (c) Shigella sp (d) Streptococcus pneumoniae

188) This part of our body is affected by viral infection in mumps.
(a) Liver (b) Salivary glands (c) Nervous system (d) Skin and blood

189) Find out the mismatched pair

(a)

Viral disease	Affecting organs
Dermotropic	Skin and subcutaneous tissues

(b)

Viral disease	Affecting organs
Neurotropic	Central nervous system

(c)

Viral disease	Affecting organs
Pneumotropic	Brain and spinal cord

(d)

Viral disease	Affecting organs
Viscerotropic	blood and visceral organs

190) For the following diseases, respiratory system is the site of infection,except_____
(a) Dengue fever (b) Chicken pox (c) Common cold (d) Measles

191) A persons show Enlargement of the parotid glands. Identify the disease.
(a) Measles (b) Mumps (c) Viral hepatitis (d) Chicken pox

192) Yellow fever and dengue fever are categorized under this group, classifies based on the organs which get affected
(a) neurotropic disease (b) viscerotropic disease (c) dermotropic disease (d) pneumotropic disease

193) The incubation period of malaria' is_____days.
(a) 10 (b) 12 (c) 15 (d) 18

194) Which statement is wrong regarding the malaria?
(a) In the human liver, the sporozoites undergo sexual fission (b) Erythrocytes lyse and relase the merozoites and haemozoin (c) In the mosquito's gut, the gametes develop in the ookinete is formed (d) Male and female body of a mosquito.

195) The vector for filariasis is
(a) Culex mosquito (b) Anopheles mosquito (c) Aedes aegypti (d) Tsetse fly

196) This substance increases the blood pressure and heart beat
(a) LSD (b) nicotine (c) adrenaline and non - adrenaline (d) Cannabis

197) One after following statement is wrong. Find out.
I Bhang affects the cardiovascular system
II Opium acts a depressent on the central nervous system
III Lysergic acid diethylamide distorts the wayone sees, hears and feels
IV Barbiturates slows down the activity of the 4. brain.
(a) I II IV (b) II IV (c) all the above (d) none of the above

198) Continuous consumption of alcohol affects _____
(a) Heart (b) Kidney (c) liver (d) brain

199) This is not a lifestyle disorder in man
(a) Cancer (b) diabetes (c) cardiovascular disease (d) lung disease

200) The substance not present in tobacco is
(a) nicotine (b) tar (c) Morphine (d) carbon monoxide

201) Find out the mismatched pair

(a)

Group	Drugs
Depressant	Tranquilizers

(b)

Group	Drugs
Cannabis	Morphine

(c)

Group	Drugs
Hallucinogens	LSD

(d)

Group	Drugs
Stimulants	Cocaine

202) _____is not present in tobacco
(a) LSD (b) Nicotine (c) Carbon monoxide (d) both band c

203) Choose the correct sequence with regard to plasmodium.
(i) Sporozoite
(ii) Microgametocyte
(iii) Signet ring stag
(iv) oocyte
(a) i, iii, iv, ii (b) i, iii, ii, iv (c) i, iv, ii, iii (d) i, ii, iii, iv

204) The Duration of erythrocyte cycle for plasmodium ovale is
(a) 75 hours (b) 36-48 hours (c) 32 hours (d) 48 hours

205) Choose the symptom not seen in amoebiasis
(a) Diarrhoea (b) Abdominal pain (c) Ulceration (d) Fever

206) _____is not linked to malaria
(a) Haemozoin (b) TNF-a (c) Phencyclidine (d) Interleuin

207) _____is a genetic disease
(a) Rickets (b) Cystic fibrosis (c) Tuberculosi (d) Candidiasis

208) Pick out the disease which is caused by virus
(a) Candidiasis (b) Ascariasis (c) Poliomyelitis (d) Dysentery

209) _____ test is done to confirm typhoid.
(a) ELISA (b) Western blot (c) Widal test (d) Southern blot

210) Identify the mismatched pair
(a) Hepatitis - Liver (b) Poliomyelitis - Brain and spinal cord (c) Measles - Intestine (d) Mumps - Salivary gland

211) Identify the wrong statement regarding polio disease.
(a) Polio is caused by a RNA virus (b) One of the infection site of polio is intestine (c) Culex mosquito acts as a vector for polio. (d) Paralysis and respiratory failure are the symptoms.

212) Yellow fever is a _____ type of disease.
(a) Neurotropic (b) Viscerotropic (c) Pneumotropic (d) Dermotropic

213) Which one of the following pairs is wrong.
(a) Amoebiasis - Home fly (b) African sleeping sickness - Tsetse flies (c) Kala-azar - Sand fly (d) Malaria - female Anopheles mosquito

214) Schizogony of Plasmodium parasite in human liver cells returns in _____
(a) sporozoites (b) merozoites (c) trophozoites (d) schizont

215) Assertion (A): Plasmodium vivax is a digenic parasite
Reason (R): The primary host of P. vivax is man.
(a) Both (A) and (R) are true. (R) explains (A) (b) (A) is true (R) is false (c) Both (A) and (R) are false (d) (A) is false (R) is true

216) Assertion (A): Dermatomycosis is a cutaneous infection.
Reason (R): Fungus belongs to the order Trichophyton.
(a) Both (A) and (R) are true. (R) explains (A) (b) (A) is true (R) is false (c) Both (A) and (R) are false. (d) (A) is false (R) is true

217) Assertion (A): Spleen is a primary lymphoid organ
Reason (R): Primary lymphoid organs trap antigen and destroy them.
(a) Both (A) and (R) are true. (R) explains (A) (b) (A) is true (R) is false (c) Both (A) and (R) are false (d) (A) is false (R) is true

218) Assertion (A): Paratope is the antigen-binding site.
Reason (R): It is a part of antibody
(a) Both (A) and (R) are true. (R) explains (A) (b) (A) is true (R) is false (c) Both (A) and (R) are false (d) (A) is false (R) is true

219) Assertion (A): HIV is a DNA virus.
Reason (R): HIV belongs to genus Lentivirus
(a) Both (A) and (R) are true. (R) explains (A) (b) (A) is true (R) is false (c) Both (A) and (R) are false. (d) (A) is false (R) is true

220) Secretion of HCI in stomach is an example for _____
(a) Anatomical barriers (b) Phagocytic barriers (c) Physiological barriers (d) Inflammatory barriers

221) Identify the incorrect statement
(a) Antibody Mediated Immunity was elicited by T cells. (b) It is a character of vertebrates only (c) Immunoglobulins act against pathogens and kill them. (d) It is also called humoral immunity

222) Which of the following is not a feature of passive immunity?
(a) It is transient and less effective (b) Immunological memory is present (c) Immunity develops immediately (d) Antibodies are obtained from outside

223) Which is not a granulocyte?
(a) Lymphocytes (b) Neutrophils (c) Basophils (d) Eosinophils

224) The L and H chains of immunoglobulin are joined by _____
(a) Hydrogen bonds (b) disulphide bonds (c) phosphodiester bonds (d) ionic bond

225) Identify the wrong statement.
(a) Vaccine provide passive acquired immunity (b) It is made from attenuated or killed microbes (c) Vaccines teach our body how to defend from microbes (d) MMR is a fist generation vaccine

226) The enzyme attached to RNA of HIV is _____
(a) RNA polymerase (b) reverse transcriptase (c) primase (d) endonuclease

227) Infection of Ascariasis occur due to _____
(a) Sand fly (b) contaminated food (c) mosquito bite (d) stagnant water

228) Which of the following statement(s) is true regarding cancer cells?
(a) Neoplasm or tumor cells show uncontrolled growth
(b) They are metastatic
(c) They lack contact inhibition
(d) They may be benign or malignant
(a) (a) only (b) (b) and (c) (c) (d) only (d) All the above

229) Study dealing with body's defence mechanism against disease is called _____
(a) Pathology (b) Immunology (c) Microbiology (d) Dermatology

230) AIDS is characterized by sharp reduction in number of _____
(a) helper T cells (b) killer T cells (c) superior T cells (d) B-cells

231) Plague and malaria are caused by _____ and_____ respectively.
(a) bacteria and virus (b) fungi and protozoa (c) bacteria and protozoan (d) fungi and bacteria

232) A pair of fungal disease _____
(a) Amoebiasis, Kala-azar (b) Candidiasis, Athlete's foot (c) Ascariasis, Filariasis (d) Poliomyelitis, Amoebiasis

233) Plant source of Heroin is _____
(a) Poppy plants (b) Cannabis plants (c) Datura species (d) Atropa species

234) The test that confirms HIV positive is _____
(a) Western blot (b) Northern blot (c) Southern blot (d) all the above

235) Bacillary dysentery is caused due to _____
(a) Salmonella (b) Shigella (c) Clostridium (d) Yersinia

236) Cocaine is a _____ potent
(a) Sedative (b) Hallucinogen (c) pain reliever (d) neurotransmitter

237) Alkaloid found in tobacco is _____
(a) Atropine (b) cocaine (c) heroin (d) nicotine

238) _____ is a chronic memory disorder due to alcohol misuse.
(a) Cushing's syndrome (b) Turners' syndrome (c) Klinefelters' syndrome (d) Korsakoff syndrome

239) The enzyme_____is got from Aspergillus.
(a) Rennet (b) Zymase (c) Amylase (d) Lipase

240) WorId Biofuel day is observed on_____
(a) 10th September (b) 22nd April (c) 10th August (d) 17th October

241) Lactobacillus helps to produce_____
(a) Citric acid (b) Milk (c) Acetic acid (d) Butyric acid

242) Aspergillus niger helps to produce_____
(a) Citric acid (b) Acetic acid (c) Turmeric acid (d) Lactic acid

243) Genetically engineered _____are used as clot buster in cardiac related issues
(a) Staphylococcus (b) Yeast (c) Penicillium (d) Streptococci

244) _____got from fungi is used as an immune suppressant in organ transplantation.
(a) Statin (b) Cyclosporin A (c) Insulin (d) Protease

245) The first bio herbicide was got from_____
(a) Trichoderma (b) Phytophthora species (c) Bacillus (d) Aspergillus

246) _____is not used as a biofertilizer
(a) Bacillus thuringiensis (b) Rhizobium (c) Nostoc (d) Anabaena

247) _____is used for recycling of PET plastics
(a) Dechloromonas aromatica (b) Phanerochaete chrysosporium (c) Ideonella sakaiensis (d) Nitrosomonas

248) _____is free living bacteria which acts as a biofertilizer.
(a) Azospirillum (b) Nostoc (c) Oscillatoria (d) Glomus

249) Mycorrhiza cannot contribute to this process.
(a) Resistance to pathogens (b) Tolerance to salinity (c) Help to fix nitrogen (d) Enhance plant growth

250) _____is not a part of MFC
(a) Bacteria (b) Semi permeable Membrane (c) Cathode (d) Electric circuit

251) The cry toxin affects_____system of insect pests
(a) Nervous system (b) Respiratory system (c) Digestive system (d) Reproductive system

252) Biofertilizers are not involved in this process
(a) increase water holding capacity of soil (b) Help to degrade pollutants (c) Provide nutrients (d) Improve soil texture

253) _____is a prokaryotic organism helping to improve fertility of the soil
(a) Glomus (b) Azolla (c) legume (d) Tolypothrix

254) Identify the free living nitrogen fixing bacteria_____
(a) Azotobacter (b) Rhizobium (c) Glomus (d) Ideonella sakaiensis

255) A free living fungi which is a biocontrol agent_____

(a) Phytophthora palmivora (b) Trichoderma (c) Polyporus (d) Peziza

256) Plants used for bio-diesel production_____

(a) Anabaena (b) Jatropha (c) Pongamia (d) b and c

257) _____is not a biocontrol agent

(a) Trichoderma (b) Dragonfly (c) Glomus (d) Buculovirus

258) Rhizopus oryzae can produce_____

(a) Fumaric acid (b) Malic acid (c) Acetic acid (d) Citric acid

259) When domestic sewage mixes with river water

(a) Small animals like rat will die after drinking river water

(b) The increased microbial activity releases micronutrients such as iron.

(c) The increased microbial activity uses up dissolved oxygen.

(d) The river water is still suitable for drinking as impurities are only about 0.1 percent

260) Select the correct statement from the following.

(a) Biogas is produced by the activity' of aerobic bacteria on animal waste.

(b) Methanobacterium is an aerobic bacterium found in rumen of cattle.

(c) Biogas, commonly called gober gas, is pure methane.

(d) Activated sludge-sediment in. settlement tank of sewage treatment plant is a right source of aerobic bacteria.

261) Read the following four statements (A to D):

a) Colostrums is recommended for the newborn because it is rich in antigen.

b) Chikungunya is caused by a gram negative bacterium.

c) Tissue culture has proved useful in obtaining virus-free plants.

d) Beer is manufactured by distillation of fermented grape juice

How many of the above statements are wrong?

(a) Three (b) Four (c) One (d) Two

262) Which of the following are likely to be present in deep-sea water?

(a) Archaebacteria (b) Eubacteria (c) Blue-green algae (d) Saprophytic fungi

263) During sewage treatment, biogas are produced which includes

(a) Methane, hydrogen sulphide, carbon dioxide

(b) Methane, oxygen, hydrogen sulphide

(c) Hydrogen sulphide, methane, sulphur dioxide

(d) Hydrogen sulphide, nitrogen, methane

264) What gases are produced in anaerobic sludge digesters?

(a) Methane and CO_2 only

(b) Methane, hydrogen sulphide and CO_2

(c) Methane, hydrogen sulphide and O_2

(d) Hydrogen sulphide and CO

(e) Consumption of organic matter in the water is higher by the microbes

265) Match, the following list of microbes and their importance:

a) Saccharomyces cerevisiae	(i) Production of immunosuppressive agents
b) Monasus purpureus	(ii) Ripening of Swiss cheese
c) Trichoderma polysporum	(iii) Commercial production of ethonol
d) Propionibacterium shermanii	(iv) Production of blood - cholesterol lowering agents.

(a) (iv) (iii) (ii) (i) (b) (iv) (ii) (i) (iii) (c) (iii) (i) (iv) (ii) (d) (iii) (i v) (i) (ii)

266) Which of the following is wrongly matched in the given table?

(a)

Microbe	Product	Application
Trichoderma polysporum	Cyclosporin A	Immunosuppressive drug

(b)

Microbe	Product	Application
Monascus purpureus	Statins	Lowering of blood cholesterol

(c)

Microbe	Product	Application
Streptococcus	Sterptockinase	Removal of clot from blood vessel

(d)

Microbe	P
Clostridium butylicum	L

267) Match Column - I with Column - II and select the correct options using the codes given below:

Column I	**Column II**
A. Citric acid	1. Trichoderma
B. Cyclosporin A	2. Clostridium
C. Statins	3. Aspergillus
D. Butyric acid	4. Monoscus

(a) A:3, B:1, C:4, D:2 (b) A:1, B:4, C:2, D:3 (c) A:3, B:4, C:1, D:2 (d) A:3, B:1, C:2, D:4

268) The leavering of the dough during fermentation is due to _____

(a) Formation of ethyl alchohol

(b) Formation of CO_2

(c) Formation of oxygen

(d) Action of zymase enzyme

269) Name the person who was the first to use the term antibiotic

(a) Selman Waksman (b) Alexander Flemming (c) Earnest Chain (d) Howard Florey

270) Tetracycline is a _____

(i) bactericidal antibiotic

(ii) bacteriastatic antibiotic
(iii) narrow spectrum antibiotic
(iv) Broad spectrum antibiotic
(a) i and iii (b) ii and iii (c) i and iv (d) ii and iv

271) Chlortetracycline was isolated from the culture _____
(a) Streptomyces aureofaciens (b) Streptomyces griseus (c) Streptococcus lactis (d) Aspergillus niger

272) Identify the name and the formula of industrial alcohol
(a) Butanol, C_4H_9OH (b) Propanol, C_3H_7OH (c) Ethanol, C_2H_5OH (d) Methanol, CH_3OH

273) Pick the bacterial species which is not used in ethanol formation
(a) Zyrnomonas mobilis (b) Sarcina ventriculi (c) Saccharomyces cerevisiae (d) Streptomyces aureofaciens

274) Human insulin is being commercially produced from a transgenic species of _____
(a) Escherichia (b) Mycobacterium (c) Streptococcus (d) Penicillin

275) Select the correct statement from the following
(a) Primary treatment of sewage involves biological oxidation (b) Excreta of cattle is commonly called Gobur (c) Delta endotoxin of Bacillus thuringiensis is encoded by pen-genes (d) Trichoderma is a free-timing bacteria very common in root ecosystem

276) Oil strains in laundry can be removed using _____
(a) Peptidane (b) Protease (c) Amylase (d) Lipase

277) Find the odd sentence out.
(i) Biogas primarily consists of methane with CO2 and hydrogen
(ii) The greater the BOD of wastewater the more it's polluting potential
(iii) World biofuel day is observed on 10th August
(iv) Cyc1osporin A is obtained from Trichoderma polysporum.
(a) i and iii (b) ii and iv (c) i and iv (d) none of the above

278) Statement 1: Prebiotics are the compounds in food that induce the growth of beneficial microbes
Statement 2: LAB is a probiotic
(a) Statement 1 is correct. Statement 2 is incorrect. (b) Statement 1 is incorrect. Statement 2 is correct (c) Both the statements 1 and 2 are incorrect. (d) Both the statements 1 and 2 are correct

279) Statement 1: Saccharomyces cerevisiae is commonly called as Baker's yeast.
Statement 2: Yogurt is produced by the fermentation of milk by Saccharomyces cerevisiae
(a) Statement 1 is correct. Statement 2 is incorrect (b) Statement 1 is incorrect. Statement 2 is correct (c) Both the statements 1 and 2 are incorrect (d) Both the statements 1 and 2 are correct.

280) The flavour in the yogurt is due to _____
(a) Formal dehyde (b) Lactate (c) Acetaldehyde (d) Caesin

281) Assertion (A): Streptomycin is an antibiotic.
Reason (R): Antibiotic are microbial chemicals inhibits the growth of pathogenic microbe.
(a) A is right R is wrong. (b) R explains A. (c) A and R are wrong. (d) A and R are right. R cannot explain A

282) Assertion (A): Oenology deals with study of wine and its preparation.
Reason (R): Zymology deals with biochemical process of fermentation and its uses.
(a) A is right R is wrong (b) R explains A. (c) A and R are wrong. (d) A and R are right. R cannot explain A.

283) In primary sewage treatment, the floating debris are removed by _____
(a) Distillation (b) Sedimentation (c) Sequential filtration (d) Biological oxidation

284) Yamuna Action Plan was a bilateral project signed between _____
(a) India and Pakistan Government (b) India and Japan Government (c) India and China Government (d) India and Srilanka Government

285) Select the correct option denoting the proper sequence of sewage tratment.
(a) Filtration, Sedimentation, Aeration, Biological oxidation and UV radiation (b) Sedimentation, Filtration, Biological oxidation, Aeration and UV radiation. (c) Filtration, Aeration, Biological oxidation, Sedimentation and UV radiation. (d) UV radiation, Sedimentation, Filtration, Biological oxidation and Aeration.

286) Which of the following plant species is the most suitable oilseed for biodirect production?
(a) Ground nut (b) Areca nut (c) Jatropha curcas (d) Phyllanthus anarus

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Ravi home tutions

MCQ ZOO CREATIVE 9-13

12th Standard

Biology

210 x 1 = 210

1) Insulin was first isolated by_____
(a) Banting (b) Allen (c) Wilmut (d) Anderson

2) Alpha lactalbumin is a protein with_____minoacids.
(a) 120 (b) 133 (c) 123 (d) 140

3) Interferons are produced using_____
(a) Pigs (b) yeast (c) E.coli (d) viruses

4) The two chains of Insulin molecule are attached by_____
(a) Covalent bonds (b) disulphide bonds (c) hydrogen bonds (d) both a and b

5) Best and Banting isolated insulin from pancreatic islets of_____
(a) E.coli (b) yeast (c) dog (d) pig

6) Interferons were discovered by_____
(a) Banting (b) Flemming (c) Engvall (d) Alick Isaacs and Lindemann

7) The first synthetic vaccine produced was_____
(a) DPT (b) HbsAg (c) Measles (d) Polio

8) Myeloid stem cells can differentiate into Band T cells only, This is a case of_____
(a) Totipotency (b) Unipotency (c) Oligopotency (d) Multipotency

9) Choose the option not applicable to ELISA
(a) It is a bio chemical produce to detect antigens in a sample (b) The intensity of colour obtained in the test is proportional to amount of antigen. (c) It can detect DNA (d) ELISA is a test for detecting human chorionic gonadotropin hormone

10) The first living ~rganism to be patented was_____
(a) E.coli (b) Saccharomyces (c) Pseudomonas putida (d) Lactobacillus

11) _____is not linked to IPR.
(a) Patents (b) Copy rights (c) GI (d) trademarks

12) All the following are the functions of insulin. Except
(a) Insulin controls the level of glucose in the blood (b) Insulin facilitates the cellular· uptake of glucose (c) Insulin facilitates the utilization of glucose (d) Insulin breaks the glucose which guess energy

13) Pre-pro insulin is devoid of_____
(a) C chain (b) disulphide bonds (c) COOH and NH2 group (d) Polypeptide chain

14) Using recombinant E.Coli, mass production of hGH is carried out by_____
(a) genetic engineering (b) biotechnology (c) fermentation technology (d) recombinant DNA

15) The genes for the formation of the blood dotting factor VIII is located in the_____chromosome.
(a) autosome (b) X chromosome (c) allosome (d) Y chromosome

16) All the following are recombinant vaccines. Except
(a) Traditional vaccines (b) Submit recombinant vaccines (c) Attenuated recombinant vaccines (d) DNA vaccines

17) This is a live vaccine, in this genetically modified pathogens are made to non pathogenic.
(a) Attenuated recombinant vaccine (b) Subunit recombinant vaccine (c) DNA vaccine (d) Traditional vaccine

18) This is not the advantage of new generation vaccine
(a) They trigger immune response only against not specific pathogens (b) They produce target proteins (c) They produce long lasting immunity (d) They are with less toxic effect

19) The edible subunit vaccine used against this disease is.
(a) measles (b) hepatitis (c) cholera (d) feet and mouths

20) In the geom line gene therapy, the genes are introduced into the_____
(a) bone marrow cells (b) blood cells (c) sperms and eggs (d) skin cells

21) This type of gene therapy involves the insulin C the anti sense gene which inhibits the expression of the dominant gene
(a) gene inhibition therapy (b) gene augmentation therapy (c) germ line gene therapy (d) somatic cell gene therapy

22) In the gene therapy far SCID_____cells are removed from the blood, and ADA gene is introduced into it using retrovirus.
(a) RBC (b) Wobe (c) Lymphocytes (d) monocytes

23) Stem cells that can differentiate into various types of cells that are related in an organism is called
(a) Multipotent (b) Oligopotent (c) Pluripotent (d) Unipotent

24) Most of the adult stem cells are_____and can act as a repair system of the body
(a) Totipotent (b) Multipotent (c) Oligopotent (d) Pluvipotent

25) Most popular sources of stem cells from their bank
(a) amniotic cell bank (b) cord blood bank (c) plancenta blood bank (d) amniotic fluid cell bank

26) Early detection of the disease is not possible using their conventional diagnostic metho
(a) microscopic examination (b) recombinant DNA technology (c) polymerase chain reactions (d) enzyme linked immunosorbent assay

27) The purpose of using enzyme in the ELISA test is
(a) to show the coloured product (b) to show the antigen-antibody reaction (c) to show the immobilised antigen (d) to show the immobilized antigen

28) Throgh PCR technique, amplication of_____ is possible with reverse transcriptase
(a) DNA (b) rRNA (c) tRNA (d) mRNA

29) Rearrange the following steps as PCP in correct order.
1. Extension
2. Annealing
3. Denaturation
(a) Annealing → Extension → Denaturation (b) Denaturation → Annealing → Extension (c) Annealing →Denaturation → Extension (d) Extension→ Annealing → Denaturation

30) _____among the following will not serve as store house of stem cell.
(a) Blood (b) Bone marrow (c) Amniotic fluid (d) Placenta

31) PCR was developed by_____
(a) Engvall (b) Kary Mullis (c) Anderson (d) Ian wilmut

32) _____is an example for DNA vaccine
(a) MMR (b) Hepatitis B (c) BCG (d) oral polio

33) _____was the first GI tagged product in India
(a) Kancheepuram silk (b) Darjeeling tea (c) Thanjavur paintings (d) Temple jewellery of Nagarcoil

34) _____s a autosomal recessive metabolic
(a) Haemophilia (b) Cystic fibrosis (c) SCID (d) Colour blindness

35) Genetic engineering has been successfully used for producing
(a) Transgenic mice for testing safety of polio vaccine before used in humans.
(b) Transgenic models for studying new treatments for certain cardiac diseases.
(c) Transgenic cow Rosie which produces high fat milk for making ghee.
(d) Animals like bulls- for farm work as they have superpower.

36) Some of the characteristics of Bt cotton are
(a) Long fibre and resistance to aphids
(b) Medium yield, long fiber and resistance to beetle pests
(c) High yields and production of toxic protein crystals which kill dipteran pests.
(d) High yield and resistance to bollworms

37) Bacillus thuringiensis forms protein crystals which contain insecticidal protein. This protein
(a) Binds with epithelial cells of midgut of the insect pest ultimately killing it.
(b) Is coded by several genes including the gene cry.
(c) Is activated by acid pH of the foregut of the insect pest.
(d) Does not kill the carrier bacterium which is itself resistant to this toxin.

38) Read the following four statements (A to D) about certain mistakes in two of them.
a) The first transgenic buffalo, Rosie produced milk which was human alpha-lactalbumin enriched.
b) Restriction enzymes are used in isolation of DNA from other macromolecules.
c) Downstream processing is one of the steps of rDNA technology
d) Disarmed pathogen vectors are also used in transfer of rDNA into the host.
Which of the two statements have mistakes?
(a) B and C (b) C and D (c) A and C (d) A and B

39) The colonies of recombinant bacteria appear white in contrast to blue colonies of nonrecombinant bacteria because of
(a) Non-recombinant bacteria containing β galactosidase.
(b) Insertional inactivation of α-galactosidase in non-recombinant bacteria.
(c) Insertional inactivation of α-galactosidase in recombinant bacteria.
(d) Inactivation of glycosidase enzyme in recombinant bacteria

40) Which body of the Government of India regulates GM research and safety of introducing GM organism for public services?
(a) Bio-safety committee
(b) Indian Council of agricultural research
(c) Genetic engineering approval committee
(d) Research committee on Genetic manipulation

41) In genetic engineering, a DNS segment (gene) of interest is transferred to the host cell through a vector. Consider the following four agents (A to D) in this regard and select correct option about which one or more of these can be used as vector/vectors.
A) A bacterium
B) Plasmid
C) Plasmodium
D) Bacteriophage
(a) (A), (B) and (D) only (b) (A) only (c) (A) and (C) only (d) (B) and (D) only

42) Which one of the following palindromic base sequences in DNA can be easily cut at about the middle by some particular restriction enzyme?
(a) 5' - CGTTCG - 3' 3' -ATGGTA -5'
(b) 5'-GATATG -3' 3' CTACTA -5'
(c) 5' -GAATTC - 3' 3' - CTTAAG-5'
(d) 5' -CACGTA -3' 3' - CTCAGT -5'

43) Restriction endonucleases are enzymes which

(a) Make cuts at specific positions within the DNA molecule.
(b) Recognize a specific nucleotide sequence for binding of DNA ligase.
(c) Restrict the action of the enzyme DNA polymerase.
(d) Remove nucleotides from the ends of the DNA molecule.

44) Stirred - tank bioreactors have been designed for
(a) Addition of preservatives of the product
(b) Purification of the product
(c) Ensuring anaerobic conditions in the culture vessel
(d) Availability of oxygen throughout the process

45) There is a restriction endonuclease called EcoRI. What does 'co' part in it stand for?
(a) Coelom (b) Coenzyme (c) Coli (d) Colon

46) Which one is true state regarding DNA polymerase used in PCR?
(a) It is used to ligate introduced DNA in recipient cells.
(b) It serves as selectable marker
(c) It is isolated from a virus.
(d) It remains active at high temperature.

47) For transformation, micro-particles coated with DNA to be bombarded with gene gun are made up of
(a) Silver or Platinum (b) Platinum or Zinc (c) Silicon or Platinum (d) Gold or Tungsten

48) Statement 1: Human Insulin is a polypeptide
Statement 2: It is composed of 52 amino acids
(a) Statement 1 is true. Statement 2 is false
(b) Satement 1 is false. Statement 2 is true
(c) Both statements 1 and 2 are true
(d) Both statements 1 and 2 are false.

49) Statement 1: Rosie was the first transgenic goat.
Statement 2: Meat is enriched with human protein
(a) Statement 1 is true. Statement 2 is false
(b) Satement 1 is false. Statement 2 is true
(c) Both statements I and 2 are true
(d) Both statements 1 and 2 are false

50) Statement 1: Recombinant Hepatitis B vaccine is a live vaccine.
Statement 2: It is obtained by cloning HB antigen gene in yeast
(a) Statement 1 is true. Statement 2 is false
(b) Satement 1 is false. Statement 2 is tru
(c) Both statements 1 and 2 are true
(d) Both statements 1 and 2 are false

51) Statement 1:ADA deficiency was the first disease treated by gene therapy.
Statement 2: ADA is an autosomal recessive metabolic disorder
(a) Statement 1 is true. Statement 2 is false
(b) Satement 1 is false. Statement 2 is true
(c) Both statements 1 and 2 are true
(d) Both statements 1 and 2 are false

52) Statement 1: Attenuated recombinant vaccines are live vaccines.
Statement 2: Polio is a live vaccine.
(a) Statement 1 is true. Statement 2 is false.
(b) Satement 1 is false. Statement 2 is true
(c) Both statements 1 and 2 are true.
(d) Both statements 1 and 2 are false

53) Assertion (A): Interferons are used to treat herpes zoster.
Reason (R): Interferons are antiviral protein
(a) R explains A
(b) Both A and R are incorrect.
(c) Both A and R are incorrect.
(d) A and R are correct. R does not explains A.

54) Assertion (A): PCR is a amplification technique used in biotechnology.
Reason (R): Using PCR multiple copies of DNA can be generated.
(a) R explains A.
(b) Both A and R are incorrect
(c) A is correct. R is incorrect
(d) A and R are correct. R does not explains A

55) The B-chain of Insulin is composed of _____ amino acids
(a) 70 (b) 30 (c) 45 (d) 60

56) The gene for the formation of factor VIII is located in_____

(a) 20th Chromosome (b) 12th Chromosome (c) X-chromosome (d) Y-chromosome

57) The genetic defect in the synthesis of factor VIII results in_____

(a) Polycythemia (b) Anaemia (c) Thalassemia (d) Haemophilia

58) Which is the first synthetic vaccine produced?

(a) Polio Vaccine (b) Hepatitis B Vaccine (c) BCG Vaccine (d) MMR Vaccine

59) Identify the incorrect statement.

(i) The first clinical gene therapy was given by French Anderson.

(ii) For a four year old boy with ADA deficiency.

(iii) ACD is a autosomal dominant metabolic disorder.

(iv) Where patients have non-functioning B -lymphocytes.

(a) i and iv only (b) ii, iii and iv (c) i, ii and iv (d) all the above

60) Identify the correct statement(s).

(i) Totipotency is the ability of single cell to produce a whole organism.

(ii) Pluripotency refers to ability of stem cell with apotential to differentiate into any kind of germ layers.

(iii) Unipotency refers to ability of stem cell to differentiate into one cell type.

(iv) Oligopotency refers to stem cells to differentiate into few cell types.

(a) i and iii (b) ii and iv (c) i and iv (d) all the above

61) Identify those proper sequence of ELISA testin

(a) Coating → Blocking ~ Detection → Read out

(b) Detection → Read out→ Coating → Blocking

(c) Read out→ Coating → Detection → Blocking

(d) Blocking → Detection → Read out → Coating

62) PCR technique was developed by

(a) Eva Engvall (b) Peter Perlmanin (c) Kary Mullis (d) Wilmut

63) Arrange the steps of PCR in proper sequence

(a) Denaturation, Primer extension, Renaturation

(b) Renaturation, Denaturation, Primer extension

(c) Primer extension, Denaturation, Renaturati

(d) Denaturation, Renaturation, Primer extension

64) The first cloned organism was_____

(a) Goat (b) Cow (c) Sheep (d) Pig

65) The first transgenic clone of sheep was called as_____

(a) Rosie (b) Dolly (c) Sameera (d) Joel

66) In cloning process of Dolly, how many embryos were implemented by Ian Wilmut and Campbell, out of which one successful Dolly was developed?

(a) 267 (b) 277 (c) 287 (d) 307

67) The term Biotechnology was coined by_____

(a) Karl Ereky (b) Sameera (c) Joel (d) Rosie

68) Name the scientists who discovered Interferons?

(a) Alick Issac and Jean Lindemann (b) Thalassemia (c) Haemophilia (d) Anaemia

69) The word 'niche' was first used by _____

(a) Charles Elton (b) Van't Hoff (c) Bergmann (d) Jordon

70) Van't Hoffs rule describes the impact of _____ on the environment.

(a) Light (b) Temperature (c) Water (d) Soil

71) "Birds and mammals attain greater body size in colder regions than warmer regions." - Choose the correct option.

(a) Bergmann's rule (b) Jordon's rule (c) Sewall wright effect (d) Allen's rule

72) Which of the following is a behavioural adaptation?

(a) Thick fur (b) camouflage (c) Sharp canines (d) Migration

73) Identify the response under which 'Osmotic balance' can be classified.
(a) Suspend (b) Regulate (c) Migrate (d) Conform

74) Type of response in hibernation and aestivation.
(a) Suspend (b) Regulate (c) Migrate (d) Conform

75) Animals destroyed at the feet of elephants is an example of _____
(a) Mutualism (b) Amensalism (c) Commensalism (d) parasitism

76) Birds sitting on cows to eat insects is an example of _____
(a) Competition (b) Mutualism (c) Commensalism (d) Amensalism

77) Nuts are eaten by birds and squirrels. This is an example of an interaction called _____
(a) Commensalism (b) Mutualism (c) Amensalism (d) Competition

78) 1000 fish in the volume of water in the pond indicates _____
(a) Relative abundance (b) Ecological density (c) Crude density (d) Population density

79) Diapause is a type of response classifiedunder _____
(a) Suspend (b) Migrate (c) Conform (d) Regulate

80) Which one of the following is most appropriately defined?

(a) Host is an organism which provides food to another organism.	(b) Amensalism is a relationship in which one species is benefited whereas the other is unaffected.	(c) Predator is an organism that catches and kills other organisms for food.	(d) Parasite is an organism which always lives inside the body of other organism and may kill it.

81) Study the four statements (1 to 4) given below and select the two correct ones out of them.
1) A lion eating a deer and a sparrow feeding on grain are ecologically similar in being consumers.
2) Predator starfish Pisaster helps in maintaining species diversity of some invertebrates.
3) Predators ultimately lead to the extinction of prey species.
4) Production of chemicals such as nicotine, strychnine by the plants is disordered.
The two correct statements are
(a) (2) and (3) (b) (3) and (4) (c) (1) and (4) (d) (1) and (2)

82) Which two of the following changes (1 to 4) usually tend to occur in the plain dwellers when they move to high altitudes (3500 m or more)?
1) Increase in red blood cell size
2) Increase in red blood cell production
3) Increased breathing rate
4) Increase in thrombocyte count
(a) (2) and (3) (b) (3) and (4) (c) (1) and (4) (d) (1) and (2)

83) Consider the following four conditions (A-D) and select the correct pair of them as adaptation to environment in desert lizards.
The conditions:
A) Burrowing in soil to escape high temperature.
B) Losing heat rapidly from the body during high temperature
C) Bask in sun when temperature is low
D) Insulating body due to thick fatty dermis.
(a) (A) and (C) (b) (B) and (D) (c) (A) and (B) (d) (C) and (D)

84) People who have migrated from the planes to an area adjoining Rohtang Pass about six months back

(a) Have more RBC's and their haemoglobin has a lower binding affinity to O_2 | (b) Are not physically fit to play games like football | (c) Suffer from altitude sickness with symptoms like nausea, fatigue, etc. | (d) Have the usual RBC count but then haemoglobin has very high binding affinity to O_2.

85) A biologist studies the population of eats in a barn. He found that the average natality was 250, average mortality is 240, immigration is 20 and emigration to be 30. The in population is
(a) 10 (b) 15 (c) 05 (d) Zero

86) An association of individuals of different species living in the same habitat and having functional interaction is:
(a) Biotic community (b) Ecosystem (c) Population (d) Ecological niche

87) Gause's principle of competitive exclusion states that:
(a) More abundant species will exclude the less abundant species through competition | (b) Competition for the same resources excludes species having different food preferences | (c) No two species can occupy the same niche indefinitely for the same limiting resources | (d) Larger organisms exclude smaller ones through competition

88) When does the growth rate of a population following the logistic model equal zero? The logistic model is given as dN/dt=rN(1-N/K):
(a) When N/K is exactly one | (b) When N nears the carrying capacity of the habitat | (c) When N/K equals zero | (d) When dearth rate is greater than birth rate

89) Identify the proper sequence in increasing order of population
(a) Species ⟶ Population ⟶ Community ⟶ biome | (b) Population ⟶ Community ⟶ Species ⟶ biome | (c) Biome ⟶ Species ⟶ Community ⟶ Population | (d) Community ⟶ Population ⟶ Biome ⟶ Species

90) Functional status of an organism in its community is _____
(a) Biome (b) Niche (c) Species (d) Population

91) Pick out the eurythermal organism
(a) Fish (b) Frog (c) Tiger (d) Lizards

92) Locomotory speed of an organism changes due to light. This phenomenon is referred as _____
(a) Photonasty (b) Photokinesis (c) Phototropism (d) Phototaxis

93) Identify the incorrect statement
(a) Water is a universal solvent | (b) Water has less surface tension | (c) Water is heavier than air | (d) When freezes water contracts

94) Assertion (A): Snake is a stenotherm.
Reason (R): Organism can tolerate narrow temperature fluctuations
(a) Both A and R are correct R explain A | (b) A is correct R is incorrect | (c) R does not explain A | (d) Both A and R are incorrect

95) Assertion (A): Diapause is carried out to overcome abiotic stress.
Reason (R): Animals become inactive during winter.
(a) Both A and R are correct R explain A | (b) A is correct R is incorrect | (c) R does not explain A | (d) Both A and R are incorrect

96) Assertion (A): Movement of organism from one place to another and back is called migration.
Reason (R): Eel is an example for anadromous migration.
(a) Both A and R are correct R explain A | (b) A is correct R is incorrect | (c) R does not explain A | (d) Both A and R are incorrect

97) Which is not a feature of Tundra?
(a) Large population oscillation (b) Short season of growth and reproduction (c) Low biotic diversity (d) Extremely hot climate

98) Pick out the correct statement regarding K-selected species
(a) Produce many offsprings (b) Only few reach adulthood (c) Unstable environment (d) Long life expectancy

99) Maximum reproductive capacity of an organism under favorable condition is referred to as_____
(a) Carrying capacity (b) Biotic potential (c) Natality (d) Fecundity

100) As altitude increases _____
(a) O_2 density increases (b) Precipitation decreases (c) Temperature increases (d) Snowing decreases

101) There are _____ mega biodiversity countries in the world
(a) 15 (b) 12 (c) 17 (d) 10

102) The Species-Area relationship was given by _____
(a) Walter Rosen (b) Humboldt (c) Wilson (d) Darwin

103) The grizzled squirrel and lion tailed Macaque are endemic to _____
(a) Semi-Arid zone (b) Indian Desert (c) Western Ghats (d) Eastern Ghats

104) _____ is a biographical gateway for much of India's flora and fauna.
(a) North East India (b) Coastal Region (c) Trans Himalayan region (d) Sunderbans

105) _____ is not a threat to biodiversity.
(a) Fragmentation (b) Habitat loss (c) Species diversity (d) Extinction

106) _____ is not a exotic species.
(a) Amazon sailfin catfish (b) Mealy Bug (c) Narcondam horn bills (d) Achatina fulica

107) Death of _____ population is attributed to the medicine Diclofenac.
(a) Sparrow (b) Squirrel (c) Vulture (d) deer

108) _____ is not a hotspot in India.
(a) Sunderbans (b) Pichavaram (c) Himalayas (d) Western Ghats

109) IUCN has its headquarters in _____
(a) New York (b) New Delhi (c) Columbia (d) Switzerland

110) The red data book is maintained by _____
(a) WWF (b) ENVIS (c) IUCN (d) NBA

111) Red list has _____ categories.
(a) 7 (b) 6 (c) 8 (d) 12

112) At present there are _____ tiger reserves in the country.
(a) 9 (b) 32 (c) 47 (d) 26

113) Project tiger was first launched in _____
(a) 1973 (b) 1978 (c) 1999 (d) 2001

114) Mundanthurai wild life sanctuary is located in _____ district.
(a) Coimbatore (b) Tirunelveli (c) Kancheepuram (d) Nagapattinam

115) Kaziranga in Assam refers to a _____
(a) Protected areas (b) Wild life sanctuary (c) National park (d) both a and c

116) The headquarters of National Biodiversity Authority is located in _____
(a) New Delhi (b) Dehradun (c) Chennai (d) Kolkata

117) Select the correct statement about biodiversity
(a) Largescale planting of Bt (b) Western Ghats have a very high (c) Conservation of biodiversity is just a (d) The desert areas of Rajasthan and Gujarat have a very high

cotton has no adverse effect on biodiversity: | degree of species richness and endemism | fad pursued by the developed countries. | level of desert animal species as well as numerous rare animals.

118) Sacred groves are specially useful in
(a) Preventing soil erosion (b) Year-round flow of water in rivers (c) Conserving rare and threatened species (d) Generating environmental awareness

119) The highest number of species in the world is represented by
(a) Fungi (b) Mosses (c) Algae (d) Lichens

120) Which of the following is not used for ex situ plant conservation?
(a) Field gene banks (b) Seed banks (c) Shifting cultivation (d) Botanical gardens

121) In which of the following both pairs have correct combination?
(a) In situ conservation: National Park
Ex situ conservation: Botanical Garden
(b) In situ conservation: Cryopreservation
Ex situ conservation: Wildlife Sanctuary
(c) In situ conservation: Seed Bank
Ex situ conservation: National park
(d) In situ conservation: Tissue culture
Ex situ conservation: Sacred groves

122) Cryopreservation of gametes of threatened species in viable and fertile condition can be referred to as
(a) In situ conservation of biodiversity (b) Advanced ex situ conservation of biodiversity (c) In situ conservation by sacred groves (d) In situ cryo-conservation of biodiversity

123) The species confined to a particular region and not found elsewhere is termed as
(a) Alien (b) Endemic (c) Rare (d) Keystone

124) Which of the following National Parks is home to the famous musk deer or hangal?
(a) Bandhavgarh National Park, Madhya Pradesh (b) Eaglenest Wildlife Sanctuary, Arunachal Pradesh (c) Dachigam National Park, Jammu & Kashmir (d) Keibul Lamjao National Park, Manipur

125) Which is not an indice of species diversity?
(a) Alpha diversity (b) Beta diversity (c) Delta diversity (d) Gamma diversity

126) Total number of mega biodiversity countries in the world is_____
(a) Twelve (b) Fifteen (c) Seventeen (d) Nineteen

127) How many number of biogeographic zones are there in India?
(a) Twelve (b) Seventeen (c) Ten (d) Fifteen

128) The most important pattern of biodiversity is_____
(a) Longitudinal gradient in diversity (b) Latitudinal gradient in diversity (c) Polar gradient diversity (d) Equatorial gradient in diversity

129) Which of the following denotion is correct regarding increasing diversity?
(a) Poles < Equator (b) Equator < Pole (c) Pole = Equator (d) Latitude = Longitude

130) Select the proper sequence indicating the increasing order of biodiversity.
(a) Polar, Temperate and Polar (b) Tropics, Temperate and Polar (c) Temperate, Tropic and Polar (d) Polar, Tropic and Temperate

131) Select the correct linear equation describing the species - area relationship.
(a) loc C = log S + Z log A (b) Z 10gA= log S + log C (c) log S = log C + Z log A (d) log C = log S ± Z log A

132) Wild ass is endemic to_____
(a) Western Ghats (b) Deccan Peninsula (c) Himalayas (d) Indian desert

133) Which is considered as the Biogeographical Gateway of India?
(a) Himalayas (b) Andaman & Nicober (c) North - East India (d) Mumbai

134) Species introduced deliberately in an area are referred as_____
(a) Endemic species (b) Vulnerable species (c) Exotic species (d) Extinct species

135) Tilapia fish (Oreoehromis mosambieus) is exotic breed from_____
(a) Mexico (b) South Africa (c) Canada (d) Central America

136) Mention the correct number of biodiversity hotspots identified throughout the world.
(a) 29 (b) 16 (c) 34 (d) 46

137) Which is not an accepted biodiversity hotspots of India?
(a) Indian Himalayas (b) Western Ghats (c) Indo-Burma (d) Deccan Plateau

138) A species is considered as extinct
(a) When its member is confined to a particular area (b) When its member is maintained in non-native area (c) When none of its members is alive in native area (d) When none of its members alive anywhere in the world

139) The concept of Red list was noted in_____
(a) 1953 (b) 1963 (c) 1973 (d) 2003

140) Statement 1: Biodiversity is the assemblage of different life form.
Statement 2: The term biodiversity was introduced by Edward Wilson.
(a) Statement 1 is correct, statement 2 in incorrect (b) Statement 1 is incorrect, statement 2 in correct (c) Both the statements are correct (d) Both the statements are incorrect

141) Statement 1: India is the seventh largest country in the world in terms of area.
Statement 2: It includes ten biogeographic areas.
(a) Statement 1 is correct, statement 2 in incorrect (b) Statement 1 is incorrect, statement 2 in correct (c) Both the statements are correct (d) Both the statements are correct

142) Statement 1: Western Ghats extend from South Gujarat to Karnataka.
Statement 2: Wild ass is an endemic species of Western Ghats
(a) Statement 1 is correct, statement 2 in incorrect (b) Statement 1 is incorrect, statement 2 in correct (c) Both the statements are correct, (d) Both the statements are incorrect

143) Statement 1: Exotic species are the non-native organism.
Statement 2: Sailfin catfish is an exotic species to India
(a) Statement 1 is correct, statement 2 in incorrect (b) Statement 1 is incorrect, statement 2 in correct (c) Both the statements are correct (d) Both the statements are incorrect

144) _____ is an example for a non persistant pollutant.
(a) DDT (b) Vegetable waste (c) Plastic (d) Mercury

145) Oil spills can lead to _____
(a) increase of BOD (b) decrease of BOD (c) No change in BOD (d) None of the above

146) The tolerable level of sound is _____
(a) 140 db (b) 120 db (c) 100 db (d) 2220 db

147) Incineration is the best method to dispose _____
(a) Agricultural waste (b) Sewage (c) Medical waste (d) Oil spills

148) The 2018 UN climate change conference was held in _____
(a) Rwanda (b) New York (c) Russia (d) Poland

149) Ozone is found in the _____ layer of the atmosphere.
(a) Ionosphere (b) Thermosphere (c) Stratosphere (d) Mesosphere

150) _____ is not a green house gas.

(a) CO_2 (b) Methane (c) PAN (d) Nitrous oxide

151) PCB is a major component of _____

(a) e-waste (b) Agro waste (c) sewage (d) Plastics

152) Kyoto protocol was held in Japan in _____

(a) 1995 (b) 1997 (c) 2012 (d) 2017

153) DB is a standard abbreviation used for the quantitative expression of

(a) The density of bacteria in a medium (b) A particular pollutant (c) The dominant bacillus in a culture (d) A certain pesticide

154) Which one of the following expanded forms of the following acronyms is correct?

(a)		(b)		(c)		(d)	
UNEP	United Nations Environmental Policy	EPA	Environmental Pollution Agency	IUCN	International Union for Conservation of Nature and Natural Resources	IPCC	International Penal for climate Change

155) In an area, where DDT had been. used extensively the population of birds declined significantly because

(a) Birds stopped laying eggs (b) Earthworms in the area got eradicated (c) Cobras were feeding exclusively on birds. (d) Many of the. birds eggs laid, did not hatch.

156) Which one of the following is a wrong statement?

(a) Most of the forests have been lost in tropical areas. (b) Ozone in upper part of atmosphere is harmful to animals. (c) Greenhouse effect is natural phenomenon (d) Eutrophication is a natural phenomenon in freshwater bodies.

157) Measuring Biochemical Oxygen Demand (BOD) is a method used for

(a) Estimating the amount of organic matter in sewage water. (b) Working out the efficiency of oil driven automobile engines. (c) Measuring, the activity of Saccharomyces cerevisiae in producing curd on a commercial scales (d) Working out the efficiency of RBCs about their capacity to carry oxygen

158) Kyoto Protocol was endorsed at

(a) CoP - 3 (b) CoP - 5 (c) CoP - 6 (d) CoP - 4

159) A scrubber in the exhaust of a chemical industrial plant removes

(a) Gases like sulphur dioxide. (b) Particulate matter of the size 5 micrometer or above. (c) Gases like ozone and methane (d) Particulate matter of the size 2.5 micrometer or less

160) Rachel Carson's famous book 'Silent Spring' is related to

(a) Pesticide pollution (b) Noise Pollution (c) Population explosion (d) Ecosystem management

161) Which of the following is not one of the primary health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?

(a) Increased skin cancer (b) Reduced immune system (c) Damage to eyes (d) Increased liver cancer

162) Increase in the concentration of the toxicant at successive trophic levels is known as

(a) Biodeterioration (b) Biotransformation (c) Biogeochemical cycling (d) Biomagnifications

163) A river with an inflow of domestic sewage rich in organic waste may result in:

(a) Drying of the river very soon due to algal bloom (b) Increased population of aquatic food web organisms (c) An increased production of fish due to biodegradable nutrients (d) Death of fish due to lack of oxygen

164) A lake which is rich in organic waste may result in

(a) Drying of the lake due to algal bloom | (b) Increased population of fish due to lots of nutrients | (c) Mortality of fish due to lack of oxygen | (d) Increases population of aquatic organisms due to minerals

165) The highest DDT concentration in aquatic food chain shall occur in

(a) Seagull (b) Crab (c) Cell (d) Phytoplankto

166) The gaseous envelope which surrounds the Earth is called as _____

(a) Stratosphere (b) Atmosphere (c) Troposphere (d) Ozonosphere

167) _____are the major causes of CO polution in large cities and towns.

(a) Fossil fuels (b) Ocean (c) Deforestation (d) Automobiles

168) _____and _____ are the major cause for acid rain.

(a) Sulphur di oxide and Hydrogen peroxide | (b) Hydrogen peroxide and Sulphuric acid | (c) Hydrochloride and sulphur dioxide | (d) Sulphur dioxide and Nitrogen .oxide

169) What is the name of the app published by Central Pollution Control Board that provides updates onAQI

(a) Hamear (b) Jhoan (c) Sameer (d) Industan

170) PAN stands for_____

(a) Peroxyacetic nitrogen. (b) Perchloro acetate (c) Peroxyacetyl nitrate (d) Peractyl nitroxide

171) Average human consumption of oxygen per day is_____

(a) 280 L (b) 550 L (c) 620 L (d) 730 L

172) The intensity of noise is measured in_____

(a) Dobson (b) Hertz (c) Decibel (d) Frequency

173) According to noise pollution rules 2000, the permissible level of noise in commercial area is _____ during day and _____during nitght

(a) 55 db, 65 db (b) 65 db, 55 db (c) 70 db, 60 db (d) 75 db, 65 db

174) Which is not a physical method of waste water treatment.

(i) Floatation
(ii) Filtration
(iii) Phydro remediation
(iv) Oxidation

(a) i and iii (b) ii and iv (c) i and ii (d) iii and iv

175) Which is not a method of disposal of radioactive waste.

(a) Dilute and dispense (b) Delay and decay (c) Recycle and reuse (d) Limit generation

176) E-wastes are basically_____

(a) Poly iodinated biphenyl based compounds | (b) Poly chlorinated biphenyl based compounds | (c) Poly hydroxy biphenyl based compounds | (d) Poly acetyl biphenyl based compounds

177) Identify the correct statement indicating 4Rs of treating water.

(a) Regenerate, Reduce, Reuse and Recycle | (b) Refuse, Reduce, Rejenuvate and Reuse | (c) Redeem, Refuse, Rejenuvate and Reduce | (d) Refuse, Reduce, Rescue and Recycle.

178) UN conference on Sustainable development in 2012 was held at_____

(a) Ruanda (b) Rio de Janeiro (c) Geneva (d) Stockholm

179) The molecular formula for ozone is_____

(a) 02 (b) 04 (c) 03 (d) 07

180) World Ozone Day was observed on_____

(a) September 16th (b) October 12th (c) December 1st (d) August 18th

181) Identify the incorrect statement.
(i) EcoSan toilets is a sustainable way for handling human excreta by using dry composting toilets
(ii) It reduces waste water generation
(Ui) It is based on recovery and recycling of nutrients from excreta
(iv) EcoSan toilets are used in several parts of India and Srilanka.
(a) i and ii only (b) iii and iv only (c) all the above (d) none of the above

182) What is the name of the action plan for sustainable development framed in Rio conference in 1992?
(a) Action 21 (b) Declaration 21 (c) Protocol 21 (d) Agenda 21

183) Eutrophication is a result of_____
(a) Agricultural and sewage waste (b) Vehicle emission (c) Pesticides (d) Industrial effluent

184) BOD stands for_____
(a) Biological Oxidation Demand (b) Biotic Oxygen Deficient (c) Biological Oxygen Deficit (d) Biochemical Oxidation Deficit

185) Stratosphere is mainly depleted by_____
(a) Excess CO (b) CFC's (c) Ozone (d) Excess CO2

186) Treatment of sewage involves
(a) Floatation, Filtration and Sedimentation of suspended particles (b) Aerating it for bacterial action (c) Removal of nitrates and phosphates (d) All of the above

187) Assertion (A): Ozone layer protects the UV rays entering the Earth.
Reason (R): UV rays may cause melanoma
(a) A is right R is wrong (b) A is wrong R is right (c) Both A and Rare correct (d) R explains A

188) Assertion (A): Evolution.of Greenhouse gases leads to Global warming
Reason (R): The energy released by the greenhouse gases move away from the atmospheric
(a) A is right R is wrong (b) A is wrong R is right (c) Both A ana R are correct (d) R explains A

189) Statement (1): Incomplete combination of fossil fuels release CO
Statement (2): CO is a GHG
(a) Statement 1 is true, statement 2 is false (b) Statement 1 is false, statement 2 is true (c) Both Statements 1 and 2 are true (d) Both statements 1 and 2 are false

190) Statement (1): The intensity of noise is measured in dobson (dB) unit.
Statement (2): Noise provides immense bliss.
(a) Statement 1 is true, statement 2 is false (b) Statement 1 is false, statement 2 is true (c) Both Statements 1 and 2 are tru (d) Both statements 1 and 2 are false

191) Lysozyme is an example of _____
(a) Anatomical barrier (b) Physiological barrier (c) Phagocytic barrier (d) Inflammatory barrier

192) _____ is not a feature of acquired immunity.
(a) diversity (b) recognitionof self (c) non-specific (d) memory

193) Passive immunity does not exhibit this characteristic.
(a) No memory (b) Very effective in protection (c) Immediate Immunity (d) No active host participation

194) _____ is not a secondary lymphoid organ.
(a) Malt (b) Spleen (c) Bursa of fabricius (d) Adenoids

195) This statement about the thymus which is not true.
(a) It is located above (b) It has numerous (c) The thymus begins to atrophy (d) It contains

the lungs lobules by early teens T cells

196) Enhanced attachment is also known as _____
(a) Opsonisation (b) Precipitation (c) agglutination (d) neutralisation

197) Lymph nodes are seen in the _____
(a) Toes (b) heart (c) Neck (d) Palm

198) The oral polio vaccine was developed by _____
(a) Dr. Albert Sabin (b) Edward Jenner (c) Louis Pasteur (d) Calmette and Guerin

199) Choose the wrong option
(a) Lymphocytes are a type of WBC (b) They form 20-30% of WBC (c) The B lymphocytes leave the bone marrow before maturity (d) B Cells can form memory cells.

200) The first disease for which vaccine was prepared is _____
(a) Polio (b) Chicken pox (c) Cholera (d) Small pox

201) Peyer's patches occur in _____
(a) Nasal passage (b) Heart (c) Small intestine (d) Roof of the mouth

202) Maerophages are formed from _____
(a) Neutrophils (b) RBC (c) Monoeytes (d) Platelets

203) _____ is a second generation vaccine.
(a) Polio (b) MMR (c) Hepatitis B (d) DPT

204) _____ is an example of killed vaccine.
(a) MMR (b) Measles (c) Salk's Polio (d) Vanicella

205) _____ is not a auto immune disease.
(a) Rheumatoid arthritis (b) Multiple sclerosis (c) Allergy (d) Addison's disease

206) _____ is a not a secondary lymphoid organ.
(a) Spleen (b) Adenoid (c) Bone marrow (d) MALT

207) _____ is a secondary lymphoid organ found in pharynx.
(a) Adenoid (b) Tonsils (c) Thymus (d) Spleen

208) H chain of immunoglobulin has _____ aminoacids.
(a) 214 (b) 500 (c) 475 (d) 450

209) The _____ may disappear by adulthood.
(a) Tonsils (b) Peyer's patches (c) Adenoids (d) Spleen

210) _____ is the first one to encounter the antigen that enters tissue spaces.
(a) Spleen (b) Lymph node (c) Bone marrow (d) GALT

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