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Reg. No. : .....

Code No. : 10045 E    Sub. Code : SSPH 4 A/  
ASPH 41

B.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2023

Fourth Semester

Physics — Skill Based Subject

MAINTENANCE OF ELECTRONIC APPLIANCES

(For those who joined in July 2017-2020)

Time : Three hours                      Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions, Choose the correct answer :

1. To form 5 multiple capacitors, we need \_\_\_\_\_ tin foils.  
(a) 4                                  (b) 5  
(c) 6                                  (d) None
2. \_\_\_\_\_ capacitors are used for initial calibrating of equipment during manufacturing and servicing.  
(a) Ceramic                      (b) Paper  
(c) Multiplate                   (d) Trimmer

3. Lissajous pattern is a circle, if the frequency of the two signals are  
(a) equal  
(b) unequal  
(c) zero  
(d) infinite
4. The LCD digital display is based on  
(a) radiation of light  
(b) reflection of light  
(c) emission of light  
(d) transmission of light
5. Thermistors have \_\_\_\_\_ temperature coefficient of resistance.  
(a) positive                      (b) negative  
(c) zero                              (d) none of the above
6. \_\_\_\_\_ is a photo resistive material.  
(a) Indium arsenide  
(b) gallium arsenide  
(c) cadmium sulphide  
(d) cadmium arsenide

7. An antenna converts \_\_\_\_\_ to \_\_\_\_\_
- (a) photons, electrons
  - (b) electrons, photons
  - (c) electrons, neutrons
  - (d) both (a) and (b)
8. Which of the following are not used in mobile communication?
- (a) wires
  - (b) cables
  - (c) wired antenna
  - (d) all the above
9. 'Camera Obscura' means
- (a) dark room
  - (b) projector
  - (c) camera
  - (d) none of the above
10. When the shutter speed is increased
- (a) images get brighter
  - (b) images get darker
  - (c) makes the subject move faster
  - (d) makes the subject move slower

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give the characteristics of a resistor.
- Or
- (b) Explain how a PCB board can be prepared and give its drawbacks.
12. (a) Describe measurement of frequency using cathode Ray Oscilloscope.
- Or
- (b) Give the practical use of multimeters.
13. (a) Describe a variable air gap type capacitive transducer.
- Or
- (b) Write the difference between an active and passive transducer with example.
14. (a) Write the characteristics of a resonance antenna.
- Or
- (b) Explain the principle and working of a DTH.

15. (a) Explain the principle and working of a camera.

Or

- (b) Give the specification of battery types used in flash photography.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe star connection and delta connection of capacitors and find the equivalent capacitance.

Or

- (b) Discuss the different types of soldering techniques.

17. (a) Give the conditions for the formation of Lissajous figures. Describe demonstration of Lissajous figures with CRO.

Or

- (b) Describe the construction and working of a Radio Frequency Oscillator.

18. (a) What is an inductive transducer? Explain the construction and working of an inductive transducer.

Or

- (b) Explain how a photovoltaic cell acts as a light transducer.

19. (a) Discuss the basic concepts of radio transmitter and receiver.

Or

- (b) Describe the working of a modem and give its function.

20. (a) Discuss the various elements of flash photography.

Or

- (b) Write the characteristics of any two digital formats.
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