

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

First Semester

Physics

Skill Enhancement Courses — PHYSICS FOR  
EVERYDAY LIFE

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. What is a spring scale?  
(a) to measure length  
(b) to measure loose material  
(c) to measure mass  
(d) to measure spring
  
7. The value of Solar constant is  
(a)  $1347 \text{ w/m}^2$  (b)  $1357 \text{ w/m}^2$   
(c)  $1367 \text{ w/m}^2$  (d)  $1377 \text{ w/m}^2$
  
8. Photovoltaic energy is the conversion of sunlight into  
(a) Chemical energy  
(b) Bio gas  
(c) Electricity  
(d) Geothermal energy
  
9. Who got first Nobel Prize in India in Science?  
(a) Chandrasekhar  
(b) Chandrasekhara Venkata Raman  
(c) Rama Krishnan  
(d) Dr. APJ
  
10. Who was the first CEO of ISRO?  
(a) Vikram Ambalal Sarabhai  
(b) Ambalal Sarabhai  
(c) Mr. Goenka  
(d) S. Somanath

2. GPS is a  
(a) Global Positioning System  
(b) Global Pointing System  
(c) Global Poynting System  
(d) None
  
3. Myopia is a  
(a) Long Sightedness  
(b) Near Sightedness  
(c) Contact Lenses  
(d) None
  
4. The Holography \_\_\_\_\_ is recorded.  
(a) amplitude (b) frequency  
(c) phase (d) both (a) and (c)
  
5. In the CFL, the tube is filled with \_\_\_\_\_.  
(a) Oxygen (b)  $\text{CO}_2$   
(c) Noble gas (d)  $\text{N}_2\text{O}$
  
6. TV Cameras based on the principles of  
(a) Photo conduction (b) Photo emission  
(c) Photo electric (d) (a) and (b)

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Discuss in detail about the bouncing balls.  
Or  
(b) Explain the functioning of bicycles.
  
12. (a) Write a short note on Polaroid glasses.  
Or  
(b) Explain how images are recorded using holography.
  
13. (a) Explain about the principle of hair drier.  
Or  
(b) Explain the functioning of Microwave ovens.
  
14. (a) Write briefly notes for applications of solar energy.  
Or  
(b) What are the principle for a solar cell?
  
15. (a) What did C.V. Raman-discover? Explain it.  
Or  
(b) What was the theory of Chandrasekhar?

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write briefly application of roller coasters.

Or

- (b) Explain the various categories of rockets.

17. (a) Compare spontaneous and stimulated emissions.

Or

- (b) Explain the applications of Holography.

18. (a) Explain the functioning of fan.

Or

- (b) Discuss the principle and working of a vacuum cleaners.

19. (a) Explain the functioning of solar water heaters.

Or

- (b) Explain solar photo - voltaic cells.

Page 5 Code No. : 20660 E

20. (a) Who is the father of the Indian nuclear programme? What did he invent? Explain it.

Or

- (b) Who is our 11<sup>th</sup> President of India? Explain it.
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Page 6 Code No. : 20660 E