

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No:.....

Question Code: 26E01204

Course Code : 24USPH11/25USPH11

UG Degree - End Semester Examinations, April 2026

First Semester

B.Sc., PHYSICS

Physics for Everyday Life

(For those who joined in July 2024 and June 2025 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. Spring scales works on the principle of _____
K:1 (a) Pascal's law (b) Newton's law
(c) Hooke's law (d) Boyle's law
- CO:1 2. During twist and turn in a roller coaster, _____ force acts to keep
K:2 the roller coaster to move in circular orbit.
(a) Centripetal (b) Twisting
(c) Centrifugal (d) Normal
- CO:2 3. Myopia or near sightedness can be corrected using _____
K:1 lenses.
(a) Convex (b) Planoconvex
(c) Polaroids (d) Concave
- CO:2 4. Holography is a
K:2 (a) Method of recording sound on a disc (b) Lens-less method of 3-D photographs
(c) Advanced laser system (d) 2-D version of a 3-D object
- CO:3 5. Tungsten is used in light bulbs because it has _____
K:1 (a) Low melting point (b) High melting point
(c) Low electrical resistivity (d) Low density

- CO:3 6. High power microwaves are generated in microwave oven
K:2 by_____
- (a) Magnetron (b) Diode
(c) Electromagnet (d) Transformer
- CO:4 7. _____ converts sunlight directly into electricity.
K:1
- (a) Solar heater (b) Solar cooker
(c) Solar photovoltaic cells (d) Microwave oven
- CO:4 8. The value of solar constant varies with season and solar activity.
K:2 The approximate value of solar constant is _____
- (a) 136 W/m^2 (b) 1361 W/m^2
(c) 1.361 W/m^2 (d) 136100 W/m^2
- CO:5 9. _____ is referred to as “father of the Indian Nuclear Programme”.
K:1
- (a) Homi Jehangir Bhabha (b) C.V.Raman
(c) Abdul Kalam (d) Vikram Sarabhai
- CO:5 10. Name the scientist awarded Nobel prize for his contribution to the
K:2 understanding of ribosomal structure, a fundamental breakthrough in Molecular biology?
- (a) Venkataraman (b) C.V. Raman
Ramakrishnan
(c) Subramanyan (d) Abdul kalam
Chandrasekar

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Have you ever noticed the interesting nature of Bouncing
K:3 balls? Examine the working of Bouncing balls with suitable diagram.

(OR)

- (b) Illustrate with the help of neat diagram, the construction and working of Bicycles.

- CO:2 12. (a) What are the various Vision problems? Give a detailed
K:3 account of corrective lenses used to rectify the vision defects.

(OR)

- (b) Examine the working and applications of Lasers.

CO:3 13. (a) Examine the construction and working of Fan.

K:3 **(OR)**

(b) Illustrate the construction and working of Hair dryer.

CO:4 14. (a) Analyse the general applications of solar energy.

K:4 **(OR)**

(b) Deduce and explain Solar constant.

CO:5 15. (a) What are the Significant contributions of C.V.Raman to the field of science and technology.

K:1

(OR)

(b) How Vikram Sarabhai played a key role in the development of Indian Space programme?

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) What is the principle behind the working of Spring scale?
K:3 Illustrate the construction and working of spring scale with the help of a neat diagram.

(OR)

(b) Interpret the construction and working of Rocket with a neat diagram.

CO:2 17. (a) Analyse the concept of Holography.

K:4 **(OR)**

(b) Explain the principle of Polaroid camera and its working?

CO:3 18. (a) Explain the construction and working of Television with a neat diagram.
K:4

(OR)

(b) Analyse the construction and working of Microwave oven.

CO:4 19. (a) Discuss Solar photovoltaic cells and its applications.

K:5 **(OR)**

(b) How Solar water heater works? Explain its principle and construction with a neat diagram.

CO:5 20. (a) Discuss the life and research work of Subramanyan Chandrasekar, as a great teacher as well as a astrophysicist.
K:2

(OR)

(b) What are the contributions of Abdul kalam to the field of science and technology? What makes him the most inspirational leader among the youth of India. Justify your answer.