KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages) **Reg. No: ……**

Question Code No: 25O01202 **Course Code: 25USPH11**

UG Degree - End Semester Examinations, November 2025

First Semester

B.Sc. PHYSICS

Physics for Everyday Life

(For those who joined in July 2025 onwards)

Time : 3Hours **Maximum: 75 Marks**

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer:

1. A spring scale is a mechanical device that measures weight or force by using a spring's _____ property.

   (a) Elastic (b) Plastic

   (c) Both (d) None of the above

2. Rockets work on the basis of Newton's _____ law.

   (a) First (b) Second

(c) Third (d) Gravitational

3. Myopia is corrected with the help of _____ lens.

(a) Concave (b) Convex

(c) Bifocal (d) Both a and b

4. The sources of lasers are highly _____

(a) Polychromatic (b) Monochromatic

(c) Dichromatic (d) None of the above

5. _____ is the commonly used filament in Incandescent bulb.

(a) Aluminium (b) Copper

(c) Tungsten (d) Gold

6. The principle of microwave cooking is conversion of electromagnetic energy to _____ energy within the meat.

(a) Electrical (b) Thermal

(c) Mechanical (d) Sound

7. _____ uses the sun's energy to heat water for various uses, such as domestic showers, baths and industrial processes.

(a) Solar light (b) Solar cooker

(c) Solar water heater (d) Solar cooler

8. Solar photo-voltaic cells are commonly made up of _____.

(a) Semiconductor (b) Conductor

(c) Insulator (d) Super conductor

9. Dr. A.P.J. Abdul Kalam was born at_____.

(a) Chennai (b) Ramanathapuram

(c) Parameswaram (d) Rameswaram

10. Subrahmanyan Chandrasekhar was an Indian-American theoretical physicist born in_____

(a) New Delhi, India (b) Tamil Nadu, India

(c) New York, USA (d) Lahore, Pakistan

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 250 words.

11. (a) Show how Hooke's law plays a role in the working of the Spring balance.

(OR)

(b) Examine the energy conversions that take place in riding a bicycle.

12. (a) Construct short note on holography.

(OR)

(b) Examine the use of Polaroid glasses.

13. (a) Analyse the working of a ceiling fan.

(OR)

(b) Examine the working of microwave ovens

14. (a) List the applications of solar water heaters.

(OR)

(b) Inspect the applications of solar cells.

15. (a) Summarize the key contribution of Dr. A.P.J. Abdul Kalam.

(OR)

(b) Outline the key contribution of Dr. Homi Jehangir Bhabha.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 500 words.

16. (a) Describe the law applied in the operation of a roller coaster.

(OR)

(b) Describe the principle and working of a rocket. List their applications.

17. (a) List various types of eye defects. Describe the corrective measures.

(OR)

(b) Analyze the properties of Lasers. List applications of lasers.

18. (a) Describe the working of CRT and LED televisions.

(OR)

(b) Explain the working of air conditioners.

19. (a) Illustrate how the solar constant is calculated.

(OR)

(b) Describe the principle and working of solar cells.

20. (a) Explain achievements and awards received by Vikram Sarabhai in the field of space science.

(OR)

(b) Analyze the achievements of Sir. C.V. Raman who laid the foundation for development of science in India.