

24U117

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Name :

Reg. No :

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(FYUGP)

CC24U PHY1 FM105 - PHYSICS IN DAILY LIFE

(B.Sc. Physics - MDC)

(2024 Admission - Regular)

Time: 1.5 Hours

Maximum : 50 Marks

Credit: 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Copper, aluminium, and even certain types of steel pots and pans cannot be used with induction hobs. Why? [Level:1] [CO1]
2. Explain how a fresh air fan can contribute to indoor air quality. [Level:2] [CO1]
3. Explain how the grain structure of willow wood impacts the performance of a cricket bat. [Level:1] [CO2]
4. Explain pitch in cricket. [Level:2] [CO2]
5. Draw the ball's trajectory in spin bowling? Explain how pressure and velocity variations leads its trajectory [Level:3] [CO2]
6. Explain how the power developed in a fast kick is calculated. [Level:2] [CO3]
7. Explain the mechanics behind the Kick. [Level:2] [CO3]
8. Explain the different types of heading techniques in football. [Level:2] [CO3]
9. Determine the role of viscosity in the airflow around a ball during its flight. [Level:3] [CO3]
10. Explain why the amplitude of a harmonic oscillator does not influence its period. [Level:2] [CO4]

(Ceiling: 16 Marks)

Part B (Paragraph questions/Problem)

Answer *all* questions. Each question carries 6 marks.

11. Execute the impact of dishwashers on kitchen hygiene. Consider how effective they are at sanitizing dishes compared to traditional washing methods. [Level:3] [CO1]
12. Examine the functions and applications of three types of cameras used in cricket technology. Provide specific examples of how each type contributes to the analysis and enjoyment of the game? [Level:4] [CO2]

13. Analyse the effect of pace bowling and spin bowling in cricket. [Level:4] [CO2]
14. Analyse how the Bernoulli effect creates pressure differences around a football while it is flying. [Level:4] [CO3]
15. Describe the principle of xerography, emphasizing the role of static electricity. How do the photoconductor, toner, and transfer mechanism work together to create a copy? [Level:2] [CO4]

(Ceiling: 24 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

16. Explain the working principle of a refrigerator, focusing on the refrigeration cycle. Draw diagram of coils and compressor in a fridge. Finally, assess the food storage and odour removal in the fridge? [Level:2] [CO1]
17. Compare and contrast pace bowling and spin bowling in cricket, focusing on their techniques, strategies, and roles within a team. Evaluate how different pitch conditions and match situations influence the effectiveness of each bowling style? [Level:4] [CO2]

(1 × 10 = 10 Marks)
