Reg No:..... K24FY1256
Name :.....

First Semester FYUGP Physics Examination
NOVEMBER 2024 (2024 Admission onwards)
KU1MDCPHY101 (PHYSICS AROUND US)
(DATE OF EXAM: 29-11-2024)

Time : 90 min Maximum Marks : 50

Part A (Answer any 6 questions. Each carries 2 marks)

1. What do you mean by GPS system? Mention any one of its applications 2
2. How does an induction cooktop work? 2
3. Why do popcorns expand while heating? 2
4. What is the role of insulation in preventing energy loss in the kitchen? 2
5. Name the forces acting on a football when a player kicks it? 2
6. How do the initial velocity and angle of launch affect the range of a soccer ball? 2
7. How does airflow around a football create a boundary layer? 2
8. What is the difference between longitudinal and transverse waves? 2

Part B (Answer any 4 questions. Each carries 6 marks)

9. Describe the priciple and working of an electric tooth brush . 6
10. Describe various parts of a microwave oven and list their functions. 6
11. Describe the process by which a refrigerator maintains a constant temperature 6
12. Discuss the key technique involved in trapping the ball. 6
13. Discuss how air resistance affect the range and accuracy of long passes or shots in soccer? 6
14. Explore the concept of dangerous resonance, using examples such as the collapse of the Tacoma Narrows Bridge or vibration in buildings. What are the scientific principles behind this phenomenon? 6

Part C (Answer any 1 question(s). Each carries 14 marks)

15. Describe the working of different types of touch screens used in ATM 14
16. (a) Discuss various phenomena exhibited by light in he formation of rainbows .How does the observer's position affect the perceived colours of a rainbow? 7

    (b) Apply the concept of static electricity to explain the phenomenon of invisible induction and how it can lead to sparks in everyday situations. 7

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