June Monthly Test 2024
X - Standard
Science

Time : 45 mins Total Marks : 25

Part - I

I Choose The Correct Answer 4x1=4

1. Impulse is equals to
   a) rate of change of momentum b) rate of force and time
   c) change of momentum d) rate of change of mass

2. The unit of 'g' is ms^{-2}, It can be also expressed as
   a) cms^{-1} b) Nkg^{-1} c) Nm^2kg^{-1} d) $Cm^2 S^{-2}$

3. If the Earth shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will
   a) decrease by 50%. b) increase by 50%
   c) decrease by 25% d) increase by 30%.

4. In SI unit the value of the universal gravitational constat is
   a) $6.674 \times 10^{-11}\ Nm^2\ kg^{-2}$ b) $6.764 \times 10^{-11}\ Nm^2\ kg^{-2}$
   c) $6.467 \times 10^{-11}\ Nm^2\ kg^{-2}$ d) $6.476 \times 10^{-11}\ Nm^2\ kg^{-2}$

Part - II

II Answer any three of the following questions : 3x2=6

5. Classify the types of force based on their application.
6. Differentiate Mass and Weight
7. State the principle of Moments.
8. While catching a cricket ball the fielder lowers his hands backwards. Why ?

Part - III

III Answer any two of the following questions 2x4 = 8

[Questions No.11 is compulsory]

9. What are the types of inertia ? Give an example for each type
10. Give any four applications of Universal Law Gravitation.
11. The ratio of masses of two planets is 2:3 and the ratio of their radii is 4:7. Find the ratio of their accelerations due to gravity

Part - IV 1x7 =7

12(a) State and prove the law of conservation of Linear momentum
   (b) 1. What are the laws used in rocket propulsion ?
   2. Describe rocket propulsion