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SUBJECT: SCIENCE

Unit: 1&7 (Model Test)

MARKS: 75

I.CHOOSE THE CORRECT ANSWER:

20 X 1 =20

- 1.Inertia of a body depends on _____
(a)weight of the object (b)acceleration due to gravity of the planet (c)mass of the object
(d)Both a &b
- 2.Newton's III law is applicable
a)for a body is at rest (b)for a body in motion (c)both a & b
(d)Only for bodies with equal masses
- 3.In which of the following sport the turning of effect of force used
(a)Swimming (b)tennis (c)Cycling (d)hockey
- 4.The unit of 'g' is ms^{-2} .It can be also expressed as
(a) $\text{cm}^{\text{s}^{-1}}$ (b) N kg^{-1} (c) $\text{N m}^2\text{kg}^{-1}$ (d) cm^2s^{-2}
- 5.One kilogram force equals to
(a)9.8 dyne (b) $9.8 \times 10^4 \text{N}$ (c) $98 \times 10^4 \text{dyne}$ (d)980 dyne
- 6.SI unit of impulse is
a)Ns (b) Ns^2 (c) kg ms^{-2} (d) $\text{kgm}^2\text{s}^{-2}$
- 7.The gravitational force of earth acting on a body of mass 1kg is
a)8.9N (b)9.8N (c)980 (d)1N
- 8.First systematic study of gravity
a)Newton (b)Einstein (c)Galileo
- 9.Gravity of moon a)9.8 (b)8.9 (c)1.625
- 10.Example of Newton third law
a)bird fly (b)Momentum (c)Inertia
- 11.Mass of 1 mole of Nitrogen atom is
a)28 amu (b)14 amu (c)28 g (d)14g
- 12.The Volume occupied by 1 mole of a diatomic gas at S.T.P is
a)11.2litre (b)5.6 litre (c)22.4 litre (d)44.8 litre
- 13.Which of the following has the smallest mass?
a) 6.023×10^{23} atoms of He (b)1 atom of He (c)2g of He (d)1 mole atoms of He
- 14.Which of the following is a triatomic molecule?
a)Glucose (b)Helium (c)Carbon dioxide (d)hydrogen
- 15.In the nucleus of $^{40}_{20}\text{Ca}$, there are
a)20 protons and 40 neutrons (b)20 protons and 20 neutrons (c)10 protons and 40 electrons
d)40 protons and 20 electrons
16. Molar mass of CO_2 a. 40g b. 42g c. 44g
17. Gram molecular mass of HCl a. 35g b. 36g c. 36.5g
18. The atom was proposed by a. Robert b. Dalton c. C.V.Raman

19. The mass of an atom can be converted into a. $a=MC^2$ B. $E=MC^2$ C. $D=MC^2$
20. One mole of matter contains a. 6.023 b. 6.023×10^{-23} C. 8.023×10^{-23}

II. FILL IN THE BLANKS

10X1=10

- To produce a displacement _____ is required
- _____ is used to change the speed of car.
- A man of mass 100 kg has a weight of _____ at the surface of the Earth.
- The value of $G=$ _____
- Radius of earth _____
- Mass of the Earth _____
- Lift is falling down freely $R=$ _____
- The average atomic mass of hydrogen is _____ amu.
- The number of atoms present in a molecule is called its _____.
- Atomicity of phosphorous is _____

III. MATCH THE FOLLOWING

10X1=10

- | | |
|--|---------------------------------|
| 1. Newton 1 st law - Flying bird | 6. 8g of O_2 - 4 moles |
| 2. Newton 2 nd law - Stable equilibrium | 7. 112 g of N_2 - 0.25 moles |
| 3. Newton 3 rd law - Law of force | 8. 4g H_2 - 22.4 Lit |
| 4. Gravity of Earth - $R>W$ | 9. Volume of STP- 98 g |
| 5. Lift upward - $9.8ms^{-2}$ | 10. Mass of H_2SO_4 - 2 moles |

IV. Answer the following (any 10)

10x2=20

- Define inertia. Give its classification.
- Differentiate mass and weight.
- Define moment of a couple.
- State Newton's second law.
- Why a spanner with a long handle is preferred to tighten screws in heavy vehicles?
- State Newton's third law.
- Define: Relative atomic mass.
- Define: Atomicity.
- Give any two examples for heterodiatomic molecules.
- Find the percentage of nitrogen in ammonia.
- Define isotopes.
- Applications of Avogadro's law any two points.

V. Answer briefly.

3x5=15

- State the universal law of gravitation and derive its mathematical expression.
- Give the salient features of "Modern atomic theory".
- How many grams are there in the following?

i. 2 mols of H_2 ii. 3 mols of Cl_2 iii. 5 mols of S_8 iv. 4 mols of P_4 By,

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kindly send me your key Answers to our email id - padasalai.net@gmail.com