

SECTION : AMCQ'S

[1x20=20]

- 1) The value of acceleration due to gravity is: -
 - a) same on equator and pole
 - b) least on poles
 - c) least on equator
 - d) increases from pole to equator.
- 2) The time period of the second hand of a watch is: -
 - a) 1 min
 - b) 1 sec
 - c) 1 hour
 - d) 12 hour
- 3) The kinetic energy of a body falling downward :-
 - a) remains constant
 - b) decreases
 - c) increases
 - d) first decreases then increases
- 4) If a wave takes 4 seconds to complete one oscillation then frequency of wave is: -
 - a) 4 Hz
 - b) 1/4 Hz
 - c) 2 Hz
 - d) 1/2 Hz
- 5) In the relation $F=G \frac{m_1 m_2}{r^2}$, The quantity G :-
 - a) depends on the value of g at the place of observation
 - b) is used only when the earth is one of the two masses
 - c) is greatest at the surface of Earth
 - d) is universal constant of nature
- 6) The acceleration produced in a body 0.5 kg mass by applying a force of 2.5 Newton on it is :-
 - a) 25 m/sec²
 - b) 0.25 m/sec²
 - c) 5 m/sec²
 - d) 0.5 m/sec²
- 7) The atmosphere is held to the earth by: -
 - a) gravity
 - b) wind
 - c) clouds
 - d) Earth's magnetic field
8. How many electrons are present in the outermost shell of an element whose atomic number is 16
 - a) 6
 - b) 5
 - c) 4
 - d) 2
9. Mass of e- is
 - a) 1.672×10^{-24} g
 - b) 9.108×10^{-28} g
 - c) 1.007 amu
 - d) 1.008 amu
10. The international standard of atomic mass is
 - a) C-12
 - b) H-1
 - c) O-16
 - d) N-14
11. The formula of the sulphate of an element X is XSO₄. The formula of chloride of element X will be
 - a) XCl
 - b) XCl₂
 - c) XCl₃
 - d) XCl₄
12. Valency of an element A is +2 and the valency of another element B is -3. The formula of compound formed by the union of two elements will be
 - a) A₂B₃
 - b) A₃B₂
 - c) A₂B₂
 - d) A₃B₃
13. When water at 0°C freezes to form ice it
 - a) Absorbs some heat
 - b) release some heat
 - c) neither absorbs nor release energy
 - d) Absorbs 3.34×10^5 J/kg of heat

14. Lysosomes is popular as-
- a) kitchen of the cell b) suicide bag of cell c) traffic police of the cell
15. Scientific name of honey bee-
- a) Apis indica b) Musca domestic c) Bombyx mori
16. Heart muscles are: -
- a) voluntary and striated b) involuntary, striated and uninucleate
- c) voluntary, multinucleate
17. Which is the most significant way to reduce the global warming-
- a) reduce the use of fertilizers b) reduce carbon emissions c) both a and b
18. which one is an oil yielding plant -
- a) lentil b) sunflower c) cauliflower
19. Pisum sativum is commonly known as-
- a) rose b) garden pea c) waterlily
20. Phloem in plants performs the function of-
- a) conduction of food b) conduction of water c) Photosynthesis

SECTION : B (PHYSICS)

SHORT ANSWER TYPE QUESTION:-

- 1) a) A body floats in a liquid with the part of it submerged inside liquid. Is the weight of the floating body greater than, equal to or less than up thrust? [2]
 b) What is the difference between mass of an object and its weight? [2]
- 2) Write four differences between transverse wave and longitudinal wave. [4]
- 3) Define pressure? Give its formula and unit. Explain why the tip of sewing needle is sharp? [1+1+1+1=4]

LONG ANSWER TYPE QUESTION:-

- 4) a) Write Newton's law of gravitation and define Universal gravitational constant on the basis of it.
 b) The weight of a body is 98 Newton on earth when $g = 9.8 \text{ m/sec}^2$. What will be its mass and weight on the Moon gravity on Moon is 1.6 m/sec^2 . [4+2=6]

OR

- a) What do you mean by amplitude, time period and wavelength in wave motion? Establish relation between wave velocity, wavelength and frequency.
 b) Find the wavelength of a sound wave whose frequency is 150 Hz and velocity of sound wave is 300 m/sec. [4+2=6]

CHEMISTRY

II. ANSWER THE FOLLOWING QUESTIONS

1. i) What is possible maximum no of electrons in K and N shell? 2
 ii) What are polyatomic ions? Give example 2

2. i) What do you mean by Valency? How will you relate it with the formula of a substance 2
- ii) In Sodium 11 proton and 12 neutron are present. Write its symbol with atomic number and mass number 2
3. i) Write down the chemical formulae of the following chemicals: 3
- a) Copper Sulphate b) Calcium chloride c) Aluminium oxide
- ii) Calculate Molecular Mass of following molecules: 3
- a) H_2O b) Na_2SO_4 c) HNO_3
- OR**
- iii) Explain the following giving examples 3
- a) Colloid b) Saturated solution c) Suspension

BIOLOGY

II. Short answer type question-

- a) Describe nitrogen cycle with suitable diagram. 4
- b) What are macronutrients? Why are they called macro-nutrient? 2+2
- c) What are differences between Aves and Mammalians? 4

III. Long answer types question-

List any three activities that you think would lead to air pollution? How can we control air pollution? 3+3

OR

Draw well labelled diagram of animal cell. Describe structure and function of Endoplasmic reticulum. 3+3
