

Olympiad Foundation

SAMPLE PAPER CLASS 11th



OLYMPIAD FOUNDATION



Division of Marks

S.No.	Topic/Section	No. of Question	Marks
1	Physics	10	10
2	Chemistry	10	10
3	Biology	15	15
4	Achiever Sections	03	15
	Total	38	50

INSTRUCTIONS :

1. Use Blue/Black ballpoint pen only to darken the appropriate circle.
2. Mark should be dark and should completely fill the circle.
3. Dark only one circle for each entry.
4. Dark the circle in the space provided only.
5. Rough work must not be done on the answer sheet and do not use white- fluid or any rubbing material on Answer Sheet.
6. Each question carries one mark.

Select the correct answer and darken your answer in the table :

PHYSICS

1. A conservative force is dependent only on :
(A) Position of the objects (B) Position of the force
(C) Both A & B (D) None of these
2. The equilibrium, the next moment acting on the body by various conservative force is _____.
(A) Tangential (B) Parallel
(C) Perpendicular (D) Normal
3. The force that is not one of the conservative force is :
(A) Elastic spring force (B) Gravitational force
(C) Frictional force (D) Electric force
4. What exactly is a conservative force conserving ?
(A) Energy (B) Acceleration
(C) Force (D) Velocity
5. Electron volt is a unit of -
(A) Energy (B) Magnetic force
(C) Potential difference (D) Charge
6. One watt hour contains how many Joules ?
(A) 3.6×10^3 J (B) 10^{-3} J
(C) 3.6×10^2 J (D) 3.6×10^8 J
7. At 4°C , the density of water is equal to :
(A) 10^3 kg m^{-3} (B) 10 kg m^{-3}
(C) $10^{-3} \text{ kg m}^{-3}$ (D) $10^{-3} \text{ kg m}^{-3}$
8. The dimensions of kinetic energy is same as that of :
(A) Force (B) Momentum
(C) Work (D) Pressure
9. The surface tension of a liquid is 70 dyne/cm . In MKS system its value is ?
(A) $7 \times 10^3 \text{ N/m}$ (B) 70 N/m
(C) $7 \times 10^{-2} \text{ N/m}$ (D) $7 \times 10^2 \text{ N/m}$
10. Light year is a unit of :-
(A) Distance (B) Mass
(C) Sunlight intensity (D) Time

CHEMISTRY

11. Which one will have maximum of water molecule ?
(A) 18 molecules of water (B) 1.8 grams of water
(C) 18 grams of water (D) 18 moles of water
12. Which of the following is responsible to rule out the existence of definite paths or trajectories of electrons ?
(A) Pauli's exclusion Principle (B) Heisenberg's uncertainty Principle
(C) Hund's rule of maximum multiplicity (D) Aufbau Principle
13. The first ionization enthalpies of Na, Mg, Al and Si are in the order.
(A) $\text{Na} < \text{Mg} > \text{Al} < \text{Si}$ (B) $\text{Na} > \text{Mg} > \text{Al} > \text{Si}$
(C) $\text{Na} < \text{Mg} < \text{Al} < \text{Si}$ (D) $\text{Na} > \text{Mg} > \text{Al} < \text{Si}$
14. _____ is the species with the bond angle of 120° ?
(A) PH_3 (B) NCl_3
(C) Bcl_3 (D) ClF_3
15. The statement concerning the relation of temperature to the volume of a gas under fixed pressure was first synthesized by _____ ?
(A) Boyle's law (B) Charles's law
(C) Avogadro law (D) All of these
16. The volume of a gas is reduced to half from its original volume. The specific heat will be _____.
(A) Reduce to half (B) Be double
(C) Remain Constant (D) Increase four time
17. At equilibrium the rate of forward reaction and the rate of the reverse reaction are _____.
(A) Equal (B) Changing
(C) Different (D) Same
18. Which of the following elements does show this disproportionation tendency ?
(A) Cl (B) Br
(C) F (D) I
19. Which of the following hydrides is electron - precise hydride ?
(A) B_2H_6 (B) NH_3
(C) CH_4 (D) H_2O
20. Good conductor of electricity and heat is :
(A) Anthracite coke (B) Diamond
(C) Graphite (D) Charcoal

BIOLOGY

21. Metabolism refers to :-
(A) Release of energy
(B) Gain of energy
(C) Catabolism
(D) Gain or release for energy
22. Which of the following statements is false about the fungi ?
(A) They are eukaryote
(B) They are heterotrophs
(C) They possess a purely cellulosic cell wall
(D) None of these
23. Most primitive vascular plants ?
(A) Mosses
(B) Cycads
(C) Kelps
(D) Ferns
24. Tissue level organization is first seen in :-
(A) Coelenterates
(B) Platyhelminthes
(C) Arthropods
(D) None of these
25. We can see the short - lived primary root in :-
(A) Gymnosperms
(B) Dicots
(C) Monocots
(D) None of these
26. Wound healing in plants is initiated by -
(A) Apical meristem
(B) Lateral meristem
(C) Secondary meristem
(D) Intercalary meristem
27. The lining of a body cavity duct, or tube comprises of :
(A) Simple epithelial cells
(B) Compound epithelial cells
(C) Adipose cells
(D) None of these
28. The oxygen and carbon dioxide crosses the plasma membrane by the process of :
(A) Active diffusion
(B) Facilitated diffusion
(C) Passive diffusion
(D) Random diffusion
29. The best milk breed in the world is :-
(A) Chittagong
(B) Deoni
(C) Holstein - Friesian
(D) Sindhi
30. Chromosome structure can be observed best during :
(A) Anaphase
(B) Metaphase
(C) Prophase
(D) None of these

31. Who discovered Restricted end onoclea enzymes ?
 (A) Smith and Nathan (B) Baiger
 (C) Waxman (D) Fleming
32. First transgenic crop was :
 (A) Cotton (B) Alsi
 (C) Pea (D) Tobacco
33. Coloured pigments other than chlorophyll is / are :-
 (A) Xanthophyll (B) Carotenoid
 (C) Lycopene (D) All of these
34. The correct equation of cellular respiration is :-
 (A) $6\text{Co}_2 + 6\text{H}_2\text{O} + \text{Energy} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6$
 (B) $6\text{Co}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{Energy}$
 (C) $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{Co}_2 + 6\text{H}_2\text{O} + \text{Energy}$
 (D) None of these
35. The process through which older leaves transfer nutrients and minerals to young leaves and fall down is :
 (A) Differentiation (B) Dedifferentiation
 (B) Senescence (D) Growth

ACHIEVER SECTIONS

36. A train runs along an unbacked circular track of radius 30m at a speed of 54 km/h. The mass of the train is 10^5 kg. What provides the centripetal force required for this purpose. The engine or the rails ? What is the angle of banking required to prevent wearing out of the rail ?
 (A) 36.87° (B) 80°
 (C) 90° (D) 70.18°
37. The condensation polymerization of ethylene glycol and acid ?
 (A) $[\text{och}_2\text{ch}_2 - \text{o} - \text{c}(\text{O}) - \text{C}_6\text{H}_4 - \text{C}(\text{O})]$
 (B) $n\text{HOH}_2\text{C} - \text{CH}_2\text{OH}$
 (C) $n\text{HOOC} - \text{C}_6\text{H}_4 - \text{COOH}$
 (D) None of these
38. Arrangement of the types of ultraviolet radiation according to the intensity of their effect on human skin ?
 (A) $\text{UV} - \text{A} > \text{UV} - \text{B} > \text{UV} - \text{C}$ (B) $\text{UV} - \text{B} > \text{UV} - \text{C} > \text{UV} - \text{A}$
 (C) $\text{UV} - \text{C} > \text{UV} - \text{B} > \text{UV} - \text{A}$ (D) None of these

ANSWER KEY

1. A	11. D	21. D	31. A
2. A	12. B	22. C	32. D
3. C	13. A	23. D	33. C
4. A	14. C	24. A	34. C
5. A	15. A	25. C	35. C
6. A	16. C	26. C	36. A
7. A	17. A	27. A	37. A
8. C	18. C	28. C	38. D
9. C	19. C	29. C	
10. A	20. C	30. B	

