



Max Marks: 60

Date: 19.08.2022

**NEET 24 MR BATCH
 CHEMISTRY: DCT
 Topic: Mole Concept**

- An organic compound contains 20% C, 6.66% H, 47.33% N and the rest was oxygen. Its molar mass is 120g/mol. The molecular formula of the compound is
 (a) $\text{CH}_4\text{N}_2\text{O}$ (b) $\text{C}_2\text{H}_4\text{NO}_2$ (c) $\text{CH}_3\text{N}_2\text{O}$ (d) $\text{C}_2\text{H}_8\text{N}_4\text{O}_2$
- In a gaseous reaction of the type, $a\text{A} + b\text{B} \rightarrow c\text{C} + d\text{D}$, which is wrong.
 (a) a litre of A combines with b litre of B to give C and D
 (b) a mole of A combines with b more of B to give C and D
 (c) a g of A combines with b g of B to give C and D
 (d) a molecules of A combines with b molecules of B to give C and D.
- Volume of oxygen at STP required to burn completely 22 g of propane, C_3H_8
 (a) 22.4 L (b) 44.8 L (c) 56 L (d) 11.2 L
- Mass of calcium carbide, CaC_2 , would be needed to produce 150 g of acetylene, C_2H_2 , by using excess of water?
 (a) 369.2 (b) 184.6 (c) 276.9 (d) 92.3
- One mole of potassium chlorate is thermally decomposed and excess of aluminium is burnt in the gaseous product (Oxygen). How many mole of aluminium oxide are formed.
 (a) 1 (b) 1.5 (c) 2 (d) 3
- 60 g of a compound on analysis gave 24 g carbon, 4 g hydrogen, 32 g oxygen. The empirical formula of the compound is
 (a) CHO (b) CH_2O (c) $\text{C}_2\text{H}_2\text{O}$ (d) None of these
- The volume of chlorine at STP required to liberate all the Bromine and iodine present in 1 mole of KI and 2 mole of MBr_2 .
 (a) 22.4 (b) 56 (c) 44.8 (d) 33.6

Space for Rough Work



8. If 5 ml of methane is completely burnt the volume of oxygen required and the volume of CO_2 formed under the same conditions are
 (a) 5 ml, 10 ml (b) 10 ml, 5 ml (c) 5 ml, 15 ml (d) 10 ml, 10 ml
9. 1 mole of C_xH_y requires 12 moles of O_2 for combustion. If molecular mass of hydrocarbon is 112g. Molecular formula of C_xH_y is
 (a) C_6H_{10} (b) C_8H_{16} (c) C_8H_8 (d) C_9H_7
10. 1L of CO_2 is passed over hot coke. The volume becomes 1.4 L. the product contains:
 (a) 0.6 L CO (b) 0.8 L CO_2 (c) 0.6 L CO_2 (d) 0.8 L CO
11. What is the maximum amount of NaIO_3 that can be produced by 12.8 g of HI
 $6\text{HI} + 2\text{HNO}_3 \rightarrow 3\text{I}_2 + 2\text{NO} + 4\text{H}_2\text{O}$
 $3\text{I}_2 + 6\text{NaOH} \rightarrow \text{NaIO}_3 + 5\text{NaI} + 3\text{H}_2\text{O}$
 (a) 3.3 g (b) 33 g (c) 0.33 g (d) None
12. Weight of carbondioxide prepared by heating 200 kg of Limestone which is 95% pure.
 (a) 83.6 kg (b) 167.2 kg (c) 250.8 kg (d) 125.9 kg
13. Number of moles of C formed, if 8 moles of A and 10 moles of B are allowed to react according to given equation
 $\text{A} + 2\text{B} \rightarrow 3\text{C}$
 (a) 24 moles (b) 15 moles (c) 7.5 moles (d) 12 moles
14. When 10ml of hydrogen and 12.5 ml of chlorine are allowed to react the final mixture contains under the same conditions.
 (a) 22.5 ml of HCl (b) 12.5 ml of HCl
 (c) 20 ml of HCl and 2.5 ml of chlorine (d) 20 ml of HCl only
15. Reaction is $\text{Fe}_2(\text{SO}_4)_3 + \text{BaCl}_2 \rightarrow \text{FeCl}_3$
 How many moles of BaCl_2 is needed to produce $\frac{1}{2}$ mole of FeCl_3 ?
 (a) $\frac{5}{2}$ moles (b) $\frac{1}{2}$ moles (c) $\frac{3}{4}$ moles (d) 2 moles

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Space for Rough Work



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Learning with the Speed of Mumbai and the Tradition of Kota



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**NEET 24 MR BATCH
BIOLOGY : DCT
Topic: Animal Tissue**

16. Haversian canals are present in:
(a) Teeth (b) Muscles (c) Bone (d) Blood
17. Skin is a:
(a) Cuboidal epithelium (b) Columnar epithelium
(c) Pseudostratified epithelium (d) Stratified epithelium
18. Which of these is not found in connective tissue?
(a) Hyaluronic acid (b) Basement membrane
(c) Collagen fibres (d) Fluid
19. Fibroblasts, macrophages and mast cells are present in:
(a) Cartilage tissue (b) Adipose tissue
(c) Areolar tissue (d) Glandular epithelium
20. Stereocilia occur in:
(a) Pseudostratified epithelium of trachea
(b) Columnar epithelium of stomach
(c) Stratified columnar epithelium of pharynx
(d) Pseudostratified columnar epithelium epididymis
21. Which statement is incorrect?
(a) Mast cells and basophils secrete histamine and heparin
(b) Mast cells are smaller than basophils with a bilobed nucleus
(c) Mast cells are long lived, basophils are short lived
(d) Mast cells are relatively sessile, basophils are mobile
22. The ciliated columnar epithelial cells in humans are known to occur in
(a) Eustachian tube and stomach lining (b) Bronchioles and Fallopian tubes
(c) Bile duct and oesophagus (d) Fallopian tubes and urethra
23. Tendons and ligaments are specialized types of
(a) Areolar tissue (b) Adipose tissue (c) Fibrous (d) Epithelial tissue



24. Stratified epithelium is found in:
- | | |
|-------------------------|--------------------|
| (a) Seminiferous tubule | (b) Fallopian tube |
| (c) Nasal cavity | (d) Kidney tubule |
25. Myoglobin is present in:
- | | | | |
|-----------|------------|-------------|-----------------|
| (a) Heart | (b) Kidney | (c) Muscles | (d) Nerve cells |
|-----------|------------|-------------|-----------------|
26. A polysaccharide constituent found in the matrix of cartilage is:
- | | | | |
|------------|--------------|-----------------|-------------|
| (a) Ossein | (b) Collagen | (c) Chondroitin | (d) Hyaline |
|------------|--------------|-----------------|-------------|
27. Secretion of tears, milk, sweat and oil are functions of which of the following tissues?
- | | | | |
|----------------|-------------|----------------------|--------------|
| (a) Epithelial | (b) Nervous | (c) Loose connective | (d) Lymphoid |
|----------------|-------------|----------------------|--------------|
28. Collagen fibres are characteristic of which tissue?
- | | | | |
|--------------|----------------|----------------|-------------|
| (a) Muscular | (b) Epithelial | (c) Connective | (d) Nervous |
|--------------|----------------|----------------|-------------|
29. Read the following statements and choose the correct option.
- | | |
|--|--------------------------------|
| (A) Blood cells secrete fibres of structural proteins called collagen or elastin | |
| (B) Neuroglial cells protect and support the nephrons | |
| (C) Osteocytes are present in spaces called lacunae | |
| (D) Striated muscle fibres are bundled together in a parallel fashion | |
| (E) Biceps are involuntary and striated | |
| (a) C and D alone are wrong | (b) B and D alone are wrong |
| (c) A and C alone are wrong | (d) A, B and E alone are wrong |
30. Find the wrongly matched pair:
- | | |
|---|---------------------------------|
| (a) Unicellular glandular cells – Goblet cell | (b) Saliva – Exocrine secretion |
| (c) Fusiform fibres – Smooth muscle | (d) Cartilage – Areolar tissue |



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1.	(d)	2.	(c)	3.	(c)	4.	(a)	5.	(a)
6.	(b)	7.	(b)	8.	(b)	9.	(b)	10.	(c)
11.	(a)	12.	(a)	13.	(b)	14.	(c)	15.	(b)

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16.	(c)	17.	(d)	18.	(b)	19.	(c)	20.	(d)
21.	(b)	22.	(b)	23.	(c)	24.	(c)	25.	(c)
26.	(c)	27.	(a)	28.	(c)	29.	(d)	30.	(d)