

**BJNP***Learning with the Speed of Mumbai and the Tradition of Kota***Max Marks: 60****Date: 09.10.2022****NEET 24 BATCH
CHEMISTRY : DCT****Topic: Atomic Structure (Till lecture 3) + Mole Concept (Full)**

1. The effective neutron capture radius of a nucleus having a cross-section of 1.0 barn is
[Given, 1 bam = $1.0 \times 10^{-24} \text{ cm}^2$]
(a) $5.6 \times 10^{-13} \text{ cm}$ (b) $4.3 \times 10^{-13} \text{ cm}$ (c) $2.3 \times 10^{-11} \text{ cm}$ (d) $5.6 \times 10^{-24} \text{ cm}$
2. The argument which favours the particle nature of cathode rays is
(a) they produce fluorescence
(b) they travel through vacuum
(c) they get deflected by electric and magnetic fields
(d) they cast shadows of objects present in their way
3. Magnitude of deflection of cathode rays in discharge tube is more when
(a) magnitude of charge of the particle is more
(b) greater interaction with the electric or magnetic field
(c) less mass of the particle
(d) all the above
4. A neutral atom (Atomic no. > 1) consists of
(a) Only protons (b) Neutrons + protons
(c) Neutrons + electrons (d) Neutron + proton + electron
5. Atoms have a mass of the order
(a) 10^{-28} (b) 10^{-15} kg (c) 10^{-26} g (d) 10^{-15} g
6. The ratio of charge and mass would be greatest for
(a) Proton (b) Electron (c) Neutron (d) α particle

Space for Rough Work



7. Cathode rays are

| | |
|-------------------------------|-------------------------|
| (a) electromagnetic waves | (b) radiation |
| (c) stream of alpha particles | (d) stream of electrons |
8. The fraction of volume occupied by the nucleus with respect to the total volume of an atom is

| | | | |
|----------------|---------------|----------------|----------------|
| (a) 10^{-15} | (b) 10^{-5} | (c) 10^{-30} | (d) 10^{-10} |
|----------------|---------------|----------------|----------------|
9. The number of oxygen atoms in 4.4 g of CO_2 is approx.

| | | | |
|------------------------|--------------------------|------------------------|-------------------------|
| (a) 6×10^{22} | (b) 1.2×10^{23} | (c) 6×10^{23} | (d) 12×10^{23} |
|------------------------|--------------------------|------------------------|-------------------------|
10. The mass of 112 cm^3 of CH_4 gas at STP is

| | | | |
|------------|-----------|------------|-----------|
| (a) 0.08 g | (b) 0.8 g | (c) 0.16 g | (d) 1.6 g |
|------------|-----------|------------|-----------|
11. 7.5 grams of a gas occupy 5.8 liters of volume at STP the gas is

| | | | |
|-------------------|--------------------------|-----------------|-----------------|
| (a) CO_2 | (b) N_2O | (c) CO | (d) NO |
|-------------------|--------------------------|-----------------|-----------------|
12. One liter of a gas at STP weight 1.16 g it can possibly be

| | | | |
|------------------|-----------------|----------------------------|-------------------|
| (a) O_2 | (b) CO | (c) C_2H_2 | (d) CH_4 |
|------------------|-----------------|----------------------------|-------------------|
13. What is the normality of a 1 M solution of H_3PO_4 ?

| | | | |
|-----------|-----------|-----------|-----------|
| (a) 3.0 N | (b) 1.0 N | (c) 2.0 N | (d) 0.5 N |
|-----------|-----------|-----------|-----------|
14. The molality of a H_2SO_4 solution is 9. The weight of the solute in 1 kg H_2SO_4 solution is:

| | | | |
|-----------|-----------|-----------|---------|
| (a) 900 g | (b) 469 g | (c) 882 g | (d) 9 g |
|-----------|-----------|-----------|---------|
15. Equivalent weight of KMnO_4 acting as an oxidant in acidic medium is

| | |
|---------------------------------------|---------------------------------------|
| (a) The same as its molecular weight | (b) Half of its molecular weight |
| (c) One-fifth of its molecular weight | (d) One-third of its molecular weight |

Space for Rough Work



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NEET 24 BATCH BIOLOGY : DAILY CLASS TEST

Topics: Body Fluid and Circulation

16. Match the items given in column I with those in column II and select the correct option given below.

| Column I | | Column II | |
|----------|------------|-----------|-------------------|
| A. | Fibrinogen | (i) | Osmotic balance |
| B. | Globulin | (ii) | Blood clotting |
| C. | Albumin | (iii) | Defence mechanism |
| | A | B | C |
| (a) | (iii) | (ii) | (i) |
| (b) | (i) | (ii) | (iii) |
| (c) | (i) | (iii) | (ii) |
| (d) | (ii) | (iii) | (i) |

17. Phagocytosis is shown by

- | | |
|---------------------------------|-------------------------------|
| (a) lymphocytes and neutrophils | (b) monocytes and eosinophils |
| (c) monocytes and basophils | (d) neutrophils and monocytes |

18. Match the items given in column I with those in column II and select the correct option given below:

| Column I | | Column II | |
|----------|------------|-----------|-------------------|
| A. | Fibrinogen | (i) | Osmotic balance |
| B. | Globulin | (ii) | Blood clotting |
| C. | Albumin | (iii) | Defence mechanism |
| | A | B | C |
| (a) | (iii) | (ii) | (i) |
| (b) | (i) | (ii) | (iii) |
| (c) | (i) | (iii) | (ii) |
| (d) | (ii) | (iii) | (i) |



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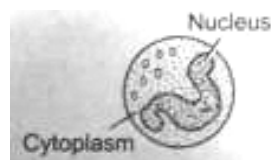
19. What is diapedesis?
- (a) A kind of amoeboid movement
 - (b) The process of filtration of urea in kidney
 - (c) A type of locomotion found in Hydra
 - (d) Migration of WBCs into the tissue spaces from blood capillaries
20. Adult human RBCs are enucleate. Which of the following statement(s) is/are most appropriate explanation for this feature?
- (1) They do not need to reproduce.
 - (2) They are somatic cells.
 - (3) They do not metabolise.
 - (4) All their internal space is available for oxygen transport.
- (a) Only (1) (b) (1), (3) and (4) (c) (2) and (3) (d) Only (4)
21. Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.
- (a) Erythrocytes (b) Leucocytes (c) Neutrophils (d) Thrombocytes
22. Serum differs from blood in
- (a) lacking globulins (b) lacking albumins
 - (c) lacking clotting factors (d) lacking antibodies
23. The granulocytes which secrete histamine, serotonin and heparin are
- (a) neutrophils (b) basophils (c) eosinophils (d) lymphocytes
 - (e) monocytes
24. Mature RBCs lose their ability for
- (a) DNA replication
 - (b) Anaerobic respiration
 - (c) Aerobic respiration and DNA replication
 - (d) Aerobic respiration, DNA replication and RNA synthesizing machinery



25. Select the incorrect statement out of the following.
- Neutrophils constitute the majority of leucocytes
 - Eosinophils resist infection
 - Basophils secrete histamine and serotonin
 - RBCs in mammals are enucleated and biconvex in shape
26. The condition where bone marrow stops producing WBCs is called
- anaemia
 - leukacmia
 - leucopenia
 - leukoplakia
27. Identity the given figure and select the correct option.



- Neutrophil – phagocytic cell which destroy foreign organisms entering the body
 - Eosinophil – their number increases during allergic infection
 - Lymphocyte – small sized non-motile and non-phagocytic
 - Monocyte – motile and phagocytic in nature
28. Megakaryocytes, special cells in the bone marrow that produce cell fragments are called
- leucocytes
 - erythrocytes
 - thrombocytes
 - fibrinogen
29. Which blood cells can engulf bacteria by phagocytosis?
- Eosinophils and Basophiles
 - Basophils and Lymphocytes
 - Neutrophils and Monocytes
 - Neutrophils and Lymphocytes
30. The figure shows a human blood cell. Identify it and give its characteristics.



- | Blood cell | Characteristics |
|------------------|---|
| (a) Basophil | Secretes serotonin, inflammatory |
| (b) B-lymphocyte | Forms about 20% of blood cells, involved in immune response |
| (c) Neutrophil | Most abundant blood cells, phagocytic |
| (d) Monocyte | Life span of 3 days, produces antibodies |

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NEET 24 BATCH
CHEMISTRY : DCT ANSWER KEY
Topic: Atomic Structure (Till Lecture 3) + Mole Concept (Full)

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

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NEET 24 BATCH
BIOLOGY : DCT ANSWER KEY
Topics: Body Fluid and Circulation

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