MCQ – Respiration

Answers are shown in Bold

1.Mammalian RBC respire anaerobically because
   a. It has stroma inside
   b. It has Haemoglobin
   c. It lacks Mitochondria
   d. It has bicarbonate ions inside

2. Tracheal respiration is found in
   a. Insects and Millipedes
   b. Scorpion and Prawn
   c. Pila and Lobuster
   d. Starfish and Sea cucumber

3. Wall of Larynx is supported by the cartilage
   a. Cricoid
   b. Thyroid
   c. Artynoid
   d. All these

4. Residual volume of the lung is
   a. 1200 ml
   b. 1500 ml
   c. 4500 ml
   d. 500 ml

5. Partial pressure of O2 in the inspired air is 156 mm Hg and that of CO2 is
   a. 0.3 mm Hg
   b. 0.5 mm Hg
   c. 140 mm Hg
   d. 46 mmHg

6. Chlorocruorin is a copper containing blood pigment found in some annelids like Sabella. Its colour in both oxygenated and deoxygenated states is
   a. Blue
   b. Red
   c. Green
   d. Blue red

7. Expiratory muscles contract at the time of
   a. Deep inspiration
   b. Normal inspiration and Expiration
   c. Forceful expiration
   d. Normal expiration

8. Inflamation of the lung covering causing severe chest pain is
   a. Emphysema
   b. Pleurisy
   c. Asphyxia
   d. Hypoxia

9. Tidal volume in Man is
   a. 500 ml
   b. 1500 ml
   c. 1200 ml

d. 4500 ml

10. Partial pressure of Oxygen in the inspired and expired air is respectively
    - **a. 158 and 116 mm Hg**
    - b. 158 and 40 mm Hg
    - c. 100 and 95 nn Hg
    - d. 40 and 95 mm Hg
11. In human beings , partial pressure of carbon dioxide in the inspired and expired air respectively
    - **a. 0.3 and 40 mm Hg**
    - b. 0.3 and 32 mm Hg
    - c. 40 and 46 mm Hg
    - d. 40 and 0.3 mm Hg
12. Respiratory Quotient is not less than one in
    - **a. Carbohydrates**
    - b. Proteins
    - c. Fats
    - d. Normal diet
13. The impulse for voluntary muscles for forceful breathing starts in
    - **a. Medulla (Pons)**
    - b. Vagus nerve
    - c. Cerebral hemispheres
    - d. Spinal cord
14. Fick's law of diffusion is related to
    - **a. Diffusion and Surface area**
    - b. Diffusion and membrane potential
    - c. Diffusion and water content
    - d. Diffusion and pore diameter
15. The Pseudostratified ciliated columnar epithelium lining the trachea is composed of
    - a. Goblet cells
    - b. Macrophages
    - c. Fibroblast
    - **d. All these**
16. The chief difference between Trachea and Bronchioles is
    - a. Trachea lacks cartilage
    - **b. Bronchiole lacks cartilage**
    - c. Trachea is long
    - d. Bronchiole is small
17. Diaphragm is supplied with Phrenic nerve and is involved in
    - a. Inspiration
    - b. Parturition
    - c. Micturition and Defecation
    - **d. All these**
18. Dead air is not involved in respiration because
    - a. It is very low quantity
    - **b. It is trapped in nasal passage**
    - c. It contains less Oxygen
    - d. It is present deep in the lungs
19. Pulmonary ventilation is
    - **a. Tidal volume + Respiratory rate**
    - b. Tidal volume + Vital capacity
    - c. Tidal volume + Residual volume

d. Tidal volume + Inspiratory reserve volume

20. Pneumotaxic center is
    a. Inhibitory
    b. Accelatory
    c. Activating
    d. None of these

21. Hering Breur Reflex serves as a protective mechanism to prevent
    a. Tracheal collapsing
    b. Excess lung inflation
    c. Excess oxygenation
    d. All these

22. Oxygen dissociation curve shows the relation between
    a. Oxyhemoglobin saturation and Oxygen tension
    b. Oxyhemoglobin saturation and Carbon dioxide level
    c. Oxyhemoglobin formation and dissociation
    d. Partial pressure of Oxygen and Partial pressure of Carbon dioxide

23. Hemoglobin affinity for Oxygen is ……to the P50 (O2 tension that produces 50% saturation of Hb)
    a. Directly related
    b. Inversely related
    c. Not related
    d. Related

24. When Bohr effect occurs due to increased CO2 tension, Oxygen affinity of Hb decreases . The reason for increased
    CO2 tension is
    a. Increase in P50
    b. Decrease in P50
    c. High CO2 content
    d. High O2 content

25. Chloride shift occurs from the plasma to the RBC and is meant for
    a. Formation of Hemoglobinic acid
    b. Formation of Bicarbonates
    c. To keep electrostatic neutrality of RBC menbrane
    d. To transport CO2

26. Haldane effect refers to
    a. Increased CO2 uptake to minimize CO2 tension
    b. Increased O2 tension
    c. Decreased CO2 tension
    d. Decreases O2 tension

27. Bohr effect shifts the O2 – Hb dissociation curve to right
    a. **To promote oxygenation of Hb in lungs**
    b. To increase O2 concentration
    c. To decrease CO2 concentration
    d. To decrease the pH of blood

28. Foetal hemoglobin has great affinity than adult hemoglobin because
    a. It binds 2,3 DPG less avidity by Gamma polypeptide chain than HbA
    b. Its concentration is very high
    c. Foetal blood gets oxygen from the mother
    d. Its polypetide chains bind very fast with Oxygen

29. 2,3 DPG (Diphospho glycerate) is an important molecule that compete for Oxygen binding sites of Hemoglobin. It is present in

a. Blood Plasma
b. Erythrocytes
c. Leucocytes
d. Blood of lungs

30. 2,3 DPG causes shifting of Oxygen dissociation curve in Adult Hb to Right because

a. It increases Oxygen affinity for Hemoglobin
b. It binds to Beta chain of Hb
c. Its concentration is high in adults
d. It lacks Hb binding sites

31. Methamoglobin is the oxidized form of Hemoglobin that can not deliver oxygen and has a Bluish colour that impart a Cyanotic hue to tissues. It appears when

a. In the genetic deficiency of Glucose – 6 phosphate dehydrogenase
b. At the time of Asphyxiation
c. At the time of Diving
d. Both a and b

32. Double Bohr effect (Oxygen curves for maternal and foetal Hb move apart in opposite directions) occurs in

a. Foetal circulation
b. Maternal circulation
c. In the Placenta operating in both maternal and foetal circulations
d. In the uterine wall

33. Advantage of Double Bohr effect is

a. Reciprocal exchange of Oxygen for Carbon dioxide
b. More Oxygenation of Foetal blood
c. More removal of Carbon dioxide
d. All these

34. Foetal hemoglobin has a Sigmoid dissociation curve which is shifted to left relative to adult Hb because

a. Foetal Hb has higher P50
b. Foetal HB has lower P50 (18-20 mm Hg) than Adult Hb (26.6 mm.Hg)
c. Foetal Hb readily accept Oxygen
d. Foetal Hb easily remove Carbon dioxide

35. 2,3 DPG is synthesized from 3- phosphoglyceraldehyde through

a. Embden – Meyerhof pathway
b. Krebs – Hensleit cycle
c. Hexose monophosphate shunt
d. Cori cycle

36. At high altitude, the number of RBC increases

a. To trap O2 from rarefied air having low PO2
b. To adapt with the oxygen deficiency
c. To remove more CO2
d. To increase metabolism

37. Which of the following Hormone is secreted in excess when a person climbing a mountain

a. Anti Natriuretic Factor
b. Adrelaline
c. Erythropoietin
d. Thyroxine

38. TB skin test is called " Scatch test or Mantoux test " in which Tuberculin Purified Protein Derivative (PPD) is injected sub cutaneously

This test is based on

a. Delayed Hypersensitivity
b. Production of antibodies
c. Production of Tubercle toxin
d. All these

39. Which one is a Non – reversible pulmonary disease in which the bronchi are blocked with mucous and infection and

rupture of alveoli

a. Silicosis
b. Asphyxia
c. Emphysema
d. Embolism

40. In which part of the body Mycobacterium tuberculosis affects

a. Lungs
b. Skin and Meninges
c. Intestine
d. All these

41. The common drugs used against TB is

a. Para amino salicylic acid (PAS)
b. Ethambutol
c. Steptomycin
d. All these

42. Most of the Antibiotics against Tb are not effective as the Tubercle bacterium has a resistive covering. One of the

following drug is effectively used to control TB

a. Ethambutol
b. Streptomycin
c. Rifampicin
d. Penicillin

43. Bovine tuberculosis is transmitted from cow to man through

a. Contact
b. Milk
c. Contamination of water with infected urine
d. Meat

44. Carbonic anhydrase in the RBC is the fastest enzyme and it decompose in one second for fast action. Its concentration

in the blood due to the presence of

a. Plasma
b. Carbon dioxide
c. Sodium ions
d. Hemoglobin

45. Respiratory alkalosis is the increase in blood Ph and can be treated using the drug Acetazolamide which blocks

Carbonic anhydrase enzyme. The main cause of Respiratory alkalosis is

a. Hypoventilation
b. Hyperventilation
c. Low Carbon dioxide level
d. High HB content

46. In Carbon monoxide poisoning, Hemoglobin shows about 250 times greater affinity with CO_2 than oxygen and

Carbonmonoxyheamoglobin(COHb). This causes Oxygen starvation and Asphyxia. The immediate remedy is

a. Giving pure Oxygen
b. Dialysis
c. Giving pure Oxygen – Carbon dioxide mixture
d. Transfusing blood

47. Which of the following gas mixture is used by Divers to prevent Oxygen toxicity

a. Oxygen and Co2
b. Oxygen and Nitrogen
c. Oxygen and rare gases
d. Oxygen, CO_2 and Nitrogen

48. Myoglobin is a muscle hemoglobin which exhibits Hyperbolic oxygen dissociation curve indicating its great affinity

towards Oxygen (Non cooperative binding). The Hyperbolic nature of the curve is due to

a. Single polypeptide (153 amino acids) and Monomeric nature
b. High concentration in the muscle
c. Muscle protein
d. Quarternary structure

49. Chronic Obstructive Pulmonary Disease (COPD) includes

a. Emphysema
b. Bronchitis
c. Asthma
d. All these

50. Hiccup is due to

a. Increased inspiration
b. Irritation of Phrenic nerve
c. Expanded stomach
d. Acidity in the stomach

1. Pinnaglobin is a brown coloured blood pigment present in the plasma of the mollusk Pinna. It contains
   a. Iron
   b. Copper
   c. Manganese
   d. Vanadium
2. Cloacal respiration is found in
   a. Snake
   b. Turtle and Tortoise
   c. Crocodile
   d. Frog
3. Rectal respiration is seen in
   a. Cockroach
   b. Spider
   c. Niads of Dragon fly
   d. Water flea
4. Plastron is the air bubble carrying respiratory air in the abdomen of
   a. Belostoma
   b. Nepa (Water boat man)

c. Chironomous
d. Mosquito

5. Opercular gills are found in
   a. Lepidosteus
   b. Polypterus
   c. Anabas
   d. Both a and b
6. Spirometry is used
   a. To detect the amount of Hemoglobin
   b. To detect the air flow through the respiratory system
   c. To check the respiratory quotient
   d. None of these
7. The Bronchial tree is connected with the brain by
   a. Trochlear nerve
   b. Trigeminal nerve
   c. Phrenic nerve
   d. Vagus nerve
8. Tachypnoea means
   a. Rapid shallow breathing
   b. Rapid deep breathing
   c. Slow and shallow breathing
   d. Slow and deep breathing
9. The combination of Hemoglobin with Oxygen in the blood can be promoted by
   a. Decreasing O2 concentration
   b. Increasing O2 concentration
   c. Increasing CO2 concentration
   d. Decreasing CO2 concentration
10. Semilunar cartilage inside the Laryngo tracheal chamber is
    a. Arytenoid
    b. Cricoid
    c. Sternohyal
    d. Petrohyal
11. The Alveolar epithelium is lined with
    a. Non- ciliated Squamous epithelium
    b. Ciliated Squamous epithelium
    c. Ciliated epithelium
    d. Ciliated Columnar epithelium
12. During transportation of Carbon dioxide, blood will not become acidic, because
    a. It contains hemoglobin
    b. It contains Hemoglobinc acid
    c. It contains Buffers
    d. It contains high CO2