NEET : CHAPTER WISE TEST-14

SUBJECT :- BIOLOGY **DATE.....**
CLASS :- 11th **NAME.....**
CHAPTER :- BREATHING & EXCHANGE OF GASES **SECTION.....**

(SECTION-A)

1. Antennal glands or green glands are the respiratory organs of
(A) Echinoderms
(B) Crustaceans like prawns
(C) Insects like cockroach
(D) Planarians

2. Which of the following part of the respiratory tract does not have cartilaginous rings in its wall?
(A) Trachea
(B) Primary bronchi
(C) Secondary bronchi
(D) Respiratory bronchiole

3. All of the following form conducting part of the respiratory tract, except
(A) Trachea
(B) Secondary bronchi
(C) Respiratory bronchiole
(D) Terminal bronchiole

4. One common feature between trachea of man and trachea of cockroach is that both
(A) Are branched and paired
(B) Have chitinous rings
(C) Have non-collapsible walls
(D) Have compound epithelium

5. Which of the following is an incorrect statement w.r.t.lungs?
(A) They are thin vascularized, irregular-walled bag-like de structures.
(B) They provide high surface area for gaseous exchange.
(C) They are lined with simple columnar epithelium
(D) There are 300-350 million alveoli in each lung.

6. The muscular spasm of_____ causes hiccup.
(A) Trachea (B) Pharynx
(C) Diaphragm (D) Glottis

7. _____is an abnormal collection of air in the pleural space between the lungs and the chest wall.
(A) Hydrothorax (B) Pneumothorax
(C) Chylothorax (D) Pneumonia

8. The inner alveolar surface area of lungs is
(A) 10 m² (B) 90 m²
(C) 250 m² (D) 600 m²

9. The volume of air inspired or expired during normal respiration is called
(A) Inspiratory capacity
(B) Tidal volume
(C) Inspiratory reserve volume
(D) Vital capacity

10. A spirometer can be used to directly measure
(A) Residual volume
(B) Vital capacity
(C) Functional residual capacity
(D) Total lung capacity

11. Identify the wrong statement:
(A) Phrenic muscles are present in diaphragm.
(B) During inspiration, diaphragm contracts and becomes dome shaped.
(C) Vital capacity is higher in males than in females.
(D) Residual volume is present in our lungs after forceful expiration.

12. The lowest mechanical efforts are required in the respiration of
(A) Vital capacity
(B) Expiratory reserve volume
(C) Inspiratory reserve volume
(D) Tidal volume

13. Which of the following event is observed during normal expiration?
(A) Contraction of diaphragm
(B) Contraction of external intercostal muscles
(C) Relaxation of diaphragm
(D) Rise in the volume of thoracic cavity

14. Which of the following is incorrect w.r.t. total lung capacity (TLC)?
(A) IRV+TV+ ERV + RV
(B) IC + FRC
(C) EC+ FRC
(D) VC + RV

15. The additional volume of air a person can inspire by forcible inspiration is
(A) Inspiratory capacity
(B) Inspiratory reserve volume
(C) 2.5-3 L
(D) Both (B) and (C)

16. Vital capacity refers to
(A) Maximum volume of air a person can breathe in after a forced expiration
(B) Maximum volume of air a person can breathe out after a forced inspiration.
(C) ERV+TV+ IRV
(D) All of the above

17. In alveoli of lungs, the rate of diffusion is affected by
(A) Solubility of gases
(B) Thickness of the membranes
(C) Both of the above
(D) None of the above

18. Identify the wrong statement:
(A) In lungs, gaseous exchange takes place by diffusion.
(B) The solubility of oxygen is 20-25 times higher than that of carbon dioxide.
(C) The thickness of diffusion membrane is less than a millimetre.
(D) The amount of CO_2 that can diffuse through the diffusion membrane per unit difference in partial pressure is much higher compared to that of O_2.

19. Read the following statements:
(i) Amount of oxygen transported by one gram of haemoglobin is 1.34 mL.
(ii) A molecule of haemoglobin carries four oxygen molecules.
(iii) The globin component of haemoglobin has iron to carry oxygen.
(iv) The partial pressure of oxygen in the inhaled air is 104 mmHg.
Which of the above statement are in correct.
(A) (i) and (ii) (B) (iii) and (iv)
(C) (i) and (iii) (D) (ii) and (iv)

20. Maximum CO_2 is transported as
(A) Carbaminohaemoglobin
(B) Sodium bicarbonate in plasma
(C) Potassium bicarbonate in plasma
(D) Dissolved in plasma

21. The oxyhaemoglobin dissociation curve shifts to left, if
(A) pH falls
(B) pH increases
(C) Levels of CO_2 increases
(D) Temperature increases

22. Carbon monoxide combines with haemoglobin to form
(A) Carbaminohaemoglobin
(B) Carboxyhaemoglobin
(C) Oxyhaemoglobin
(D) Deoxyhaemoglobin

23. Which of the following describes the Bohr's effect?
(A) The effect of oxygen on carbaminohaemoglobin.
(B) The effect of carbon monoxide on oxyhaemoglobin.
(C) The effect of carbon dioxide on oxyhaemoglobin
(D) The effect of carbon dioxide on RBCs.

24. Which of the following is correct w.r.t. the transport of CO_2 with haemoglobin?
(A) CO_2 combines with globin of haemoglobin to form carbaminohaemoglobin.
(B) 20-25% of CO_2 is transported with haemoglobin.
(C) CO_2 combines reversibly with haemoglobin.
(D) All of these are correct.

25. When pCO_2 is high and pO_2 is low as in the tissues _____binding of carbon dioxide occurs with haemoglobin.
(A) Less (B) More
(C) No (D) Very little

26. The amino acid present in haemoglobin that is responsible for its buffering action is_____.
(A) Tryptophan (B) Histidine
(C) Alanine (D) Methionine

27. Chloride shift is essential for CO_2 transport. It refers to the movement of chloride ions
(A) From RBC into plasma
(B) From plasma into RBCs
(C) In systemic capillaries allowing movement of HCO^-_3 from RBC to plasma
(D) More than one option is correct

28. Which of the following is an incorrect statement?
(A) Oxygen in expired air is 16%.
(B) Haemoglobin has the ability to bind reversibly with oxygen.
(C) Carbonic anhydrase uses magnesium as cofactor.
(D) PCO, of alveolar air is 40 mmHg.

29. The partial pressure of oxygen (pO_2) in deoxygenated blood is
(A) More than the pO_2 in alveolar air
(B) Equal to the pCO_2 in alveolar air
(C) Less than pCO_2 in atmospheric air
(D) More than pCO_2 in deoxygenated blood

30. The haem component of haemoglobin transports
(A) CO_2 only
(B) O_2 only
(C) O_2 and CO_2
(D) Neither O_2 nor CO_2

31. Which of the following is incorrect?
(A) pO_2 and pCO_2 of alveolar air is 104 mmHg and 40 mmHg, respectively.
(B) pO_2 and pCO_2 of inhaled air is 159 mmHg and 40 mmHg, respectively.
(C) pO_2 and pCO_2 of deoxygenated blood is 40 mmHg and 45 mmHg, respectively.
(D) pO_2 and pCO_2 of exhaled air is 116 mmHg and 32 mmHg, respectively.

32. A large proportion of oxygen is left unused in the human blood even after its uptake by the body tissues. This oxygen
(A) Helps in releasing more oxygen to the epithelial tissues
(B) Acts as a reservoir during muscular exercise
(C) Raises the pCO_2 of blood to 75 mmHg
(D) Is enough to keep oxyhaemoglobin saturation at 96%

33. Which of the following is/are observed during acclimatisation of body at high altitude?
(A) Increase secretion of erythropoietin by kidneys.
(B) Increase in RBC count in blood.
(C) Increase in level of 2,3-diphosphoglycerate in blood.
(D) All of these.

34. Which of the following events are seen when a person moves to high altitude?
(i) Breathing rate increases.
(ii) Binding capacity of haemoglobin with oxygen decreases.
(iii) The po, in alveolar air is reduced, so the diffusion of oxygen from the alveolar air into blood also reduces.
(iv) RBC production increases in body to compensate for low oxygen availability.
(A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (ii) and (iv) only
(D) (i), (ii), (iii), and (iv)

35. Maximum amount of oxygen transported by 500 mL of blood during strenuous physical activity is
(A) 75 ML (B) 150 mL
(C) 50 mL (D) 200 mL

(SECTION-B)

36. Find out the incorrect match:
(A) Dyspnoea - Laboured breathing
(B) Tachypnea - Normal breathing
(C) Eupnea - Ordinary quite breathing
(D) Apnea - Absence of breathing

37. Neural signals from pneumotaxic centre
(A) Increases the duration of inspiration
(B) Reduces the duration of inspiration
(C) Alters the respiratory rate
(D) Both (B) and (C)

38. Deficiency of_____ can cause emphysema.
(A) Thrombokinase
(B) PDGF (Platelet Derived Growth Factor)
(C) a-1-antitrypsin
(D) Mucin

39. The complete or partial collapse of a lung or a section of lung is called
(A) Asthma (B) Atelectasis
(C) Emphysema (D) Asphyxia

40. Identify the wrong statement:
(A) Asthma is caused due to spasm of bronchial muscles.
(B) Yawning occurs due to excess of oxygen.
(C) Pneumotaxic centre for respiration is located in pons.
(D) Respiratory rhythm centre is located in medulla region of brain.

41. Chemosensitive area situated adjacent to the respiratory rhythm centre is highly sensitive to
(A) CO_2 (B) Hydrogen ions
(C) Both (A) and (B) (D) Oxygen only

42. Chemoreceptors located in medulla are stimulated by
(A) Increased CO_2 in arterial blood
(B) Decreased CO_2 in arterial blood
(C) Increased O_2 in arterial blood
(D) Decreased O_2 in arterial blood

43. If the pneumotaxic centre of pons gives strong signals, then it will cause all of the following except
(A) Rapid breathing
(B) Reduced duration of inspiration
(C) Partial filling of lungs
(D) Complete filling of lungs

44. In industries involving grinding or stone breaking, chronic exposure to dust particles causes
(A) Damage to alveolar walls
(B) Spasm of bronchial muscles
(C) Accumulation of fluid in pleural cavity
(D) Inflammation leading to fibrosis in upper parts of lungs

45. Hyperventilation leads to stoppage of breathing for a brief period. This occurs due to
(A) Increase in oxygen level in blood
(B) Decrease in oxygen level in blood
(C) Increase in carbon dioxide level in blood
(D) Decrease in carbon dioxide level in blood

46. _____hypoxia is seen in patients with heart failure.
(A) Anaemic (B) Stagnant
(C) Cytotoxic (D) Hypoxic

47. The occupational lung disease seen in workers of Coal mines is
(A) Asbestosis
(B) Pneumoconiosis
(C) Silicosis
(D) Byssinosis

48. Hering-Breuer reflexes help to
(A) Transport oxygen in blood
(B) Prevent over inflation of lungs
(C) Prevent coughing due to obstruction in bronchioles
(D) Reduce respiratory rate

49. The allergic disease in which patient experiences difficulty in breathing, causing wheezing due to inflammation of bronchi and bronchioles is
(A) Emphysema (B) Common cold
(C) Asthma (D) Diphtheria

50. The bluish or purplish discolouration of the skin or mucous membranes due to low oxygen saturation is called
(A) Orthopnea (B) Cyanosis
(C) Tachypnea (D) Hypoxia