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CHAPTER

GASEOUS EXCHANGE

- Which of the following is irrelevant?**
(A) Breathing (B) Ventilation
(C) Organismic respiration (D) Cellular respiration
- In which of the following processes ATP is produced?**
(A) Breathing (B) Ventilation
(C) Organismic respiration (D) Cellular respiration
- Lenticels are present in:**
(A) Leaves (B) Roots
(C) Bark (D) Stem
- Number of stomata per square centimeter of a leaf are:**
(A) 10,000 (B) 12,000
(C) 14,000 (D) 16,000
- The respiratory activity during day time is called:**
(A) Organismic respiration (B) Cellular respiration
(C) Photophosphorylation (D) None of above
- During photophosphorylation Rubisco acts as:**
(A) Carboxylase (B) Dehydrogenase
(C) Oxygenase (D) None of above
- The percentage of rubisco in the leave is:**
(A) 10% (B) 20%
(C) 30% (D) 40%

8. Which of the following compounds is not produced during photorespiration?
(A) Serine (B) Glycine
(C) Glucose (D) Glycolate
9. Number of ATP produced during photorespiration is:
(A) 36 (B) 26
(C) 16 (D) None the above
10. Which of the followings is the property of the respiratory surface of animals?
(A) Thin epithelium (B) Ventilation
(C) Capillary network (D) All the above
11. Which of the following structures is not involved for the absorption of oxygen in cockroach?
(A) Tracheae (B) Skin
(C) Spiracles (D) Tracheoles
12. Air enters into the body of cockroach through:
(A) Tracheae (B) Skin
(C) Spiracles (D) Tracheoles
13. The respiratory organs in fishes are:
(A) Lungs (B) Air sac
(C) Gills (D) Tracheae
14. Which type of respiration takes place in frogs?
(A) Cutaneous (B) Buccal
(C) Pulmonary (D) All of above
15. Which of the following special structures is present in the respiratory system of man?
(A) Bronchi (B) Parabronchi
(C) Alveoli (D) Bronchi
16. Which of the following structures is responsible for one-way flow of air in birds?
(A) Bronchi (B) Air sac
(C) Alveoli (D) Bronchi

17. Which of the following structures is also called voice box?
(A) Nose (B) Pharynx
(C) Larynx (D) Tracheae
18. The structures with a diameter less than 1mm are:
(A) Bronchioles (B) Bronchi
(C) Alveoli (D) Air sac
19. The sheet of skeletal muscles between abdominal and thoracic cavity is called:
(A) Pleura (B) Diaphragm
(C) Air sac (D) Alveoli
20. Which of the followings is unit of lungs?
(A) Bronchioles (B) Bronchi
(C) Alveoli (D) Air sac
21. The maximum capacity of 100 ml blood to absorb oxygen is:
(A) 10 ml (B) 20 ml
(C) 30 ml (D) 40 ml
22. Which of the following factors decrease the oxygen saturation of haemoglobin?
(A) CO₂ (B) Temperature
(C) pH of blood (D) All the above
23. The carbon dioxide transported in the form of carbonate ions is:
(A) 30% (B) 50%
(C) 70% (D) 90%
24. Asthma releases which of the following compounds?
(A) Epinephrine (B) Histamine
(C) Heparin (D) Antibodies
25. The break down of alveoli is called:
(A) Tuberculosis (B) Asthma
(C) Emphysema (D) Cancer
26. The amount of oxygen in exhaled air is:
(A) 12% (B) 14%
(C) 16% (D) 18%

27. **The total lung capacity is:**
- (A) 3 liters (B) 5 liters
(C) 7 liters (D) 9 liters
28. **Which of the followings is not respiration?**
- (A) Exchange of gases (B) Break down of glucose
(C) Formation of glucose (D) Release of energy
29. **Which step does not take place during cellular respiration?**
- (A) Exchange of gases (B) Break down of glucose
(C) Formation of glucose (D) Release of energy
30. **The exchange of gases is more rapid in air than the water due to:**
- (A) Presence of water in liquid form but air in gases form
(B) The rate of diffusion is high in air than the water
(C) Air block the movement of oxygen and carbon dioxide
(D) None of the above
31. **It is estimated that in number stomata peer square centimeter are is:**
- (A) 10,000 (B) 12,000
(C) 15,000 (D) 20,000
32. **The lenticels are:**
- (A) Special cells present in the stem (B) Special cells present in the leaves
(C) Special pores present in the stem (D) Special pores present in the leaves
33. **Photorespiration is an activity which:**
- (A) Takes place in the presence of light
(B) Takes place in dark
(C) Can take place both in light and dark
(D) None of the above
34. **During photorespiration rubisco acts as:**
- (A) Carboxylase (B) Oxygenase
(C) Hydrogenase (D) Dehydrogenases

35. **During photosynthesis the rubisco acts as:**
(A) Carboxylase (B) Oxygenase
(C) Hydrogenase (D) Dehydrogenases
36. **The most abundant protein in world is:**
(A) Haemoglobin (B) Rubisco
(C) Fiber (D) Egg protein
37. **In which of the following, reactions of photorespiration do not take place?**
(A) Chloroplast (B) Mitochondria
(C) Peroxisome (D) Cytoplasm
38. **Which of the followings is true about photorespiration?**
(A) It produces ATP (B) It uses ATP
(C) It neither produce nor use ATP (D) None of the above
39. **The significance of the photorespiration is:**
(A) It produces energy (B) It produces glucose
(C) It destroy glucose (D) It has no significance for plant
40. **Which of the followings is not property of the respiratory surface of hydra:**
(A) Large surface and moisture (B) Thick epithelium
(C) Gradient of gases (D) Capillary network
41. **Which of the of followings is not respiratory surface of hydra:**
(A) Ectodermal cells (B) Endodermal cells
(C) Mesoglea (D) All the above
42. **The respiratory surface of the Cockroach is:**
(A) Trachea (B) Tracheoles
(C) Spirachles (D) Fluid filled ducts
43. **The gases are transported in cockroach through:**
(A) Blood (B) Trachea
(C) Spiracles (D) None of above
44. **The respiratory surface of the fishes is:**
(A) Gill (B) Gill slits
(C) Lungs (D) None of above

45. **The passage of water current in fishes is:**
(A) Mouth-pharynx-gill-gill slits (B) Gill slits-gill-pharynx-mouth
(C) Pharynx-gill-mouth-gill slits (D) None of the above
46. **Which type of respiration takes place through skin in frog?**
(A) Cutaneous respiration (B) Buccal respiration
(C) Pulmonary respiration (D) None of the above
47. **Which is not true about the respiratory system of birds?**
(A) It is composed of lung (B) Lungs are composed of alveoli
(C) Lungs have air sac (D) Lungs have one way flow of gases
48. **In countercurrent flow of blood and air:**
(A) The direction of flow of blood and air is in the same direction
(B) The direction of flow of blood and air is in the opposite direction
(C) The direction of flow of blood and air is in the both directions
(D) None of the above
49. **The respiratory system of the bird is more efficient than the mammals because:**
(A) It have air sacs (B) It has one way flow of gases
(C) It does not have alveoli (D) It has countercurrent flow
50. **Which of followings is not the function of nasal cavity?**
(A) Moisten the air (B) Warm or cool the air
(C) Exchange of some gases (D) Removing dust particles
51. **The opening of the larynx is called:**
(A) Epiglottis (B) Glottis
(C) Gullet (D) Vocal sac
52. **Which of the following structures is present in birds but absent in mammals?**
(A) Lung (B) Trachea
(C) Bronchi (D) Parabronchi
53. **The wall of chest cavity is composed of:**
(A) Ribs (B) Intercostal muscles
(C) Both A and B (D) Diaphragm

54. **The lungs are covered by a double membrane called:**
(A) Pleura (B) Diaphragm
(C) Intercostal muscles (D) None of the above
55. **The process of inspiration takes place as:**
(A) The lungs pull air inside
(B) Passive contraction of lungs takes place
(C) Passive expansion of lungs takes place
(D) Air is pushed inside
56. **During inspiration the diaphragm:**
(A) Contracts (B) Relaxes
(C) Contracts and relaxes (D) None of the above
57. **Which of the following processes does not take place during expiration?**
(A) The intercostals muscles are relaxed
(B) The ribs are relaxed
(C) The muscles of the diaphragm relaxed
(D) The lungs are also relaxed
58. **The maximum capacity of the haemoglobin to absorb oxygen is:**
(A) 19.6 ml / 100 ml blood (B) 20 ml /100ml blood
(C) 22 ml / 100 ml of blood (D) 25 ml / 100 ml blood
59. **The oxygen pressure in many of the cells is:**
(A) 40 mm Hg (B) 50 mm Hg
(C) 60 mm Hg (D) None of above
60. **Which of the following factors increases the carrying capacity of blood?**
(A) High concentration of carbon dioxide
(B) High concentration of oxygen
(C) High temperature
(D) Low pH
61. **Most of carbon dioxide is transported in the form of:**
(A) Carboxyhaemoglobin (B) With plasma proteins
(C) Bicarbonate ion (D) In dissolved form

62. **The venous blood in tissues has carbon dioxide:**
(A) 50 ml/100ml of blood (B) 54ml/100ml of blood
(C) 45ml/100ml of blood (D) 35/ml/100ml of blood
63. **Cancer is caused by metastasis which is a process where:**
(A) One cell controls the activities of the others
(B) One cell transfers its activities to the others
(C) One cell destroys the other cells
(D) One cell transfers germs to another cell
64. **Cancer is basically a malignant tumor. Which can:**
(A) Control the other cells (B) Spread in all the body
(C) Remains in specific place (D) All of the above
65. **An inflammatory substance released during the attack of asthma is:**
(A) Mycobacterium (B) Salmonella
(C) Clostridium (D) Azobactor
66. **An inflammatory substance released during the attack of asthma is:**
(A) Interferon (B) Complement proteins
(C) Histamine (D) Acetylcholine
67. **Which of the followings is a condition of emphysema?**
(A) Breakdown of the blood capillaries in lungs
(B) Breakdown of the alveoli in the lungs
(C) Breakdown of pleura of the lungs
(D) None of the above
68. **The haemoglobin can carry:**
(A) One molecule of oxygen (B) Two molecules of oxygen
(C) Three molecules of oxygen (D) Four molecule of oxygen
69. **The hemoglobin can carry:**
(A) One molecule of oxygen (B) Two molecules of oxygen
(C) Three molecules of oxygen (D) Four molecule of oxygen

70. **The residual volume of the lungs is a volume:**
- (A) Which is a maximum amount always present in the lungs
 - (B) Which is a minimum amount always present in the lung
 - (C) Which is a variable volume, keep on changing
 - (D) None of the above
71. **Which of the following characteristics is not shown by the diving mammals during act of diving?**
- (A) They have twice volume of blood
 - (B) Their rate of heart beat slow down
 - (C) The consumption of energy is increased
 - (D) Most of the blood go to heart and brain
72. **Water is denser than air:**
- (A) 8000 times
 - (B) 800 times
 - (C) 80,000 times
 - (D) 1800 times
73. **Xylem and phloem are not involved:**
- (A) In transport of liquids
 - (B) In transport of minerals
 - (C) In transport of gases
 - (D) In transport of water
74. **In the peroxisomes the glycolate is converted into:**
- (A) Serine
 - (B) CO₂
 - (C) Ethanolamine
 - (D) Glycine
75. **The main tracheal trunk in cockroach communicates with exterior by:**
- (A) 8 pairs
 - (B) 4 pairs
 - (C) 10 pairs
 - (D) 100 pairs
76. **The heart of the fish is single circuit and the blood flows in:**
- (A) One and two directions
 - (B) Two directions
 - (C) Reverse direction
 - (D) One direction
77. **Walls of the chest cavity are composed of:**
- (A) Intercostal muscle
 - (B) Ribs, intercostal muscles and diaphragm
 - (C) Ribs and intercostal muscle
 - (D) Ribs

78. **The normal human blood is about:**
(A) 02 ml / 100 ml of blood (B) 200 ml / 100 ml of blood
(C) 20 ml / 100 ml of blood (D) 19.6 ml / 100 ml of blood
79. **When blood leaves the capillary bed most of the carbon dioxide is in the form of:**
(A) Hydroxyl ions (B) Carbonate ions
(C) Hydrogen ions (D) Bicarbonate ions
80. **The irritant substances of smoke generally cause:**
(A) Smokers yawning (B) Smoker's hiccough
(C) Smoker's cough (D) Smoker's sneeze
81. **During exercise the breathing rate may rise to:**
(A) 30 times per minutes (B) 35 times per minutes.
(C) 20 times per minutes (D) 25 times per minute
82. **What is one of the most important metabolic activities of all organism?**
(A) Respiration (B) Photorespiration
(C) Respiratory (D) Earthworm
83. **Exchange of gases during organismic respiration is carried out by :**
(A) Oxygen (B) Glycolate
(C) Tracheole (D) Diffusion
84. **Oxygen content of fresh air is about :**
(A) 200 ml/lit (B) 100 ml/lit
(C) 300 ml/lit (D) 400 ml/lit
85. **What are the main source of exchange of gases in plants?**
(A) Stomata (B) Tracheole
(C) Respiratory (D) RBC
86. **The special pores involved in gaseous exchange:**
(A) Lenticels (B) Stomata
(C) Earthworm (D) Ventilation

87. **Respiratory activity which occurs in plants during day time is called:**
- (A) Respiratory (B) Oxyhaemoglobin
(C) Photorespiration (D) Oxyhaemoglobin
88. **When RUBP reacts oxygen, two carbon compound _____ is produced.**
- (A) Glycolate (B) Oxyhaemoglobin
(C) Ventilation (D) Earthworm
89. **In a hot and dry day level of which of the:**
- (A) Glycolate (B) Organ
(C) Ventilation (D) Oxygen
90. **Which one is inhibited chemically, so that plant can still grow?**
- (A) Photorespiration (B) Photo synthesis
(C) Oxyhemoglobin (D) Respiration
91. **What maintains a step diffusion gradient?**
- (A) Ventilation (B) Parabronchi
(C) Oxyhemoglobi (D) Organ
92. **Hydra has no specialized _____ for respiration.**
- (A) Pumps (B) Parabronchi
(C) Glycolate (D) Organ
93. **Which one is much complex than hydra?**
- (A) Sponge (B) Glycolate
(C) Amoeba (D) Earthworm
94. **Oxygen combines to haemoglobin with form:**
- (A) Respiratory (B) Oxygen
(C) Oxyhemoglobin (D) Organ
95. **Which system of the cockroach is very specialized?**
- (A) Digestive (B) Photo respiration
(C) Respiratory (D) None of the above

96. From the spiracles air enters into trachea and then:
- (A) Bronchiolar (B) Tracheoles
(C) Both A and B (D) None of the above
97. In fiing the pumps heart ————— the blood directly to the.
- (A) RBC (B) Parabronchi
(C) Pleura (D) gills
98. The tiny thin walled ducts present in the lungs of birds are called:
- (A) Oxyhemoglobin (B) Pleura
(C) Parabronchi (D) Earthwarm
99. Lungs are covered with double layered thin membranous sacs called
- (A) Oxyhemoglobin (B) Pleura
(C) Glycolate (D) Earthwarm
100. Carbonic anhydrase is present in:
- (A) RBC (B) Parabronchi
(C) Pleura (D) None of the above
101. Normally at rest we inhale and exhale howmany times per minute?
- (A) 16 – 22 (B) 18 – 25
(C) 15 – 20 (D) 20 – 30
102. Lung capacity in an adult human:
- (A) 2 litres (B) 10
(C) 5 litres (D) 20%
103. Myoglobin is Iron containing protein pigment present in:
- (A) Corncinoma (B) Sheet skeletal muscle
(C) Muscle fibre (D) Both B and C
104. Cancer is basically malignant tumor:
- (A) Muscle fibre (B) 20%
(C) Sheet skeletal muscle (D) Corncinoma

- 105. What percentage of carbon dioxide is carried as carboxy haemoglobin?**
- (A) 15% (B) 10%
(C) 20% (D) 12%
- 106. The floor of chest cavity called diaphragm composed of:**
- (A) 5 litres (B) Corncinoma
(C) Muscle fibre (D) Sheet skeletal muscle
- 107. Diffusion of oxygen in and Carbon dioxide out occurs when:**
- (A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Both A and B
(D) Difference in partial pressure of the gases
- 108. During expiration air is given out when:**
- (A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Soon after its formation diffuses into mitochondria
(D) Voccal cords
- 109. In the glottis the mucous membrane is stretched across into fibrous bands:**
- (A) The muscles of the ribs are contracted
(B) The muscle of the ribs are relaxed
(C) Voccal cords
(D) Difference in partial pressure of the gases
- 110. During inspiration the air enters into the lungs:**
- (A) Difference in partial pressure of the gases
(B) The muscle of the ribs are relaxed
(C) The muscles of the ribs are contracted
(D) None of the above
- 111. Glycine is the simplest amino acid:**
- (A) The muscle of the ribs are relaxed
(B) Soon after its formation diffuses into mitochondria
(C) The muscles of the ribs are contracted
(D) Voccal cords

- 112. Their functional unit of the lungs:**
- (A) Bronchioles
 - (B) Lungs in the land vertebrates
 - (C) Air existing in the spaces between the soil particles
 - (D) Air sac
- 113. Number of stomata present on the leaves:**
- (A) Air existing in the spaces between the soil particles
 - (B) Lungs in the land vertebrates
 - (C) Bronchioles are obstructed as a result of inflammation
 - (D) 12000 per square centimeters of leaf in tobacco plant
- 114. The roots of the land plants get oxygen:**
- (A) Air existing in the spaces between the soil particles
 - (B) Lungs in the land vertebrates
 - (C) Air sac
 - (D) 12000 per square centimeters of leaf in tobacco plant
- 115. In respiratory properties the surface area should be large and moist:**
- (A) Bronchioles are obstructed as a result of inflammation
 - (B) Air existing in the spaces between the soil particles
 - (C) Air sac
 - (D) Lungs in the land vertebrates
- 116. Emphysema produces increased air way resistance:**
- (A) Air sac
 - (B) 12000 per square centimeters of leaf in tobacco plant
 - (C) Air existing in the spaces between the soil particles
 - (D) Bronchioles are obstructed as a result of inflammation
- 117. One polypeptide chain with iron containing ring structure is myoglobin:**
- (A) Cetaceans
 - (B) Regulator of normal alveolar
 - (C) Mycobacterium
 - (D) Stores some oxygen

118. Tuberculosis:

- (A) Cetaceans (B) Regulator of normal alveolar
(C) Mycobacterium (D) Carried as bicarbonate ions

119. 70 % carbondioxide:

- (A) Regulator of normal alveolar (B) Stores some oxygen
(C) Cetaceans (D) Carried as bicarbonate ions

120. Carbon dioxide:

- (A) Cetaceans (B) Regulator of normal alveolar
(C) Stores some oxygen (D) Mycobacterium

121. Aquatic mammals:

- (A) Carried as bicarbonate ions (B) Cetaceans
(C) Mycobacterium (D) Regulator of normal alveolar

