

EXERCISE-I (Conceptual Questions)**Build Up Your Understanding**

1. Zoological name of cockroach is:
 (1) *Glossina palpalis* (2) *Periplaneta americana*
 (3) *Musca nebula* (4) *Apis indica*
2. Diagnostic feature of insects is :
 (1) Segmented body (2) Chitin in body wall
 (3) Three pair of legs (4) One pair compound eyes
3. Which are the two common indian cockroaches ?
 (1) *Periplaneta americana* and *Blatta indica*
 (2) *Periplaneta indica* and *Blatta orientalis*
 (3) *Periplaneta orientalis* and *Blatta americana*
 (4) *Periplaneta americana* and *Blatta on"entalis*
4. Characteristic of group insecta is :
 (1) Joined appendages (2) 3 pair of jointed legs
 (3) Chitinous exoskeleton (4) Compound eyes
5. Scientist who gave the name *Periplaneta* is :
 (1) Linneous (2) K.N. Bahel (3) Bermister (4) D.Gir
6. Tergum is joined on the sides by :
 (1) Pleuron (2) Sternum
 (3) Alimentary canal (4) Muscles
7. The plate situated between the eyes and passing below that on the head of cockroach is called :
 (1) Vertex (2) Frons (3) Epicranium (4) Gena
8. The dorsal plate of skeleton found on the abdomen of cockroach is called :
 (1) Pleuron (2) Sternum (3) Tergum (4) Vertex
9. Outer border of tergum bends downwards in cockroach and attaches with :
 (1) Muscles (2) Sternum (3) Pleura (4) Fat body cells
10. Mandibles of cockroach are:
 (1) Short with grinding teeth (2) Long and pointed
 (3) Short without teeth (4) Long and coiled
11. Head of cockroach according to its position is known as:
 (1) Hypopharynx (2) Hypocyrebral
 (3) Hypognathus (4) Supragnathus
12. Number of visible sternum present at the abdomen of female cockroach is :
 (1) 6 (2) 7 (3) 8 (4) 9
13. Tongue like structure in *Periplaneta* is:
 (1) Maxilla (2) Hypopharynx (3) Labium (4) Labrum

14. Which structure is known as lower lip of cockroach?
 (1) Labrum (2) Labium (3) Mantum (4) Submentum
15. Wings of cockroach are mainly helpful in :
 (1) Egg laying (2) Preying (3) Finding the mate (4) Protection
16. *Periplaneta americana* differs from *Blatta orientalis* in:
 (1) Well developed wings (2) Wings absent
 (3) Only first pair wings developed (4) Second pair wing developed
17. Number of segments in cockroach leg :
 (1) 3 (2) 5 (3) 6 (4) 9
18. Undeveloped wings are found in :
 (1) Housefly (2) Cockroach (3) Mosquito (4) *Blatta*
19. Pseudopodia of *Amoeba* are similar to :
 (1) Legs of cockroach (2) Teeth in rabbit
 (3) Spicules of *Neucosolenia* (4) Suckers of *Taenia*
20. Plantulae are found in cockroach upon :
 (1) Pretarsus (2) Femur (3) Trochanter (4) Coxa
21. Most swollen segment in leg cockroach is :
 (1) Tarsus (2) Coxa (3) Femur (4) Trochanter
22. In cockroach arolium is helpful in :
 (1) In digestion (2) Respiration (3) Locomotion (4) Reproduction
23. Main character for the distinction between male and female cockroach
 (1) Antennae (2) Mandibles (3) Anal cerci (4) Anal style
24. Anal styles are found in :
 (1) Housefly (2) Female cockroach
 (3) Male cockroach (4) Both male & female cockroach
25. Body segments are definite and well marked in :
 (1) Hydra (2) *Taenia* (3) Earth worm (4) Cockroach
26. In cockroach the audioreceptors are situated on :
 (1) On legs (2) Antenna (3) Sensory receptor (4) Anal cerci
27. The gynovalvular plates in female cockroach are modification of :
 (1) 7th tergum (2) 7th sternum
 (3) 8th tergum (4) 8th sternum

28. Stink glands are found in :
 (1) Only in males (2) Only in female (3) In both (4) None
29. Exoskeleton of cockroach is made up of :
 (1) Cartilage (2) Cuticle (3) Chitin (4) Amino acids
30. Cockroach and other insects have exoskeleton made up of:
 (1) Keratin (2) Spongin (3) Chitin (4) Cuticle
31. In which part of cockroach is present completely developed endoskeleton and exoskeleton both?
 (1) In head region (2) Thoracic region
 (3) Abdominal region (4) In head & thoracic regions
32. The body cavity of cockroach is called :
 (1) Pseudocoel (2) Coelom
 (3) Hydrocoel (4) Haemocoel
33. Which cells secretes wax located at the outer surface of body wall ?
 (1) Trophocytes (2) Oenocytes
 (3) Trichogen (4) Mycetocytes
34. The fatbody of cockroach contains :
 (1) Oenocytes (2) Mycetocytes
 (3) Trophocytes (4) All the above
35. Hepatic caecae in cockroach are derived from :
 (1) Crop (2) Gizzard (3) Midgut (4) Proctodaeum
36. Saliva of cockroach contains enzyme :
 (1) Lipase (2) Amylase (3) Pepsin (4) Trypsin
37. Salivary glands of cockroach open on :
 (1) Maxilla (2) Hypopharynx (3) Labium (4) Labrum
38. Mouth part of cockroach are suited for :
 (1) Piercing (2) Absorbing
 (3) Cutting & chewing (4) Drinking
39. Cockroach is :
 (1) Omnivorous (2) Herbivorous
 (3) Carnivorous (4) Sanguivorous
40. In cockroach food is crushed in which part :
 (1) Crop (2) Gizzard
 (3) Mesenteron (4) Oesophagus
41. In which part of alimentary canal of cockroach invagination of cuticle found ?
 (1) Anterior part (2) In midpart

- (3) In posterior part (4) Both in anterior and posterior part
42. The inner layer of gizzard of cockroach is covered by:
 (1) By cuticle (2) By mucous membrane
 (3) By endoepithelium (4) By peritrophic membrane
43. Maximum digestion takes place in which part of cockroach?
 (1) In crop (2) In Gizzard
 (3) In mesenteron (4) In oesophagus
44. Oxygen is carried to the tissues of cockroach by which organ :
 (1) Skin (2) Trachea
 (3) Plasma (4) Respiratory pigment
45. Allary muscles in cockroach are associated or connected with :
 (1) Trachea (2) heart (3) Legs (4) Alimentary canal
46. Number of pairs of spiracles in cockroach are :
 (1) 4 (2) 6 (3) 8 (4) 10
47. In cockroach O_2 is carried to tissue by :
 (1) Haemoglobin and haemocyanin (2) Blood plasma
 (3) Tracheal tubes (4) Diffusion through integument
48. Blood of cockroach does not contain haemoglobin because:
 (1) It respire through atmosphere
 (2) Respires through book lungs
 (3) It does not respire
 (4) It has some other means to carry oxygen direct into the tissues
49. Give the name of blood vessel, which arises from first chamber of heart in cockroach :
 (1) Nephrocyte (2) Fenestrae
 (3) Ostia (4) Anterior aorta
50. Number of chambers in the heart of cockroach :
 (1) 5 (2) 9 (3) 13 (4) 16
51. Blood circulation in insects :
 (1) Flows in arteries and veins (2) With red blood corpuscles
 (3) Open type (4) Absent
52. Heart of cockroach is :
 (1) Four chamberd (2) Vertral to gut
 (3) Longitudinal & beaded (4) Three chambered
53. The colour of haemolyph of cockroach is :
 (1) Yellow (2) Red (3) Green (4) Colourless
54. Physiologically the heart of cockroach is :

- (1) Neurogenic (2) Myogenic
(3) Epigenic (4) Agenic
55. Main excretory product of cockroach is :
(1) Urea (2) Ammonia (3) Uric acid (4) Amino acid
56. Function of Malpighian tubules of cockroach :
(1) Digestion (2) Respiration (3) Excretion (4) Reproduction
57. Excretory organs of cockroach are :
(1) Trachea (2) Kidney (3) Nephridia (4) Malpighian tubules
58. The nerve cord of cockroach is :
(1) Double, ventral and solid (2) Double dorsal and hollow
(3) Single, dorsal and solid (4) Single, ventral and hollow
59. In cockroach which is helpful in sexual attraction ?
(1) Hormone ecdyson (2) Pheromone
(3) Juvenile hormone (4) Anal cerci
60. Ommatida are found in :
(1) Eyes of birds (2) Eye of frog
(3) Eye of insects (4) Eye of rabbit
61. Structural units found in the compound eye of cockroach are called :
(1) Rhabdom (2) Cone cells (3) Ommatidia (4) Simple eye
62. What type of vision is found in cockroach ?
(1) Mosaic (2) Super position (3) Binocular (4) None of them
63. Ommatidia are units in the eyes of :
(1) Amphibians (2) Mammals (3) Insects (4) Ashes
64. Apposition image in eye of insects is formed in :
(1) Dim light (2) Bright Light (3) Ocelli (4) None
65. Eggs which have yolk in the centre surrounded by cytoplasm are called :
(1) Centrolecithal (2) Homolecithal (3) Microlecithal (4) Alecithal
66. Ootheca is formed in cockroach by :
(1) Phallic Gland (2) Conglobate gland
(3) Utricular gland (4) Collateral Gland
67. Ootheca of Cockroach has fertilized eggs, this numbers is :
(1) 6 (2) 8 (3) 16 (4) 24
68. From egg laying to the development of adult cockroach. How many molting occur?
(1) 10-12 times (2) 9 times (3) 6 times (4) 3-4 times

69. The type of egg in cockroach is called :
 (1) Microlecithal (2) Centrolecithal (3) Isolecithal (4) Telolecithal
70. Sexual dimorphism is distinct in :
 (1) Hydra (2) Earthworm (3) Sponge (4) Cockroach
71. Conglobate gland is found in the reproductive organs of:
 (1) Earth worm (2) Housefly
 (3) Male cockroach (4) Female cockroach
72. Number of moultings in cockroach after hatching and development of complete animal are :
 (1) Less than 7 (2) Upto 8 (3) Upto 9 (4) more than 10
73. How many ovarioles are found in each ovary of cockroach ?
 (1) 3 (2) 6 (3) 8 (4) 16
74. Collateral glands of cockroach help in:
 (1) Fertilization (2) Formation of ootheca
 (3) Copulation (4) Formation of oothecal chamber
75. In the life history of cockroach (*Periplaneta*) there is:
 (1) No Metamorphosis (2) Gradual metamorphosis
 (3) Complete metamorphosis (4) Anamorphosis
76. Juvenile of cockroach is known as:
 (1) Tadepole (2) Amocyte (3) Nymph (4) Naid
77. Life time of cockroach in general is :
 (1) Approximately 1 year (2) 3 to 3.5 years approx
 (3) 5 to 7.5 years approx (4) 10 years approx
78. In which of the following moulting is not found ?
 (1) Hydra (2) Mosquito (3) Housefly (4) Cockroach
79. Life history of cockroach represents :
 (1) Ametaboly (2) Holometaboly (3) Paurometaboly (4) None
80. Common feature between cockroach and earthworm is :
 (1) Hermaphroditism (2) Moulting of cuticle
 (3) Excretion by nephridia (4) Ventral nerve cord
81. Which has no skeleton ?
 (1) Cockroach (2) Mosquito (3) Butterfly (4) Jelly fish
82. Cockroach is :
 (1) Nocturnal and omnivorous (2) Diurnal and omnivorous
 (3) Nocturnal and carnivorous (4) None

ANSWER KEY**EXERCISE-I (Conceptual Questions)**

1.	(2)	2.	(3)	3.	(4)	4.	(2)	5.	(3)	6.	(1)	7.	(2)
8.	(3)	9.	(3)	10.	(1)	11.	(3)	12.	(2)	13.	(2)	14.	(2)
15.	(4)	16.	(1)	17.	(2)	18.	(4)	19.	(1)	20.	(1)	21.	(2)
22.	(3)	23.	(4)	24.	(3)	25.	(4)	26.	(4)	27.	(2)	28.	(3)
29.	(3)	30.	(3)	31.	(1)	32.	(4)	33.	(2)	34.	(4)	35.	(3)
36.	(2)	37.	(2)	38.	(3)	39.	(1)	40.	(2)	41.	(4)	42.	(1)
43.	(1)	44.	(2)	45.	(2)	46.	(4)	47.	(3)	48.	(4)	49.	(4)
50.	(3)	51.	(3)	52.	(3)	53.	(4)	54.	(1)	55.	(3)	56.	(3)
57.	(4)	58.	(1)	59.	(2)	60.	(3)	61.	(3)	62.	(1)	63.	(3)
64.	(2)	65.	(1)	66.	(4)	67.	(3)	68.	(1)	69.	(2)	70.	(4)
71.	(3)	72.	(4)	73.	(3)	74.	(2)	75.	(2)	76.	(3)	77.	(2)
78.	(1)	79.	(3)	80.	(4)	81.	(4)	82.	(1)				