

ZOOLOGY 2008

41. Which of the following groups of organisms are ecologically similar ?
(1) Producer protists and consumer protists
(2) Monerans and producer protists
(3) Consumer protists and fungi
(4) Monerans and fungi
42. **Statement (S) :** In many gastropods, the anus and the mantle cavity are placed anteriorly above the head.
Reason (R) : During embryonic development, in many gastropods one side of the visceral mass grows faster than the other side. This uneven growth rotates the visceral organs upto 180° in many gastropods.
The correct answer is
(1) Both S and R are true and R explains S
(2) Both S and R are true but R cannot explain S
(3) Only S is correct but R is wrong
(4) Both S and R are wrong
43. Study the following :
A. It is a terrestrial Arthropod.
B. The prosoma bears a pair of chelicerae, a pair of the pedipalpus and four pairs of walking legs.
C. The metasoma ends in a telson.
D. First pair of walking legs are modified as poisonous claws.
Which of the above are true for *Heterometrus* ?
(1) A and C (2) A and B (3) A and D (4) C and D
44. The bilaterally member that exhibits pentaradial symmetry is
(1) *Neomenia* (2) *Nautilus* (3) *Neometra* (4) *Neopilina*
45. The proteins involved in the movement of chromosomes towards the poles during cell division are
(1) Actin (2) Myosin (3) Tubulin (4) Elastin
46. The animal in which that space between the gut and the body wall is filled with mesoneurium is
(1) *Echinodiscus* (2) *Enterobius* (3) *Eunice* (4) *Echinococcus*
47. Identify the type of flagellum in *Monas*, *Urceolus* and *Polytoma* in their sequential order from the following :
A. The flagellum is stichonematic.
B. Two or more rows of lateral appendages on the axonemes.
C. The flagellum is pantacronematic.
D. Lateral appendages are absent and axoneme ends as naked axial filament. Answer.
(1) A, B, D (2) A, C, D (3) B, A, C (4) B, C, D
48. Certain stages of *Plasmodium vivax* may survive for a long period in the liver of man as dormant stages and on reactivation enter into one of the following cycles :
(1) Erythrocytic schizogony (2) Exoerythrocytic schizogony
(3) Cycle of Ross (4) Gametogony
49. Which one of the following abnormalities in the host is associated to *Wuchereria*, *Plasmodium* and *Fasciola* respectively ?
A. Parasitic castration
B. Hyperplasia
C. Febrile paroxysm
D. Peritonitis
E. Lymphangitis
The correct answer is
(1) E, C and B (2) E, C and A (3) B, D and E (4) C, D and B
50. From the following a digenetic parasite is
(1) *Taenia solium* (2) *Wuchereria bancrofti*

(3) *Fasciola hepatica*

(4) *Plasmodium vivax*

51. Match the following :

List –I

(*Pheretima*)

- A. Phagocytes
- B. Chloragogen cells
- C. Circular cells
- D. Mucocytes

The correct set is

- (1) A-3 B-4 C-1 D-2
- (2) A-2 B-1 C-4 D-3
- (3) A-4 B-3 C-2 D-1
- (4) A-3 B-1 C-4 D-2

List– II

(*Cell features*)

- 1. small cells having yellowish granules
- 2. elongated cells
- 3. largest cells with membranous folds
- 4. cells with characteristic markings on the surface

52. Study the following is *Pheretima* :

- A. Dorso intestinal blood-vessels.
- B. External intestinal plexus.
- C. Internal intestinal plexus.
- D. Ventro intestinal blood vessel.

Arrange the blood vessels in correct sequence of blood flow from ventral blood vessel to dorsal blood vessel :

The correct sequence is :

- (1) D→B→A→C
- (2) C→A→B→D
- (3) B→C→O→A
- (4) O→B→C→A

53. **Statement (S)** : Arthropoda are the most successful of all the known animal groups.

Reason (R) : Arthropoda exhibit the greatest adaptive radiation and have adapted to diverse habitats.

- (1) Both S and R are true and R explains S
- (2) Both S and R are true but R cannot explain S
- (3) Only S is correct but R is wrong
- (4) Both S and R are wrong

54. **Statement (S)** : Super position images are formed in the nocturnal insects.

Reason (R) : The retinulae lie immediately below the vitellae and crystalline cone, these are surrounded by retinal sheath which absorb the light rays, hence, super position images are formed in nocturnal insects.

The correct answer is

- (1) Both S and R are true and R explains S
- (2) Both S and R are true but R cannot explain S
- (3) Only S is correct but R is wrong
- (4) Both S and R are wrong

55. Match the following:

Set-I

- A. Pollen basket
- B. Pseudotracheae
- C. Shellac
- D. Dutton's membrane
- E. Well developed galea

The correct answer is

- (1) A-5 B-4 C-2 D-3 E-1
- (2) A-4 B-5 C-3 D-2 E-1
- (3) A-1 B-5 C-3 D-4 E-2
- (4) A-3 B-2 C-4 D-5 E-1

Set – II

- 1. Butterfly
- 2. *Laccifer lacca*
- 3. Mosquito
- 4. *Musca*
- 5. Worker bee

56. The larval stage of a harmful insect causing a cavity like pathological condition in human subcutaneous tissue is
 (1) Naiad (2) Nymph (3) Maggot (4) Wiggler
57. The average trophic efficiency of transfer of energy from one trophic level to the higher trophic level is called
 (1) Assimilation. Efficiency (2) Exploitation efficiency
 (3) Linderman's trophic efficiency rule (4) Gross primary production
58. From the following fish, identify the one with a aglomerular kidney?
 (1) Sphyrna (2) Tilapia (3) Cirrhinus (4) Exocoetus
59. Wild life conservation aims at :
 (a) Maintaining the ecological process
 (b) To enrich the wildlife diversity with exotic species
 (c) Preventing migration of species
 (d) Maintaining the diversity of life
 The correct statements are
 (1) a, b (2) b, C (3) c, d (4) a, d
60. In mammals the secondary palate is formed by the union of
 (1) Premaxilla, Pterygoid and Squamosal bones
 (2) Maxilla, Quadrate and Palatine bones
 (3) Premaxilla, Maxilla and Palatine bones
 (4) Premaxilla, Quadrate and Squamosal bones
61. Which of the following are true to the prototherians ?
 A. Pectoral girdle is associated with 'T' shaped interclavicle
 B. Mammary glands are modified as sebaceous glands
 C. Pelvic girdle possesses epipubic bones
 D. Vertebrae are with epiphyses
 The correct statements are
 (1) A and C (2) A and B (3) C and D (4) Band C
62. Study the following table :

| Subclass | Skull | Example |
|------------------|-----------|--------------|
| A. Anapsida | Anapsid | Hatleria |
| B. Ichthyopteria | Synapsid | Pelycosaurus |
| C. Synaptosauria | Euryapsid | Plesiosaurus |
| D. Lepidosauria | Diapsid | Coty osauria |

 Which of the above is correct combination?
 (1) A (2) B (3) C (4) D
63. Study the following features of a fish:
 A. It is a crossopterygian fish.
 B. It is found in the river Chalumnae.
 C. It does not exhibit aestivation.
 D. It is an urecotelic animal.
 Which of the above are true to "Neoceratodus" ?
 (1) A and B (2) Band D (3) A and C (4) A and D
64. The macro mineral essential for the formation of insulin is
 (1) Magnesium (2) Chlorine (3) Sulphur (4) Iodine
65. In rabbit, the two fibro-elastic strands of the larynx extend between the
 (1) Thyroid and arytenoid cartilages
 (2) Thyroid and cricoid cartilages
 (3) Santorini and thyroid cartilages
 (4) Cricoid and tracheal cartilaginous rings
66. The artery which supplies blood to the pericardium is

- (1) Brachial artery (2) Coronary artery
 (3) Vertebral artery (4) Internal mammary artery

67. Read the statements :

- A. Preganglionic nerve fibres of III, VII, IX and X cranial nerves are a part of the parasympathetic nervous system.
 B. V, VII, IX and X cranial nerves are mixed nerves.
 C. Trochlear nerves are the largest cranial nerves.
 D. Abducens nerves are motor and originate from the gasserian ganglia.

Which of the above statements are correct?

- (1) A and D (2) A and B (3) Band C (4) A and C

68. Study the following table :

| Endocrine gland | Hormone | Deficiency disorder |
|-----------------------|-----------------|---------------------|
| A) Neurohypophysis | Vasopressin | Diabetes insipidus |
| B) Adrenal cortex | Corticosteroids | Addison's disease |
| C) Parathyroid glands | Parathormone | Myxoedema |
| D) Thyroid gland | Calcitonin | Acromegaly |

The correct set is

- (1) B and C (2) A and B (3) C and D (4) A and D

69. The renal fluid isotonic to the cortical fluid and blood is found in

- (1) the collecting duct and ascending limb
 (2) the distal convoluted tubule and ascending limb
 (3) the proximal convoluted tubule and distal convoluted tubule
 (4) the ascending limb and descending limb

70. Study the following :

- A. The accumulation of pyruvic acid in the muscle causes fatigue.
 B. ATP is resynthesized in the muscle by the phosphorylation of ADP by a phosphagen.
 C. Cori and Cori cycle occurs in the muscles.
 D. The phosphagen in the vertebrate muscle is arginine phosphate.

The correct set of answers for muscle contraction is

- (1) A and D (2) Band D (3) C and D (4) Band C

71. Study the following, :

- A. Testosterone influences the male secondary sexual characters.
 B. Gestation period in rabbit is approximately 276 days.
 C. Bulbourethral glands secrete a vaginal lubricant.
 D. Placenta secretes oestrogen.

The correct answer is

- (1) A and D (2) Band C (3) C and D (4) A and B

72. In guinea pigs black short hair (BBSS) is dominant over white long hair (bbss). During a dihybrid cross, the F₂ generation individuals with the genotypes BBSS; BbSS, BBSs and BbSs are in the ratio of

- (1) 9: 3 : 3 : 1 (2) 4:2:1:2 (3) 1 : 2 : 1 : 4 (4) 1 : 2 ; 2 : 4

73. In heterozygous condition, the individual expression of both the alleles in the phenotype is exemplified by

- (1) Colour blindness (2) AB blood type (3) Rh factor (4) A and B blood types

74. Crossing of unrelated pure breeding animals of different traits within the same breed is called

- (1) Cross breeding (2) Out crossing . (3) Close breeding (4) Species hybridisation

75. The strand of DNA acting as template for m-RNA transcription is

- A. Coding strand B. Non-coding strand
 C. Sense strand D. Anti-sense strand

The correct answer is

- (1) A and C (2) A and B (3) B and D (4) B and C

76. The peculiar primitive animals found in Madagascar but absent in Africa are
 (1) Elephants (2) Penguins (3) Lemurs (4) Echidnas
77. "A brief reduction in size of a population due to natural calamities usually leads to random genetic drift". For this statement, identify the correct example from the following :
 (1) Human population of Pitcairn Island
 (2) Polydactylic dwarfs in Amish population
 (3) Long necked giraffe
 (4) Industrial melanism
78. Study the following :
 A. The cells of malignant tumors divide erratically.
 B. They are malignant tumors of epithelial cells.
 C. They are malignant tumors of organs that originate from mesoderm.
 D. These tumors are found in organs such as spleen and lymph nodes.
 Which of the above are true for angiosarcoma?
 (1) A and B (2) Band D (3) A and C (4) Band C
79. Study the following pathogens :
 A. Yersinia pestis
 B. Borrelia sp.
 C. Oidium albicans
 D. Micobactrium leprae
 E. Haemophilus gallinarium
 Which of the above cause damage to poultry industry ?
 (1) A and D (2) C and E (3) B and D (4) D and E
80. The complexes formed during immune complex mediated hypersensitivity are removed by
 (1) Eosinophils and Te cells
 (2) Monocytes and B-lymphocytes
 (3) Eosinophils and monocytes
 (4) .Eosinophils and basophils

ANSWERS

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (41) 4 | (42) 1 | (43) 2 | (44) 3 | (45) 3 | (46) 4 | (47) 4 | (48) 1 | (49) 1 | (50) 3 |
| (51) 4 | (52) 4 | (53) 1 | (54) 3 | (55) 1 | (56) 3 | (57) 3 | (58) 4 | (59) 4 | (60) 3 |
| (61) 1 | (62) 3 | (63) 3 | (64) 3 | (65) 1 | (66) 4 | (67) 2 | (68) 2 | (69) 3 | (70) 4 |
| (71) 1 | (72) 4 | (73) 2 | (74) 2 | (75) 3 | (76) 3 | (77) 2 | (78) 3 | (79) 2 | (80) 3 |