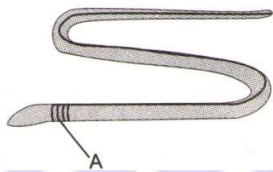




- The point by which Annelida advanced over Nematoda is
 - True coelom
 - Metameric segmentation
 - Closed circulation
 - All of the above
- A transverse section of *Pheretima* taken through the 10th segment is observed in microscope. Which of the following structures can be observed in the section?
 - Stomach, dorsal blood vessel, ventral blood vessel, supraoesophageal vessel, anterior loops, ring vessel and micronephridia
 - Stomach, dorsal blood vessel, ventral blood vessel, lateral hearts, ring vessels and pharyngeal nephridia
 - Intestine, dorsal blood vessel, ventral blood vessel, supraoesophageal vessel and septal nephridia
 - Stomach, dorsal blood vessel, sub-neural blood vessel and lateral hearts
- Sycon* belongs to a group of animals which are best described as
 - Multicellular with a gastrovascular system
 - Multicellular having tissue organization, but no body cavity
 - Unicellular or acellular
 - Multicellular without any tissue organization
- In which one of the following the genus name, its two characters and its class/phylum are correctly matched?

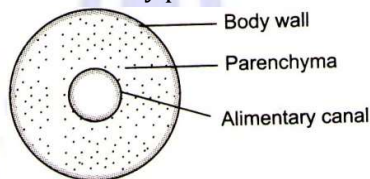
Genus	Two characters	Class/phylum
a) <i>Salamandra</i> :	(i) A tympanum represents ear (ii) Fertilization is external	Amphibia
b) <i>Pteropus</i> :	(i) Skin possesses hair (ii) Oviparous	Mammalia
c) <i>Aurelia</i> :	(i) Cnidoblast (ii) Organ level of organization	Coelenterata
d) <i>Ascaris</i> :	(i) Body segmented (ii) Males and females distinct	Annelida
- In frog's heart, there are muscular ridges which consist of fibers called
 - Purkinje fibres
 - Myonemes
 - Telodendria
 - Columnae carnae
- Which is not a feature of annelids?
 - Metameric segmentation
 - Nephridia
 - Pseudocoelom
 - Clitellum

7. Which one of the following kinds of animal are triploblastic?
a) Flatworms b) Sponges c) Ctenophores d) Corals
8. Organ system level of organisation is observed in
a) Chordates b) Annelids c) Molluscs d) All of these
9. Find the odd example.
a) Sea lily b) Sea fan c) Sea cucumber d) Sea urchin
10. The snake eating snake is
a) Black cobra b) King cobra c) Rattle snake d) Anaconda
11. Book lungs are respiratory organs in
a) Scorpion b) Prawn c) Snail d) Cockroach
12. In *Pheretima*, the lateral hearts that connect the supra oesophageal blood vessel with ventral blood vessel are located in which segments?
a) 7 and 9 b) 18 and 19 c) 14 and 15 d) 12 and 13
13. Sea anemone belongs to phylum
a) Protozoa b) Porifera c) Coelenterata d) Echinodermata
14. Trochophore is the larva of
a) *Neopilina* b) *Chiton* c) *Pila* d) All of these
15. In the given diagram, what does 'A' represent?



- a) Heart b) Lateral vessel c) Ventral vessel d) Dorsal vessel
16. Hydroskeleton is not found in
a) Mollusca b) Echinoderms c) Annelida d) Cnidarian
17. Aschelminthes are usually
a) Dioecious b) Hermaphrodites c) Metagenic d) Coelomates
18. Development of Mollusca is
a) With a larvae named trocophore b) Always direct without larval stages
c) With larvel stage called glochidium d) With larval stage called wriggler
19. Which character is not same in Aves and mammals?
a) Single systemic arch b) Metanephric kidney
c) Seven cervical vertebrae d) Homeotherms
20. Study the following features of a fish
I. It is a crossopterygian fish
II. It is found in the river Chalumnae
III. It does not exhibit aestivation
IV. It is an urecotelic animal
Which of the above are true to '*Neoceratodus*'
a) I and II b) II and IV c) I and III d) I and IV
21. In *Pheretima*, septa are absent between which segments?
a) 3/4 and 9/10 b) 4/5 and 8/9 c) 5/6 and 7/8 d) 7/8 and 6/7
22. In frogs, oviduct is formed by
a) Wolffian duct b) Metanephric duct c) Mullerian duct d) Bidder's canal
23. The life span of honey bee drone is

- a) 3-4 months b) 1-2 months c) 6-7 months d) 10-12months
24. A group of animals having marsupium is
 a) Nonotremata b) Eutheria c) Metatheria d) Pantotheria
25. What will you look for to identify the sex of the following?
 a) Male frog – a copulatory pad on the first digit of the hind limb
 b) Female cockroach – anul ceri
 c) Male shark – claspers borne on pelvic fins
 d) Female *Ascaris* – sharply curved posterior end
26. The excretory cells, that are found in Platyhelminthes are
 a) Protonephridia b) Flame cells c) Solenocytes d) All of these
27. Ommatidia serve the purpose of photoreception in
 a) Humans b) Sunflower c) Cockroach d) Frog
28. *Periplaneta* has no respiratory pigment in its blood because
 a) Air is conducted directly to the body b) It has haemocoelom tissues
 c) It has anaerobic respiration d) It lacks blood cells in the blood
29. *Wuchereria bancrofti* is a common filarial worm. It belongs to phylum
 a) Platyhelminthes b) Nematelminthes c) Annelida d) Coelenterata
30. The cross-section of the body of an invertebrate is given below. Identify the animal, which has this body plan.



- a) Cockroach b) Roundworm c) *Planaria* d) Earthworm
31. In earthworm, the characteristic internal median fold of dorsal wall of the intestine called typhlosole is present in
 a) 5 to 9 segments b) 9 to 14 segments c) 26 to 35 segments d) 15 to last segment
32. Which of the following phyla are schizocoela?
 a) Annelida, Platyhelminthes and Mollusca
 b) Annelida, Arthropoda and Mollusca
 c) Platyhelminthes, Aschelminthes and Annelida
 d) Aschelminthes, Annelida and Mollusca
33. Columella auris is found in
 a) Rabbit b) Frog c) Man d) All of these
34. Which one of the following is not a bird?
 a) Magpie b) Albatross c) Himalayan quail d) *Bufo*
35. Which of the following blood vessels in the circulatory system of frog has more oxygenated blood?
 a) Pulmocutaneous artery b) Pulmocutaneous vein
 c) Pulmonary artery d) Precaval veins
36. Which one of the following feature is common to leech, cockroach and scorpion?
 a) Nephridia b) Ventral nerve cord c) Cephalization d) Antennae
37. Which of the following cell types is capable of giving rise to other cell types in sponges?

- a) Thesocytes b) Pinacocytes c) Cnidocytes d) Archaeocytes
38. *Necturus* is commonly known as
 a) The flying frog b) The mud puppy c) The crested newt d) The toad
39. Which of the following display retrogressive metamorphosis?
 a) *Salpa* and *Herdmania* b) *Doliolum* and *Oikopleura*
 c) *Pyrosoma* d) All of these
40. Which of the following is true of Aves?
 a) They are poikilotherms and have a three chambered heart
 b) Tiny pebbles eaten by some birds and are used in crushing
 c) They have 10 pairs of cranial nerves
 d) All of the above
41. Which one of the following has a biradial symmetry?
 a) *Paramecium* b) Jellyfish c) Cockroach d) Sea anemone
42. Mouth part of housefly are
 a) Siphoning type b) Sponging type
 c) Biting and chewing type d) Piercing and sucking type
43. Zoological name of common Indian krait is
 a) *Bungarus caeruleus* b) *Ophiophagus Hannah*
 c) *Viper russeli* d) *Naja naja*
44. Which of the following animals have a single opening to the outside that serves both as mouth as well as anus?
 a) *Octopus* b) *Asterias* c) *Ascidia* d) *Fasciola*
45. Cellulose digesting zooflagellate found in wood cockroaches is
 a) *Lophomonas* b) *Trichomonas* c) *Trichonympha* d) *Leishmania*
46. Spiracles found in cockroach are
 a) 2 pairs in thorax and 100 pairs in abdomen b) 2 pairs in thorax and 6 pairs in abdomen
 c) 2 pairs in thorax and 8 pairs in abdomen d) 2 pairs in thorax and 4 pairs in abdomen
47. The phylum-Mollusca lack, which one of the following
 a) Visceral hump b) Malpighian tubules c) Gills d) Radula
48. Down feathers are
 a) First feathery covering in birds
 b) Modified filoplumes found near nostrils and eyes
 c) Tail feathers
 d) Wing feathers
49. The number of abdominal segments in male and female cockroach is
 a) 10, 10 b) 9, 10 c) 10, 11 d) 8, 10
50. Petromyzon and myxine belong to class
 a) Gnathostomata b) Cyclostomata c) Urochordata d) Protochordata
51. All mammals without any exception are characterized by
 a) Viviparity and biconcave red blood cell
 b) Extra abdominal testis and four-chambered heart
 c) Heterodont teeth and 12 pairs of cranial nerves
 d) A muscular diaphragm and milk producing glands
52. Which of the following is true about phylum-Platyhelminthes?
 a) They are mostly ectoparasites b) They are mostly free-living

- c) They are mostly commensals d) They are mostly endoparasites
53. Submaxillary glands of rabbit pour their secretions through
 a) Stenson's duct b) Ductus cholidocus c) Wharton's duct d) Naso-palatine duct
54. Which one of the following animals belongs to Cyclostomata?
 a) *Channa* b) *Loris* c) *Dodo* d) *Petromyzon*
55. Reproduction in *Ctenoplana* takes place by
 a) Budding b) Sexual reproduction c) Binary fission d) Multiple fission
56. Mosquito receive air through
 a) Flagellum b) Cilia c) Pedicel d) None of these
57. Note the following words.
 I.Fenestra
 II. Pedical
 III.Lacinia
 IV. Flagellum
 V.Galea
 VI. Mentum
 VII.Palpifer
 VIII. Cardo
 IX.Glossa
- Which of the above found in the first pair of maxillae in case of cockroach?
 a) III, V, VII and VIII b) I, III, V and IX c) I, VI, VII and IX d) II, V, VII and IX
58. *Ornithorhynchus* is an example of
 a) Dinosaur b) Monotreme c) Marsupial mammal d) Eutherian mammal
 mammal
59. The presence of the tube feet is a characteristic feature of the phylum
 a) Arthropoda b) Annelida c) Nematelminthes d) Echinodermata
60. Choose the non-poisonous snake from the given options
 a) Krait and cobra snake b) Sea snake and coral snake
 c) Viper and rattle snake d) None of the above
61. Syndactyly, prehensile tail and long protrusible tongue are the unique features of
 a) Rhesus monkey b) *Archaeopteryx* c) Horse fish d) *Chamaeleon*
62. *Ichthyophis* belongs to class
 a) Mammalia b) Reptilia c) Amphibia d) Aves
63. The character of birds without exception is
 a) Omnivorous b) Flying wings
 c) Beak without teeth d) Lay eggs with calcareous shell
64. The larval stage of a harmful insects, causing a cavity like pathological condition in human subcutaneous tissue, is
 a) Naiad b) Nymph c) Maggot d) Wiggler
65. The cavity in the region of diencephalon in the brain of rabbit is called
 a) Lateral ventricle b) Third ventricle c) Foramen of monro d) Iter
66. Which one of the following is not a characteristic of phylum-Annelida?
 a) Closed circulatory system b) Segmentation
 c) Pseudocoelom d) Ventral nerve cord
67. Ammocoetes is

- a) Organs that help excrete ammonia in invertebrates b) Animals that have an amniotic sac surrounding the embryo in development stages
- c) A larval stage d) None of the above
68. Which one of the following is the true description about an animal concerned?
- a) Earthworm – The alimentary canal consists of a sequence of pharynx, oesophagus, stomach, gizzard and intestine
- b) Frog – Body is divisible into three regions : head, neck and trunk
- c) Rat – Left kidney is slightly higher in position than the right one
- d) Cockroach – 10 pairs of spiracles (2 pairs on thorax and 8 pairs on abdomen)
69. How many hearts are found in earthworm?
- a) 8 (four pairs) b) 2 (one pair) c) 6 (three pairs) d) 12 (six pairs)
70. Which of the following belong to phylum-Annelida?
- a) *Hirudinaria*, *Nereis* and *Wuchereria* b) *Earthworms*, *Aphrodite* and *Pila*
- c) *Pheretima*, *Tubifex* and *Nereis* d) *Aplysia*, *Nereis* and *Dentalium*
71. Which of the following is not a larval form of Mollusca?
- a) Pluteus b) Trochophore c) Veliger d) Glochidium
72. In *Leucosolenia*, gametes develop from
- a) Amoebocytes b) Archaeocytes c) Choanocytes d) Myocytes
73. The main nitrogenous waste of *Hydra*, is
- a) Ammonia only b) Urea only c) Uric acid only d) Both (a) and (c)
74. Nematoblasts are formed by
- a) Interstitial cells b) Glands cells c) Mesoepithelial cells d) Nerve cells
75. Which of the following is an insect?
- a) Moth b) Mites c) Prawn d) Scorpion
76. The phylum-Annelida is named so because of
- a) More organs are placed towards anterior part of the body b) The presence of antenna
- c) Anteriorly placed neural system d) The presence of metameres
77. Ecdysone is produced by
- a) Prothoracic gland b) Corpora cardiaca c) Corpora allata d) Abdominal gland
78. The feeding organ in phylum-Mollusca is
- a) Ctenedia
- b) Undulating membrane
- c) Sucker
- d) Radula
79. Coelom is important because
- a) It allows the internal organs to grow
- b) It separates the gut from the body wall muscles
- c) It has evolutionary significance
- d) All of the above
80. *Ascaris* is characterized by
- a) Absence of true coelom but presence of metamerism
- b) Presence of neither true coelom nor metamerism
- c) Presence of true coelom and metamerism

- d) Presence of true coelom and metamerism (metamerisation)
81. The first phylum to have a complete alimentary canal is
 a) Platyhelminthes b) *Ascaris* c) Aschelminthes d) Annelida
82. Exoskeleton of which phylum consists of a chitinous cuticle?
 a) Annelida b) Porifera c) Arthropoda d) Echinodermata
83. Waggle dance in honeybees tells about
 a) Direction of food source b) Distance of food source
 c) Both (a) and (b) d) None of these
84. "Triploblastic, unsegmented, acoelomate exhibiting bilateral symmetry and reproducing both asexually and sexuality, with some parasitic forms".
 The above description is the characteristic of phylum
 a) Annelida b) Ctenophore c) Cnidaria d) Platyhelminthes
85. Which animals have all developed echolocation system like that of bats?
 a) Wild cats b) Beavers c) Primates d) Whales and dolphins
86. The characteristic larva of phylum-Coelenterata is
 a) Planula b) Cysticercus c) Rhabditiform d) Wiggler
87. What is common between parrot, *Platypus* and kangaroo?
 a) Homeothermy b) Toothless jaws
 c) Functional post-anal tail d) Ovoparity
88. The 'bilateral symmetry' refers
 a) When the body can be divided into two unequal halves on passing central axis through it
 b) To any plane passing through centre, which does not divide the body into equal halves
 c) When the body can be divided into identical left and right halves only in one plane
 d) Any plane passing through the central axis of the body dividing the organism into two equal halves
89. In which of the following animals, respiration occurs without any respiratory organ?
 a) Frog b) Fish c) Cockroach d) Earthworm
90. The highly degraded organic matter rich in nitrogen and potassium in particular resulting from the activity of earthworms, is called
 a) Worm castings b) Vermicompost c) Compost bedding d) Humus
91. Which one of the following abnormalities in the host is associated to *Wuchereria*, *Plasmodium* and *Fasciola* respectively?
 I. Parasitic castration
 II. Hyperplasia
 III. Febrile paroxysm
 IV. Peritonitis
 V. Lymphangitis
 a) V, III and II b) V, III and I c) II, IV and V d) II, IV and II
92. Trichocyst and nematocysts are meant for
 a) Defence b) Nutrition c) Respiration d) Excretion
93. Water vascular system is found in
 a) Mollusca b) Arthropoda c) Annelida d) Echinodermata
94. In which of the following, there is syncytial epidermis and longitudinal muscle cells in four bands?

