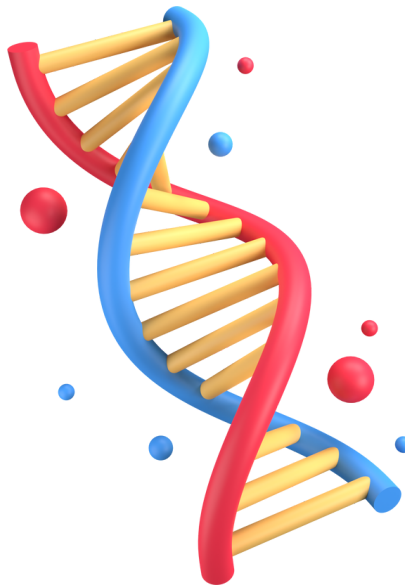


ZOOLOGY

ENTHUSIAST | LEADER | ACHIEVER



EXERCISE

Earthworm

ENGLISH MEDIUM

EXERCISE-I (Conceptual Questions)

Build Up Your Understanding

MORPHOLOGY AND ANATOMY

- Which animal has segmented body ?
(1) Molluscs
(2) Annelids
(3) Coelenterates
(4) Poriferans
AT0407
- Famous Indian scientist to explain *Pheretima posthuma* is :-
(1) Darwin (2) Bose
(3) K.N. Bahal (4) C.S. Basu
AT0408
- Zoological name of south Indian earthworm :-
(1) *Pontobdella* (2) *Lumbricus*
(3) *Magascolex* (4) *Pheretima*
AT0409
- Clitellum in earthworm includes segments:-
(1) 19th, 20th, 21th
(2) 14th, 15th, 16th
(3) Last 3 segments
(4) First three segments
AT0410
- In earthworm the segment bearing mouth is called
(1) Deuterostomium (2) Prostomium
(3) Peristomium (4) Stomium
AT0411
- Male genital pores in earthworm are found in :-
(1) 14th segment
(2) 17th & 19th segments
(3) 18th segment
(4) 10th & 11th segments
AT0412
- Clitellar segments in earthworm are:-
(1) 13th – 17th segments
(2) 14th – 16th segments
(3) 15th – 19th segments
(4) 14th – 18th segments
AT0413

- Setae are found in all body segments of earthworm except -
(1) Last segment (2) First segment
(3) Clitellar segment
(4) First, last and clitellar segments
AT0414
- Female genital pore in *Pheretima* is found in which segments ?
(1) 15th (2) 16th (3) 14th (4) 18th
AT0415
- Segmentation in earthworm is :-
(1) Metameric segmentation
(2) Polymeric segmentation
(3) Psuedosegmentation
(4) Bisegmentation
AT0416
- In earthworm skeleton like function is performed by
(1) Coelomic fluid
(2) Alimentary canal filled with food
(3) Typhlosole (4) Clitellum
AT0417
- If an earthworm is left in 40 % KOH solution for a long time, which part would be left undissolved.
(1) Setae (2) Spermathecae
(3) Sand particles (4) Circular muscles
AT0418
- Chloragogen cells are found in :-
(1) Blood of cockroach
(2) Blood of earthworm
(3) Coelomic fluid of earthworm
(4) Body wall of *Leucosolenia*
AT0419
- Main function of porphyrin pigment present in earthworm :-
(1) Help in respiration
(2) Helps in reproduction
(3) Makes the worm beautiful
(4) Protection from adverse effects of U.V. rays
AT0420

15. Type of body cavity (Coelom) in earthworm is :-
 (1) Acoelomic (2) Schizocoel
 (3) Haemocoelic (4) Enterocoelic
AT0421
16. Coelosepta are absent in earthworm :-
 (1) In Clitellar segment
 (2) In 1st four segments
 (3) Between 9th and 10th segment
 (4) Both 2 and 3
AT0422
17. Earthworm moves with the help of -
 (1) Muscles
 (2) Setae
 (3) Parapodia
 (4) Setae and muscles
AT0423
18. Earthworm respire by :-
 (1) Clitellum (2) Ctenidia
 (3) Moist skin (4) Typhlosole
AT0424
19. Locomotion is directly helped by:-
 (1) Setae
 (2) Mucous secreted by body segments
 (3) Rhythmic contraction of body segments
 (4) Pharynx
AT0425
20. In earthworm following help in locomotion:-
 (1) Chloragogen cells
 (2) Spermathecae
 (3) Clitellum
 (4) Setae
AT0426
21. Which animal respire but there is no respiratory organ ?
 (1) Frog (2) Cockroach
 (3) Fish (4) Earthworm
AT0427
22. The function of typhlosole found in the earthworm is to :-
 (1) secrete digestive juice
 (2) Regulate the blood flow
 (3) Emmulsify the food
 (4) Increase absorptive surface area for digested food.
AT0428
23. Chloragogen cells in earthworm are meant for :-
 (1) Reproduction (2) Excretion
 (3) Respiration (4) Digestion
AT0429
24. Chromophil cells in earthworm are found in:-
 (1) Lymph glands
 (2) Pharyngeal glands
 (3) Blood glands
 (4) All
AT0430
25. Which organ in earthworm is analogous to kidney of man ?
 (1) Nephridium (2) Testis
 (3) Clitellum (4) Intestine
AT0431
26. Typhlosole in earthworm begins from which segment :-
 (1) 15 (2) 9 (3) 26 (4) 27
AT0432
27. Inner cuticle layer is present in alimentary canal of earthworm in :-
 (1) Pharynx (2) Gizzard
 (3) Intestine (4) Stomach
AT0433
28. Chloragogen cells of *Pheretima* have similar function like the vertebrate:-
 (1) Kidney
 (2) Malpighian corpuscle
 (3) Liver
 (4) Lungs
AT0434

DIGESTION, RESPIRATION, CIRCULATION, EXCRETION, NERVOUS SYSTEM, REPRODUCTION & DEVELOPMENT

29. Gizzard in *Pheretima* is an organ for :-

- (1) Secretes slime
- (2) Absorption of digested food
- (3) Excretion
- (4) Crushing the food

AT0435

30. The function of typhlosole in earthworm :-

- (1) Secretes digestive juice
- (2) Slows down rate of passage of food
- (3) Increases absorptive area of intestinal epithelium
- (4) No function

AT0436

31. Chloragogen cells of *Pheretima* are similar to which organ of human ?

- (1) Heart
- (2) Liver
- (3) Stomach
- (4) Kidney

AT0437

32. Chloragogen cells are helpful in :-

- (1) Respiration
- (2) Excretion
- (3) Offence and defence
- (4) Reproduction

AT0438

33. Earthworm contains blood pigment:-

- (1) Haemoglobin
- (2) Haemocyanin
- (3) Haematin
- (4) Melanin

AT0439

34. In which animal blood is red but red blood corpuscles are absent ?

- (1) Cockroach
- (2) Earthworm
- (3) Birds
- (4) Bedbug

AT0440

35. Blood from seminal vesicles and gonads is collected by :-

- (1) Dorsal vessel
- (2) Ventral vessel
- (3) Subneural vessel
- (4) Lateral oesophageal vessel

AT0441

36. Two pairs of heart in earthworm occur in segments :-

- (1) 9th, 10th, 14th and 15th
- (2) 7th, 9th, 12th and 13th
- (3) 6th, 7th, 9th and 10th
- (4) None of them

AT0442

37. Which of the following is the character of dorsal blood vessel of earthworm ?

- (1) Act as collecting vessel in the whole body
- (2) Act as collecting vessel in first 13 segments
- (3) Act as distributing vessel the whole body
- (4) Act as distributing vessel in the first 13 segments

AT0443

38. Which statement is true about earthworm?

- (1) Blood is blue in colour
- (2) Blood is red but haemoglobin is dissolved in plasma
- (3) Blood pigment is haemocyanin
- (4) Blood is red but haemoglobin is present in RBC's

AT0444

39. The flow of blood in the dorsal blood vessel of earthworm is :-

- (1) Backwards
- (2) Forwards
- (3) Backwards in half and forward in other half
- (4) None

AT0445

40. Which of the following pigment is found in the blood of *Pheretima* ?

- (1) Haemoglobin
- (2) Haemocyanin
- (3) Absent
- (4) Both (1) & (2)

AT0446

41. Lateral oesophageal heart connects :
 (1) Dorsal vessel and ventral vessel
 (2) Supra oesophageal vessel and lateral oesophageal vessel
 (3) Dorsal vessel, supra oesophageal vessel and ventral vessel
 (4) Dorsal vessel and subneural vessel
AT0447
42. In earthworm neurons are :-
 (1) Motor (2) Sensory
 (3) Adjustor (4) All
AT0448
43. Which structure in earthworm is capable of secreting hormones ?
 (1) Nerve Cord
 (2) Lymph gland
 (3) Cerebral ganglia
 (4) Chloragogen cells
AT0449
44. Pharyngeal nephridia of *Pheretima* are found in which segments ?
 (1) 6th, 7th and 8th (2) 5th, 6th and 7th
 (3) 3th, 4th and 5th (4) 4th, 5th and 6th
AT0450
45. Excretory organs in earthworm are :-
 (1) Flame cells (2) Nephridia
 (3) Malpighian Tubules (4) Skin only
AT0451
46. Which of the following is exonephric nephridia ?
 (1) Pharyngeal nephridia
 (2) Septal nephridia
 (3) Integumentary nephridia
 (4) Both integumentary and pharyngeal nephridia
AT0452
47. Septal nephridia of earthworm are:-
 (1) Responsible for excretion
 (2) Present in all body segments
 (3) To Keep the surface moist
 (4) Present in 4th, 5th and 6th segments
AT0453
48. In earthworm the enteronephric nephridia open in :-
 (1) Body surface (2) Buccal cavity
 (3) Intestine (4) Both (2) & (3)
AT0454
49. Which of the following structures are found in 7th and 9th segments of *Pheretima* :-
 (1) Pharyngeal nephridia
 (2) Lateral Heart
 (3) Spermatheca
 (4) Lateral Oesophageal Hearts
AT0455
50. Earthworm is :-
 (1) Ammonotelic (2) Uricotelic
 (3) Ureotelic (4) Amminotelic
AT0456
51. Septal nephridia of earthworm discharge excretory product into:-
 (1) Body cavity
 (2) Pharynx
 (3) Outside on body surface
 (4) Lumen of Intestine
AT0457
52. Origin of nephridia in earthworm is :-
 (1) Ectodermal (2) Endodermal
 (3) Mesodermal (4) Last two
AT0458
53. Similarity between Man and earthworm is:-
 (1) Nephrotelic nature
 (2) Ammonotelic nature
 (3) Ureotelic nature
 (4) Urecotelic nature
AT0459
54. Spermathecae of *Pheretima* represent :-
 (1) Female Copulatory organ
 (2) Male Copulatory organ
 (3) Coating over sperms
 (4) Structure for storing sperms
AT0460

55. Sperms in ***Pheretima*** are stored in :-
 (1) Prostate glands (2) Spermathecae
 (3) Testes (4) Oviduct
AT0461
56. Accessory glands in earthworm are found in segments :-
 (1) 17th and 18th (2) 17th and 19th
 (3) 19th and 20th (4) 18th and 19th
AT0462
57. Spermathecae in earthworm are found in segments :-
 (1) 6th, 7th, 8th and 9th
 (2) 4th, 5th, 6th and 7th
 (3) 5th, 6th, 7th and 8th
 (4) 3th, 4th, 5th and 6th
AT0463
58. In ***Pheretima*** clitellum is primarily concerned with :-
 (1) Burrowing
 (2) Copulation
 (3) Formation of Cocoon
 (4) Copulation between two earthworm
AT0464
59. Larva is not found in the life cycle of :-
 (1) ***Pheretima*** (2) ***Taenia***
 (3) ***Musca*** (4) ***Rana***
AT0465
60. In Earthworm process of spermatogenesis is completed in :-
 (1) Spermathecae (2) Testis
 (3) Testis sac (4) Seminal vesicle
AT0466
61. Fertilization in ***Pheretima*** occurs in :-
 (1) Seminal vesicle
 (2) Coelom
 (3) Cocoon
 (4) Spermatheca
AT0467
62. Which cell or gland of earthworm provides the nutrition to unfertilize eggs ?
 (1) Accessory gland
 (2) Albuminous gland
 (3) Prostate gland
 (4) Formative cell
AT0468
63. If an earthworm releases cocoons from posterior end instead of anterior end then :-
 (1) Digestion will be affected
 (2) Only one zygote will be formed in cocoon
 (3) Several zygotes will be formed in cocoon
 (4) Sperms will not reach the cocoon and fertilization will not take place
AT0469
64. Size of cocoon of earthworm :-
 (1) 1 to 2 mm (2) 2.0 to 2.4 mm
 (3) 2.0 to 2.4 cm (4) 5 to 8 mm
AT0470
65. Which structure is represented typically in every body segment ?
 (1) Septal nephridia (2) Hearts
 (3) Genital pores (4) Ganglia
AT0471
66. Earthworm is friend of farmers because it:-
 (1) Produces humus
 (2) Eats soil bacteria
 (3) Increases fertility of soil
 (4) Eats the plants
AT0472
67. If a T.S. is oblique cut through 20th segment of ***Pheretima*** it will contain
 (1) Intestinal caeca (2) Prostate gland
 (3) Intestine (4) Both (2) and (3)
AT0473

68. Which of the following is found in earthworm ?

- (1) Lateral ventricle
- (2) Lateral heart
- (3) Lateral spiracles
- (4) Spiracles

AT0474

69. Which is correct about earthworm ?

- (1) It can crawl on smooth surface easily
- (2) It secretes cocoon around unfertilized eggs
- (3) It has brain but no distinctive head
- (4) It has no locomotory organs

AT0475

70. One of the oldest uses of earthworm is as :-

- (1) Bait for catching fish
- (2) Source of manure
- (3) Food for poultry
- (4) Medicine for gout

AT0476

71. Number of earthworms found in one acre of land is approximately:-

- (1) 500
- (2) 5000
- (3) 50,000
- (4) 5 Lakh

AT0477

72. Earthworm increases the :-

- (1) Salinity of soil
- (2) Acidity of soil
- (3) Fertility of soil
- (4) All of above

AT0478

73. Exonephric secretion in earthworm is done by which nephridia ?

- (1) Septal nephridia
- (2) Pharyngeal nephridia
- (3) integumentary nephridia
- (4) (2) and (3) both

AT0479

EXERCISE-I (Conceptual Questions)

ANSWER KEY

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

EXERCISE-II (Previous Year Questions)

AIPMT/NEET

AIPMT 2006

1. Earthworms are –
- (1) Ureotelic when plenty of water is available
 - (2) Uricotelic when plenty of water is available
 - (3) Uricotelic under conditions of water scarcity
 - (4) Ammonotelic when plenty of water is available

AT0480

AIPMT 2008

2. Earthworms have no skeleton but during burrowing, the anterior end becomes turgid and acts as a hydraulic skeleton. It is due to :-
- (1) Gut peristalsis
 - (2) Setae
 - (3) Coelomic fluid
 - (4) Blood

AT0481

AIPMT 2009

3. Which one of the following correctly describes the location of some body parts in the earthworm *Pheretima* ?
- (1) Two pairs of testes in 10th and 11th segments
 - (2) Two pairs of accessory glands in 16–18 segments
 - (3) Four pairs of spermathecae in 4–7 segments
 - (4) One pair of ovaries attached at intersegmental septum of 14th and 15th segments

AT0482

4. If a live earthworm is pricked with a needle on its outer surface without damaging its gut the fluid that comes out is :-
- (1) slimy mucus
 - (2) excretory fluid
 - (3) coelomic fluid
 - (4) haemolymph

AT0483

AIPMT 2011

5. One very special feature in the earthworm (*Pheretima*) is that :-
- (1) Fertilisation of eggs occurs inside the body
 - (2) The typhlosole greatly increases the effective absorption area of the digested food in the intestine
 - (3) The S-shaped setae embedded in the integument are the defensive weapons used against the enemies.
 - (4) It has a long dorsal tubular heart

AT0484

AIPMT 2018

6. Which of the following animals does **not** undergo metamorphosis ?
- (1) Earthworm
 - (2) Tunicate
 - (3) Moth
 - (4) Starfish

AT0485

NEET(UG) 2021

7. Following are the statements about prostomium of earthworm :-
- (a) It serves as a covering for mouth.
 - (b) It helps to open cracks in the soil into which it can crawl.
 - (c) It is one of the sensory structures.
 - (d) It is the first body segment.
- Choose the **correct** answer from the options given below.
- (1) (a), (b) and (c) are correct
 - (2) (a), (b) and (d) are correct
 - (3) (a), (b), (c) and (d) are correct
 - (4) (b) and (c) are correct

AT0486

EXERCISE-II (Previous Year Questions)

ANSWER KEY

Que.	1	2	3	4	5	6	7
Ans.	4	3	1	3	2	1	1

EXERCISE-III

Master Your Understanding

EXERCISE-III(A) (NCERT Based QUESTIONS)

1. In *Pheretima*, locomotion occurs with the help of :-
 (1) Circular muscles
 (2) Longitudinal muscles and setae
 (3) Circular, longitudinal muscles and setae
 (4) Parapodia

AT0487

2. The function of clitellum in *Pheretima* is :
 (1) Formation of cocoon
 (2) Secretion of hormone
 (3) Nutrition of sperm
 (4) Respiration

AT0488

3. In which segment in earthworm, the clitellum is present :
 (1) 16th segment
 (2) 17th to 19th segments
 (3) 14th to 16th segments
 (4) 5th to 6th segments

AT0489

4. The colour of the body in earthworm is brown due to the presence of :
 (1) Porphyrin
 (2) Haemoglobin
 (3) Earthworm
 (4) Haemocyanin

AT0490

5. Forest of nephridia is present in :
 (1) Pharyngeal region (2) Clitellar region
 (3) Anal region (4) None of these

AT0491

6. Common feature in earthworm and cockroach is :
 (1) Cuticle (exoskeleton)
 (2) Solid and ventral nerve cord
 (3) Nephridia
 (4) Malpighian tubules

AT0492

7. Which have no specific organ for respiration but respire ?

- (1) Rabbit (2) Cockroach
 (3) Earthworm (4) Frog

AT0493

8. Which of the following structure in *Pheretima posthuma* plays the role of the liver of vertebrates ?

- (1) Calciferous glands
 (2) Gland cells
 (3) Chloragogen cells
 (4) Clitellar cells

AT0494

9. In earthworm, fertilization occurs in :-

- (1) Ovary (2) Oviduct
 (3) Cocoon (4) Vasa efferentia

AT0495

10. Salivary gland in earthworm is found in :-

- (1) Dorsal wall of buccal cavity
 (2) Ventral wall of buccal cavity
 (3) Pharyngeal wall
 (4) Abdomen

AT0496

EXERCISE-III(B) (ANALYTICAL QUESTIONS)

11. Which of the following are enteronephric nephridia in earthworm ?

- (1) Pharyngeal and septal
 (2) Septal and integumentary
 (3) Integumentary and Pharyngeal
 (4) Integumentary only

AT0497

12. During copulation in Earthworms the sperm are transferred between copulating individuals from :-

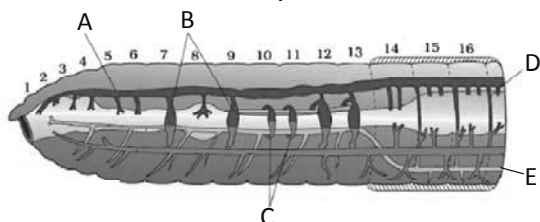
- (1) Male pores to spermathecae
 (2) Male pores to outside
 (3) Spermathecae to cocoons
 (4) Female genital pores to spermathecae

AT0498

13. Septal and pharyngeal nephridia open in to alimentary canal. It is an adaptation for :-
 (1) Regulation of amino acid
 (2) Conservation of heat
 (3) Conservation of water
 (4) Regulation of temperature

AT0499

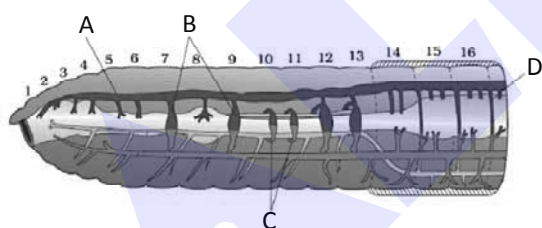
14. Go through the blood vascular system of earthworm, given in the following diagram and select the correctly matched code ?



	A	B	C	D	E
1	Dorsal vessel	Lateral hearts	Latero oesophageal hearts	Ventral vessel	Anterior loop
2	Ventral vessel	Lateral hearts	Anterior loops	Dorsal vessel	Sub neural vessel
3	Dorsal vessel	Latero oesophageal hearts	Anterior loops	Commisural vessel	Ventral vessel
4	Dorsal vessel	Lateral hearts	Anterior loops	Commisural vessel	Sub neural vessel

AT0500

15. Go through the given diagram and select the codes with their justifying explanation ?



- (1) A-main blood distributing vessel
 (2) B-having three pair valve
 (3) C-carries blood from latero-oesophageal
 (4) D-carries blood from ventral vessel

AT0501

16. Which of the following is false about the nerous system of earthworm ?

- (a) Nervous system is basically repersents by ganglia arranged on ventral nerve cord.
 (b) In 3rd and 4th segment the nerve cord bifurcates and joins the cerebral ganglia dorsally to form a nerve ring.
 (c) In earthworm, neurons are sensory, motor and adjustar.
 (d) The cerebral ganglia along with other nerves in the ring integrate sensory input as well as command muscular responses of the body.

- (1) All (2) only d
 (3) Only c (4) All are correct

AT0502

EXERCISE-III

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	3	1	3	1	2	2	3	3	3	3	1	1	3	4	3
Que.	16														
Ans.	4														