

Answer all questions strictly within the spaces provided on answer sheet.

Ant-2

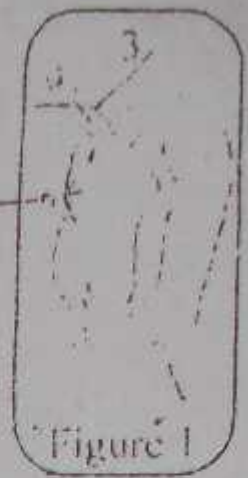


Figure 1

Figure 1 represents (A) an insect (B) a crustacean (C) a mite (D) a mollusc

The name is (A) *Daphnia* (B) *Cyclops* (C) *Balanus* (D) *Lepas*

The structure labelled 3 is (A) antenna II (B) antenna I (C) Maxilla (D) Maxilliped

The excretory organ in the crustacea is the (A) green gland (B) Malpighian tubule (C) kidney (D) Nephridium

The structure labelled 5 in Figure 2 is (A) end sac (B) white medullary tube (C) duct (D) green cortex.

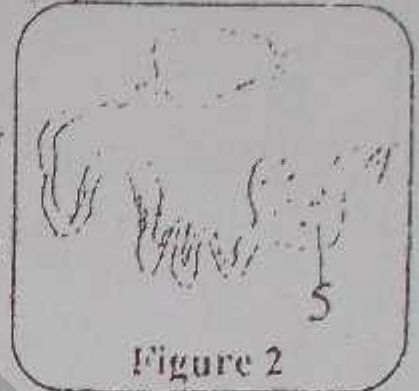


Figure 2

The pygidium in the Trilobitomorpha represents (A) fused thoracic segment (B) fused abdominal segments (C) Fused segments of the head (D) an armour covering head to abdomen

The number of abdominal segments in the Trilobitomorpha is (A) 6 (B) 3 (C) 10 (D) 2-29

The sequence of segments of an insect leg is (A) coxa, trochanters, femur, tibia, tarsus (B) coxa, femur, trochanters, tibia, tarsus (C) femur, coxa, trochanter, tibia, tarsus (D) femur, coxa, trochanter, tarsus, tibia

Reproduction in the insect is complete metamorphosis when the stages are (A) egg to nymph to adult (B) egg to larva to adult (C) egg to larva to pupa (D) egg to larva to pupa to adult

The appendage shown in Figure 3 is (A) jointed and biramous (B) jointed and uniramous (C) unjointed and uniramous (D) unjointed and biramous.

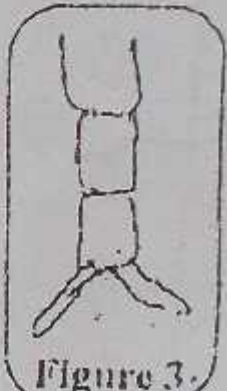


Figure 3

The Chelicerata have a body divided into (A) Head, thorax, abdomen (B) prosoma and opisthosoma (C) head and trunk (D) head and telson

The Chelicerata use the chelicerae (A) as jaws (B) as walking legs (C) for sensory function (D) for excretory function

Buthus hottentota hottentata is a (A) scorpion (B) spider (C) mite (D) tick

In which Chelicerata does the pedicel separate the prosoma from opisthosoma? (A) Acarina (B) Araneae (C) Scorpionidea (D) none of the above

In the Echinodermata, the pedicellariae are used for (A) gathering food (B) defence (C) respiration (D) excretion

Sarcoptes scabiei, an acarina, attacks (A) plants (B) wood (C) stored crops (D) man

Figure 4 represents what class of the Echinodermata? (A) Asteroidea (B) Echinoidea (C) Holothuroidea (D) Crinoidea

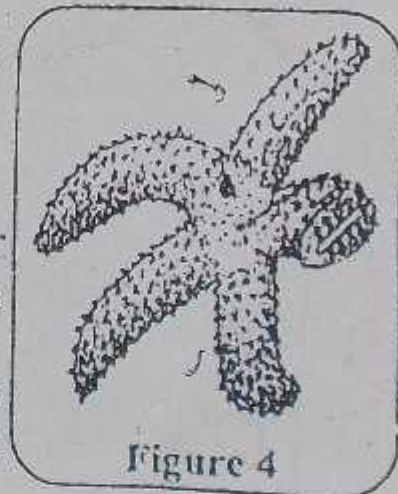


Figure 4

The Hemichordata show affinity with the Chordata because of the presence of (A) visceral cleft (B) notochord (C) dorsal hollow nerve chord (D) all of the above reasons

Echinoderms are classified as deuterostomes because (A) they have 2 openings to the body (B) they have two openings, mouth and anus (C) the mouth does not develop from the blastopore (D) the mouth develops from the blastopore

The pedicellariae of the echinoderms are used for (A) defence (B) reproduction (C) excretion (D) respiration

The ossicle in the intera-radius position is (A) pedicellaria (B) spine (C) Madreporite (D) skeleton

Which of the following is not a part of the coelom? (A) periviscera cavity (B) periaegmal cavity (C) water vascular system (D) none of the above

In which class of Echinodermata does the look like a sea lily? (A) Crinoidea (B) Asteroidea (C) Echinoidea (D) Holothuroidea

The direction of each arm in the Echinodermata is (A) radius (B) interradius (C) dorsal (D) Ventral

Which is not true of cellularization in animals? (A) maintenance of a suitable surface area/volume ratio (B) maintenance of cytoplasm/nucleus ratio (C) for effective gaseous exchange (D) for nervous coordination



Figure 5

Which is not a major locomotory organelle in the protozoans? (A) pseudopodia (B) cilia (C) flagella

Proterospore

- (B) muscle
27. pseudopodia occur in: (A) *Euglena* (B) *Paramecium* (C) leukocytes (D) *Plasmodium*
28. The locomotory organelle of *Paramecium* is (A) flagellum (B) pseudopodium (C) cilia (D) muscle
29. The type of pseudopodium in Figure 5 is called (A) filopodium (B) lobopodium (C) reticulopodium (D) axopodium
30. Flagellum is the major locomotory organelle in the phylum (A) Ciliophora (B) Apicomplexa (C) Labyrinthomorpha (D) Sarcinastigophora
31. Cilium differs from flagellum in having (A) longer length (B) thinner structure (C) shorter length (D) Basal body
32. The phylum Labyrinthomorpha was carved out of the former subphylum: (A) Sporozoa (B) Sarcodina (C) Mastigophora (D) Opalinata
33. Which is not true of vital role of diffusion? (A) to maintain suitable pH (B) to obtain food supplies (C) to excrete toxic substances (D) to obtain water supply
34. Which of the following is not needed for entry into or exit from the cell? (A) diffusion (B) endocytosis (C) osmosis (D) tissue respiration
35. Which of the following requires energy? (A) diffusion (B) osmosis (C) endocytosis (D) facilitated diffusion
36. *Plasmodium* belongs to the phylum (A) Labyrinthomorpha (B) Ascetosporea (C) Microspora (D) Apicomplexa
37. Surface area/volume ratio in animals determines the (A) efficiency of gaseous exchange (B) growth (C) reproduction (D) oxygen consumption
38. Multicellularity in animals is necessary for effective (A) area/volume ratio (B) irritability (C) nuclear influence (D) cell division
39. A cell with many nuclei is described as (A) unicellular (B) multicellular (C) eucaryotic (D) acellular
40. The bird whose raptorial habits facilitate clearing the environment of carcasses is (A) *Columba* (B) *Pseudogypus* (C) *Numida* (D) *Anser*



Figure 6



Figure 7

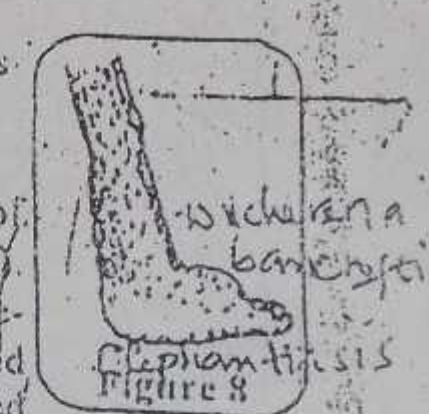


Figure 8

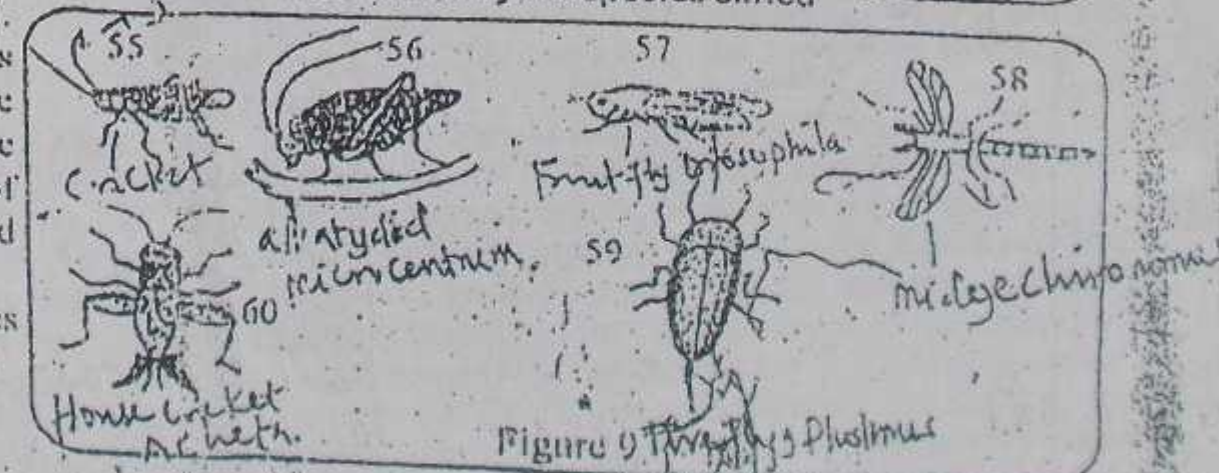


Figure 9

The names of the species represented in Figure 6 are (41), (42), (43), (44). A group of individuals of the same species that live together like the cases in Figure 7 is called a (45). Figure 7 represents (46). From Figure 7 name the structures (47), (48), (49), (50). One disease-causing organism in man that has the structure shown in Figure 7, is (51). The diseased organ shown in Figure 8 is called (52) leg and results from an infection by the species called (53) which belongs to the phylum (54). From Figure 9, name the species shown as (55), (56), (57), (58), (59), (60). In the darkest night, you are able to see the one numbered (60) because it is (61). Which of them is our friend around the kitchen and dustbins? (62).

Compare and contrast the Chondrichthyes and Osteichthyes by the following table:

| character | Chondrichthyes | Osteichthyes |
|-------------------|----------------|--------------|
| Scale type | (63) | (64) |
| Operculum | (65) | (66) |
| Position of mouth | (67) | (68) |

gummy cyclops
present
24h/24h
microstream
5
nephridia
nephridium
nephridium

Joyce runs 28-day menstrual cycle. Her menstruation in January 2006 started on 15th and is expected to be on (69) and her next menstruation is expected to be on (70).

ANSWERS TO 2004/2005 BIO 104 Rain Semester Examination

- 1 B
- 2 B
- 3 A
- 4 A
- 5
- 6 B
- 7 B
- 8
- 9 D
- 10 A
- 11 B
- 12 A
- 13 A
- 14 B
- 15 B
- 16 C
- 17 A
- 18 B
- 19 C
- 20 A
- 21 C
- 22 B
- 23 A

6

- 24 A
- 25 D
- 26 D
- 27 C
- 28 C
- 29 B
- 30
- 31 C
- 32 B
- 33 C
- 34 B
- 35 C
- 36 D
- 37 A
- 38 D
- 39 C
- 40 B
- 41 Proterospingra
- 42
- 43 Volvox Colony
- 44 Zoothamnium Colony
- 45 Colony
- 46 Sporozoite/merozoite
- 47 Conoid
- 48 Rhoptry

- 49 Microtubules
- 50 Mitochondrion
- 51 Wuchereria bancrofti
- 52 Elephantiasis
- 53
- 54
- 55 Cricket
- 56 Alpatyclid microcentrus
- 57 Fruitfly Drosophila
- 58 Midyechironomus
- 59 Firefly pholmus
- 60 House cricket Acheta
- 61 59
- 62 ~~Grass~~ Light conifer
- 63
- 64 plaead
- 65 Cycloid/ganoid
- 66 Absent
- 67 Present