

- I. 1. All the above 2) water rosen 3) Species 4) Coelentrata
 5) circular-long (C) 6) ornithorhynchus 7) Aurelia 8) collagen
 9) brown fat 10) (b) monocytes 11) perichondrium 12) Seq. 14-17
 13) Mosaic 14) ~~uric acid~~ ^{Potassium urate} 15) 14th.

II ANY TWO POINTS 6x2=12

16) Probiotics

- a) Beneficial bacteria.
 Eg. probiotic bacteria.

Pathogenic bacteria.

a) Harmful bacteria.

Eg. pathogenic bacteria

17) Domain Bacteria:

Prokaryotic, The cells have no definite nucleus, do not have histone, circular chromosomes, Many are decomposers.

18) Spongin and spicules provide support of soft body.
 Spicules give the sponges rigidity.

19) Incomplete digestive - complete digestive system.

a) platyhelminthes has - Aschelminthes to chordates
 only single opening

b) which serves as both Mouth and Anus - all animals have complete digestive system with two openings. mouth-anus

20) The archenteron becomes a the cavity of digestive tract

21) cells are columnar, equal in size, single layered,

22) If the columnar epi, cells bear cilia on their free surface

23) through body wall. no special organs.

24) Triangular muscles responsible for blood circulation is called oblong muscles.

III Very short notes. 6x3=18 Any 3 points.

25) (i) charles darwin's book on 'origin of species' explain the evolutionary connection of species by natural selection.

26) Binomial nomenclature, naming with two components. generic, species, Generic-capital, species-small.

- 27) (i) levels of organisation
 (ii) Nature of Coelom (iii) presence, absence, segments,
 (iv) organization of organ system.
- 28) Differentiate - Diploblastic - triploblastic Ref. page 16.
- 29) protostomia:
 (i) It includes the eumetazoan in which the embryonic blastopore develops into mouth.
 (ii) This division includes Subdivision.
 acoelomates, pseudocoelomates, schizocoelomates.
- 30) 1) Because it is Fluid connective tissue
 2) containing plasma
 3) WBC, RBC, platelets 4) transport medium for cardiovascular system. carrying nutrients, ~~nitrogenous~~ nitrogenous wastes, respiratory gases.
- 31) Cardiac muscles Ref page 44.
- 32) 1) Head of coelom is small.
 2) triangular lies at right angle body axis.
 3) mouth parts are directed downwards
- 33) (i) Blood consist of plasma (60%) blood cells 40%.
 2) RBC, WBC, platelets,
 3) RBC's with red pigment, nucleated, oval shape.
 4) Leucocytes are nucleated circular in shape.

IV ANSWER ALL THE QUESTIONS: 5x5=5 ANY 5 POINTS

34) Dif. bet, Zoo and wildlife sanctuary:

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| <p>(A) <u>ZOO</u></p> <ul style="list-style-type: none"> (i) animals birds are in captivity of artificially created (ii) public can easily access (iii) commercial aspects (iv) They are not free | <p><u>WILD LIFE SANCTUARY:</u></p> <ul style="list-style-type: none"> (i) natural (ii) not access (iii) not commercial (iv) free. |
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(B) Explain the Rules of Nomenclature:

- (i) Scientific name should be italicized, printed form. If handwritten underline, (ii) Generic name uppercase, (iii) Specific name should be lowercase (iv) Any two organisms are not similar.
- (v) If specific name framed any person's name name the species shall end with 'i', 'ii' or 'ae'.

- 35) (i) powerful jaws helps in predation.
 (ii) free living predatory
 (iii) advanced over jawless (iv) tough skin covered by dermal
 (v) paired fins are absent.

(b) Arrangement of body parts that lies opposite side of axis are identical. asymmetry (Snail) Radial symmetry (Starfish, corals, Sponges) bilateral symmetry (Insects)

26) epithelial tissue is sheet of cells that covers the body surface

- (i) single layered (ii) Squamous epi, made of flattened cells irregular boundary
- (iii) Columnar epi, made of column like cells round oval nuclei at the base.
- (iv) ciliated epi, has cilia at free end (v) compound epi, multilayered cells.

b) Loose connective tissues. Ref. page 42.

37) a) Female reproductive system of frog. Ref. page 68.

b) Dif. bet male-female cockroach - Ref. page - 57

38) a) Morphology of cockroach. Ref. page .55.

b) Nervous system of frog Ref. page 67.

Signature
27/9/22