

I PUC MID-TERM EXAMINATION, SEPT./OCT.-2026

SUBJECT : BIOLOGY (36)

Time : 3 Hours

Max. Marks : 70

GENERAL INSTRUCTIONS:

1. The question paper consists of four parts A, B, C and D.
2. PART-A consists of I & II and Part-D consists of two parts V and VI
3. All the parts are compulsory.
4. Answers for PART-A, written in the first two pages of the answer booklet only is considered for evaluation.

PART-A

I Select the correct alternative from the choices given below: 15x1=15

- 1) In Binomial Nomenclature, the name of the author appears
 - a) Before the genus
 - b) In between the specific epithet
 - c) Before the specific epithet
 - d) After the specific epithet
- 2) Match column I and II for classification of housefly and select the correct option using codes provided below

Column I	Column II
A) Family	i) Diptera
B) Order	ii) Arthropoda
C) Class	iii) Muscidae
D) Phylum	iv) Insects

 - a) A-i, B-ii, C-iv, D-iii
 - b) A-iv, B-iii, C-ii, D-i
 - c) A-iii, B-i, C-iv, D-ii
 - d) A-iii, B-ii, C-iv, D-i
- 3) Which of the following statements is false about the fungi ?
 - a) They are Eukaryotes
 - b) They are heterotrophs
 - c) Yeast is unicellular
 - d) Cell wall is purely cellulosic
- 4) Plants having vascular tissue without seeds.
 - a) Angiosperm
 - b) Pteridophytes
 - c) Bryophytes
 - d) Gymnosperms
- 5) Choose the correct pair
 - a) Radial symmetry - Platyhelminthes
 - b) Coelomates - Aschelminthes
 - c) Metamerism - Annelida
 - d) Triploblastic - Sponges
- 6) The limbless amphibian is
 - a) Hyla
 - b) Ichthyophis
 - c) Rana
 - d) Salamander
- 7) Statement-I : Cymose type of inflorescence has limited growth of main axis and bear flowers in basipetal order.
Statement-II : In Cymose, the older flowers are at the tip while younger flowers buds are at the base
 - a) Both Statement I & Statement II are true
 - b) Both Statement I & Statement II are false
 - c) Statement I is true and Statement II is false
 - d) Statement I is false and Statement II is true
- 8) Staminodes are
 - a) Fertile Stamens
 - b) Sterile Stamens
 - c) Immature Stamens
 - d) Mature Stamens
- 9) Casparian strip is made up of
 - a) Chitin
 - b) Cellulose
 - c) Pectin
 - d) Suberin
- 10) Guard cells in monocot leaves are
 - a) Kidney shaped
 - b) Bean shaped
 - c) Dumb-bell shaped
 - d) Oval shaped

(P.T.O)

- 11) Fluid Mosaic Model of Plasma membrane was proposed by
a) Mathias Schleiden b) Theodore Schwann c) Singer & Nicolson d) Robert Brown
- 12) A number of organised flattened membranous sacs found in chloroplasts are called
a) Grana b) Thylakoids c) Stroma d) Cisternae
- 13) Which one of the following organelle in the figure correctly matches with its function ?
a) Rough endoplasmic reticulum, formation of glycoproteins
b) Golgi apparatus, protein synthesis
c) Golgi apparatus, formation of glycolipids
d) Rough endoplasmic reticulum, protein synthesis
- 14) The most abundant protein in the whole biosphere is
a) Collagen b) Chitin c) RuBisco d) Insulin
- 15) The correct sequence of phases of cell cycle is
a) $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$ b) $M \rightarrow G_1 \rightarrow G_2 \rightarrow S$
c) $G_1 \rightarrow G_2 \rightarrow S \rightarrow M$ d) $S \rightarrow G_1 \rightarrow G_2 \rightarrow M$



**II Fill in the blanks by choosing the appropriate word/words from those given in the bracket:
[Nomenclature, Classification, Cambium, Thalamus, Osmoregulation, chlorella] 5x1=5**

- 16) The process by which organisms are grouped into categories based on easily observable characters is _____.
- 17) The unicellular alga rich in proteins used by space travellers is _____.
- 18) The swollen end of the pedicel on which the floral whorls are arranged is called _____.
- 19) In dicot stems, _____ is present between Xylem and phloem.
- 20) _____ are the main function of contractile vacuoles in Amoeba.

PART-B

**III Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable:
5x2=10**

- 21) Differentiate between Isogamous and Anisogamous condition.
- 22) What is Bioluminescence ? Give an example for the animal which exhibits this property.
- 23) Draw and label Bacteriophage.
- 24) What are bulliform cells ? What is their function ?
- 25) Classify chromosomes on the basis of position of centromere.
- 26) List four types of organisms that represent Prokaryotic cell.
- 27) Write the key features of Metaphase of Mitosis.

PART-C

**IV Answer any FIVE of the following questions in about 40-80 words each, wherever applicable:
5x3=15**

- 28) Classify Archaeobacteria.
- 29) Explain the sexual cycle of Fungi.
- 30) Mention the types of Leucoplasts with one function each.
- 31) Write any 6 important characteristics of chlorophyceae
- 32) Describe the types of flowers based on the position of calyx, corolla and androecium in respect of the ovary in thalamus.
- 33) Briefly explain the anatomical differences between stele of dicot root with that of dicot stem.
- 34) Enumerate the significance of Mitosis.

PART-D

V Answer any FOUR of the following questions in about 200-250 words each, wherever applicable: **4x5=20**

35) Define the following terms :

- a) Bilateral Symmetry
- b) Acoelomates
- c) Metamerism
- d) Poikilotherms
- e) Diploblastic condition

36) Write the salient features of Phylum Arthropoda.

37) a) Frogs exhibit sexual dimorphism. Substantiate. (2)

b) Explain the different types of respiration in frogs. (3)

38) Draw a neat labelled diagram of Plant cell.

39) Classify the various classes of enzymes based on type of reaction they catalyze.

40) Describe the events of Prophase I of Meiosis I.

41) Write the characteristics of Pteridophytes.

VI Answer any ONE of the following questions in about 200-250 words each, wherever applicable: **1x5=5**

42) Identify the following :

- a) Non-membrane bound cell organelle.
- b) Outer most cell envelope of a bacterial cell.
- c) Cell organelle absent in plant cells.
- d) Power houses of the cell.
- e) Membrane that facilitates transport of materials against concentration gradient.

43) Name the following :

- a) Protein that fights infectious agents.
- b) Most abundant protein in animal kingdom.
- c) Storage form of carbohydrate in animals.
- d) Energy source of carbohydrates in plant tissues.
- e) Polymer of fructose.

44) Identify the labelled parts (a), (b), (c), (d) and (e) and write one example of each.

