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FOR KARNATAKA CLASS 11 PREPARATION

Karnataka 1st PUC Model Question Paper 2027 for Biology (Paper 1)

EXAM	YEAR	TYPE	SUBJECT
Karnataka Class 11	2027	Sample Paper	Biology

DEPARTMENT OF SCHOOL EDUCATION (PRE-UNIVERSITY)

MODEL QUESTION PAPER -1

I PUC

BIOLOGY (36)

TIME: 3 HOURS **[TOTAL QUESTIONS: 44]** **MAX MARKS: 70**

General Instructions

- This Question paper consists of four parts A, B, C D and E.
- Part A consists of I and II and Part D consists of two parts, section V and VI.
- All the parts are compulsory.
- The answers for Part A written in the first two pages of the answer booklet are only considered for evaluation.
- Part E consists of questions for visually challenged students only.

PART - A

I. Select the correct alternative from the choices given below. **1 × 15= 15**

1. Match Column I and II for housefly classification 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. Insecta

a) A-i, B-ii, C-i, D-iii b) A-iv, B-iii, C-ii, D-i

c) A-iii, B-ii, C-iv, D-i d) A-iii, B-i, C-iv, D-ii

2. Which of the following statements regarding cyanobacteria is false?

a) Also referred as blue green algae. b) Are chemosynthetic autotrophs.

c) Have chlorophyll a similar to green plants. d) Form blooms in polluted water bodies.

3. Which one of the following is false?

a) Gametophytes are multicellular, tiny, and photosynthetic thallus.

b) Pro-thallus is another name for sporophyte.

c) Gametophyte is the predominant phase in mosses.

d) Strobili, a distinctive cone-like structure, are present in *Equisetum* and *Selaginella*.

4. An egg laying mammal is

   a) *Didelphys* b) *Macaca* c) *Ornithorhynchus* d) *Macropus*

5. Some vascular bundles are described as open because these

   a) Are surrounded by pericycle but no endodermis.

   b) Are capable of producing secondary xylem and phloem.

   c) Possess conjunctive tissue between xylem and phloem.

   d) Are not surrounded by pericycle.

6. **Statement 1:** Polar molecules cannot pass through the nonpolar lipid layer.

   Statement 2: Polar molecules require carrier proteins to facilitate their transport.

   a) Both Statement 1 and Statement 2 are true. b) Statement 1 is true and Statement 2 is false.

   c) Statement 1 is false and Statement 2 is true. d) Both Statement 1 and Statement 2 are false.

7. Algae have a cell wall composed of

   a) Cellulose, pectin, galactans, mannans

   b) Cellulose, galactans, mannans, calcium carbonate

   c) Hemicellulose, cellulose, pectin, mannans

   d) Hemicellulose, cellulose, pectin, galactans

8. Find out the wrongly matched pair:

   a) Primary metabolite – Fatty acid b) Secondary metabolite – Concanavalin

   c) Protein – GLUT – 4 d) Heteropolymer – Cellulose

9. In ‘Kranz’anatomy, the bundle sheath cells have

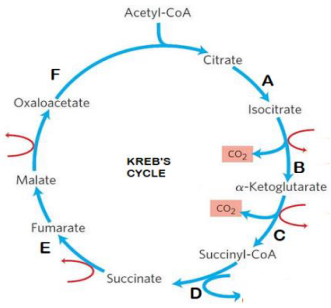
   a) Thin walls, many intercellular spaces and no chloroplasts

   b) Thick walls, no intercellular spaces and large number of chloroplasts

   c) Thin walls, no intercellular spaces and several chloroplasts

   d) Thick walls, many intercellular spaces and few chloroplasts

10. Each steps of TCA cycle is labelled from A – F, which among these is the substrate level phosphorylation?



   a) A b) C c) D d) E

11. Foolish seedling disease in rice seedlings is caused by

    a) *Penicillium notatum* b) *Gibberella fujikuroi* c) *Aspergillus niger* d) *Neurospora crassa*

12. The duration of cardiac cycle is

    a) 0.8 sec b) 8.0 sec c) 0.8 millisecond d) 8.0 millisecond

13. Pectoral girdle constitute

    a) Scapula and clavicle b) Radius and ulna c) Ilium and ischium d) Maxilla and mandible

14. Which is the major coordinating centre for sensory and motor signalling?

    a)Thalamus b) Amygdala c) Hippocampus d) Pons

15. Select the answer which correctly matches the endocrine gland with the hormone it secretes and its function or deficiency symptom.

    a) Thyroid - Thyroxine - Lack of iodine in diet results in goitre

    b) Corpus luteum -Testosterone - Stimulates spermatogenesis

    c) Anterior pituitary – Oxytocin - Stimulates uterus contraction during child birth

    d) Posterior pituitary – Growth hormone – Over secretion stimulates abnormal growth

II. Fill in the blanks by choosing the appropriate word/words from those given in the bracket.

1 × 5 = 5

(Micturition reflex, Plasticity, Ribosome, Endodermis, *Systema Naturae*, *Solanum nigrum*)

16. An example for binomial nomenclature is _____.
17. The inner most layer of cortex is called _____ .
18. _____ is the only membrane less cell organelle in eukaryotic cell.
19. _____ is the ability of plants to follow different pathways in response to environment to form different kinds of structure.
20. The neural mechanism causing release of urine is called _____.

PART - B

III. Answer any FIVE of the following questions in 3-5 sentences each wherever applicable:

2 × 5 = 10

21. Explain the heterosporous nature of gymnosperms.
22. Differentiate between polyps and medusae.
23. Mention the components of a stele.
24. Name the four endomembrane organelles
25. Write the key events of Anaphase I of Meiosis I.
26. Abscisic acid is called as stress hormone. Give reason.
27. Give the graphical representation of oxygen dissociation curve.

PART - C

IV. Answer any FIVE of the following questions in about 40-80 words each wherever applicable: **3 × 5 = 15**

28. Explain the sexual cycle of fungi.
29. Observe the chart showing divisions of algae and their characteristics given below.
    Identify A, B, and C.

Classes	Common Name	Major Pigments	Stored Food	Cell Wall
Chlorophyceae	Green algae	Chlorophyll a,b	Starch	**A**
Phaeophyceae	Brown algae	**B**	Mannitol Laminarin	Cellulose and Algin
Rhodophyceae	Red algae	Chlorophyll a,d phycoerythrin	**C**	Cellulose, Pectin and Polysulphate esters

30. Draw a neat labelled diagram of digestive system of frog with any 6 labelling.
31. Enumerate the significance of mitosis.
32. Explain the physiological effects of auxins.
33. Explain the role of diaphragm and rib cage in the breathing process.
34. Explain the process of chemical synapse during transmission of nerve impulse.

PART – D

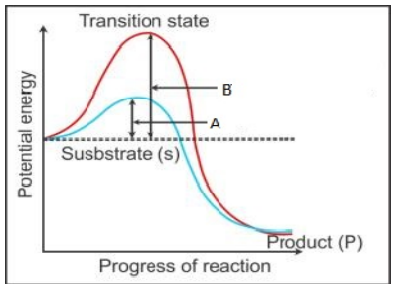
V. Answer any FOUR of the following questions in about 200-250 words each wherever applicable. **5 × 4 = 20**

35. Assign the following organs of animals into their respective phyla.
    a) Malpighian tubules b) Radula c) Parapodia d) Comb plates e) Proboscis
36. What is aestivation? Explain any four types of aestivation with an example for each.
37. Draw a neat labelled diagram of animal cell and label any 5 parts.
38. Explain the Z scheme of light reaction.
39. List the complexes that are involved in electron transport system of inner mitochondrial membrane along with their names.
40. Explain the regulation of kidney function.
41. Define the following disorders of human skeletal system:
    a) Myasthenia gravis b) Muscular dystrophy c) Tetany d) Arthritis d) Gout

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

42. a) If 100 moles of product is formed in 20 seconds, calculate the rate of the chemical reaction. 2

b) Analyze the below graph and answer



i) Is it an exothermic or endothermic reaction? How? 2

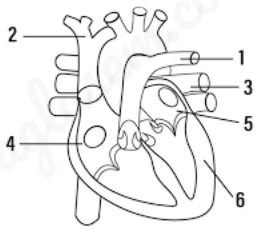
ii) What does A and B indicate? 1

43. Answer the following questions about the section of human heart given below.

a) Label the parts marked 1 & 3. What is special about these? 2

b) Label the parts marked 4 & 5. What is the common dividing wall between them called? 2

c) Why is labelled part 6 comparatively so thicker? 1



44. Gastro intestinal tract secretes four major hormones.

a) What type of hormones are they? 1

b) Explain the role of these hormones. 4

PART - E

(For visually challenged students only)

10. The number of substrate level phosphorylations in one turn of citric acid cycle is

a) Zero b) One c) Two d) Three

42. To analyze the chemical composition of a living tissue, the tissue is either dissolved and filtered or burnt to obtain ash. Based on these approaches, explain the two methods of biochemical analysis.

43. Explain the process of initiation and conduction of heart beat in humans.

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