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FOR KARNATAKA CLASS 11 PREPARATION

Karnataka 1st PUC Model Question Paper 2027 for Biology (Paper 2)

EXAM	YEAR	TYPE	SUBJECT
Karnataka Class 11	2027	Sample Paper	Biology

DEPARTMENT OF SCHOOL EDUCATION (PRE-UNIVERSITY)

MODEL QUESTION PAPER -2

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. Which one of the following is contrary to the rules of nomenclature?

   a) First word in a biological name represents the genus name and the second is a specific epithet.

   b) Biological names can be written in any language.

   c) When written by hand, the names are to be underlined.

   d) Names are written in Latin and are italicized.

2. The most abundant prokaryotes helpful to humans in making curd from milk and in production of antibiotics are the ones categorized as

   a) Heterotrophic bacteria b) Chemosynthetic autotrophs

   c) Archaebacteria d) Cyanobacteria

3. Most primitive vascular plants are

   a) Mosses b) Cycads c) Kelps d) Ferns

4. **Statement I**: Polyp and medusa are the two basic body forms in cnidarians.

   Statement II: Polyps produce medusa sexually and medusa form polyps asexually.

   a) Statement I is correct but statement II is incorrect.

   b) Statement I is incorrect but statement II is correct.

c) Both statements I and statement II are correct.

d) Both statement I and statement II are incorrect.

5. Find out the wrong statement about angiosperm roots.

a) Cuticle is absent in young stages.

b) The apex is protected by root cap.

c) Vascular bundles are collateral.

d) Xylem is centripetal in growth in the young roots.

6. 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

7. Nucleoplasm is site for

a) DNA synthesis b) rRNA synthesis c) mRNA synthesis d) Histones

8. Match the following

Coloumn 1	Coloumn 2
1. Alkaloids	i. Curcumin
2. Essential Oils	ii. Morphine
3. Drugs	iii. Rubber
4. Polymeric substances	iv. Lemon grass oil

a) 1-ii, 2-iv, 3-i, 4-iii b) 1-iii, 2-iv, 3-ii, 4-i

c) 1-ii, 2-i, 3-iii, 4-iv d) 1-i, 2-iii, 3-ii, 4-iv

9. For assimilation of one CO_2 molecule, the energy required in form of ATP and $NADPH_2$ are

a) 2 ATP and 2 $NADPH_2$ b) 5 ATP and 3 $NADPH_2$

c) 3 ATP and 2$NADPH_2$ d) 18 ATP and 12 $NADPH_2$

10. Respiratory Quotient (RQ) value of tripalmitin is

a) 0.09 b) 0.9 c) 0.7 d) 0.07

11. Which of the following is a growth regulator produced by plants?

a) Naphthalene acetic acid b) Zeatin

d) 2, 4-Dichlorophenoxyacetic acid d) Benzyl aminopurine

12. Which of the following represents the correct pathway of conduction of the heartbeat?

a) AV node → SA node → Bundle of His → Purkinje fibres

b) SA node → AV node → Bundle of His → Purkinje fibres

c) SA node → Bundle of His → AV node → Purkinje fibres

d) Purkinje fibres → SA node → AV node → Bundle of His

13. Select the correct matching of the type of the joints with the example in human skeletal system.

Type of joint		**Example**
a) Cartilaginous joint	-	Between frontal and parietal
b) Pivot joint	-	Between third and fourth cervical vertebrae
c) Hinge joint	-	Between humerus and pectoral girdle
d) Gliding joint	-	Between carpals

14. In human beings, the pairs of cranial nerves arising from the brain is

a) 12 b) 8 c) 24 d) 16

15. GnRH, a hypothalamic hormone, needed in reproduction, acts on

a) Anterior pituitary gland and stimulates secretion of LH and FSH

b) Posterior pituitary gland and stimulates secretion of oxytocin and FSH

c) Posterior pituitary gland and stimulates secretion of LH and relaxin

d) Anterior pituitary gland and stimulates secretion of LH and oxytocin

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

1 × 5 = 5

(Dicot stem, 8g/mL, plasmodesmata, biodiversity, apical dominance, 25-30 grams)

16. The number and types of organisms present on earth is referred to as _____ .

17. Starch sheath is present in the endodermis of _____ .

18. The cytoplasmic connections between neighboring plant cell are _____.

19. _____is a phenomenon in which growing apical bud inhibits the growth of lateral buds.

20. A healthy adult human on an average excretes _____ of urea per day.

PART - B

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

2 × 5 = 10

21. What are the two stages in the gametophytic phase of mosses?

22. All vertebrates are chordates but all chordates are not vertebrates. Justify the statement.
23. Differentiate between root hairs and epidermal hairs.
24. Cell wall helps in cell to cell interaction and provides protection. Substantiate.
25. Name the organelles which disappear at the end of prophase in mitosis?
26. Graphically represent the ideal sigmoid growth curve of higher plants and label the parts.
27. What is Expiratory Reserve Volume (ERV)? Mention the average value of ERV of human.

PART - C

IV. Answer any FIVE of the following questions in about 40-80 words each wherever applicable:

28. What is diatomaceous earth? List its uses.
29. Identify the following:
    a) Used as fuel and as packing material for trans-shipment of living material.
    b) Used to grow microbes and in preparations of ice creams and jellies.
    c) Develops directly from a spore in the life cycle of a moss.
30. Explain the different types of respiration in frogs.
31. Draw a neat labeled diagram of cell cycle.
32. Define the terms: a) Differentiation b) Dedifferentiation c) Redifferentiation
33. Mention the organs of respiration affected in the following respiratory disorders:
    a) Asthma b) Emphysema c) Occupational Respiratory Disorders
34. Differentiate unipolar, bipolar and multipolar neurons.

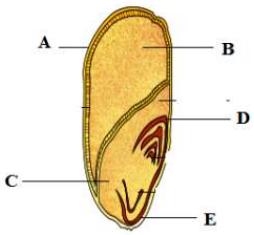
PART – D

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

35. Mention the general characters of the phylum porifera.
36. Write any five differences between prokaryotic cell and eukaryotic cell.
37. Classify the various classes of enzymes based on type of reaction they catalyze.
38. Differentiate between cyclic and non-cyclic photophosphorylation.
39. Give the schematic representation of glycolysis.
40. Categorize the following animals based on the nitrogenous excretory products:
    a) Aquatic Amphibians b) Terrestrial Amphibians c) Reptiles
    d) Bony fishes e) Marine fishes
41. Explain the steps involved in sliding mechanism of muscle contraction.

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

42. Answer the following questions with respect to diagram given below:



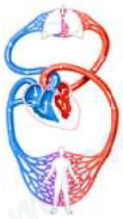
a) Identify the outermost layer of the seed marked A 1

b) Name the part B that stores food 1

c) Name the single cotyledon C 1

d) Name the sheaths D & E that enclose the plumule and radicle respectively. 2

43. Refer to the diagram given below:



a) What is depicted in the figure? 1

b) Mention the two types of circulation involved as per the figure. 2

c) Construct a flow chart for each of the circulation. 2

44. Conduction of impulse through an axon is due to the presence of ion channels on the neural membrane. These ion channels are selectively permeable to different ions. Explain the permeability of membrane and the transport of ions across the membrane during conduction of impulse through one end to other end of the axon.

PART - E

(For visually challenged students only)

6. Which of the following statement is not explained in cell theory?

a) All living organisms are composed of cells b) Organisms are the products of cells.

c) Cells composed of cytoplasm and nucleus. d) Cells arises from pre-existing cells

42. What is aestivation? Explain any four types of aestivation with an example for each.

43. Write a note on the causes and symptoms of erythroblastosis foetalis

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