



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



TERM-I EXAMINATION 2025-26

BIOLOGY (044)

SET-I MARKING SCHEME

Class: XI

Date: 09/09/2026

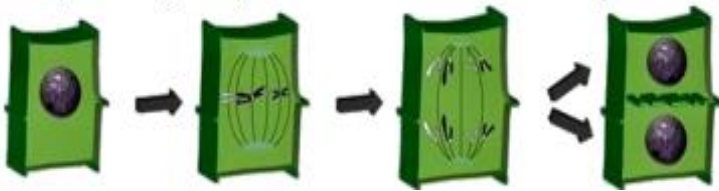
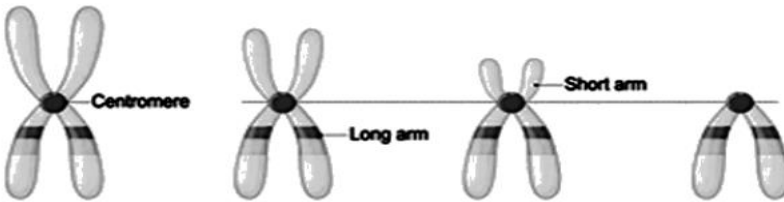
Duration: 3 Hours

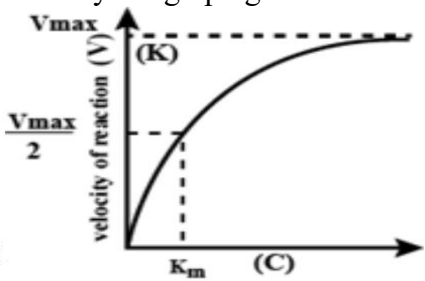
Max. Marks:70

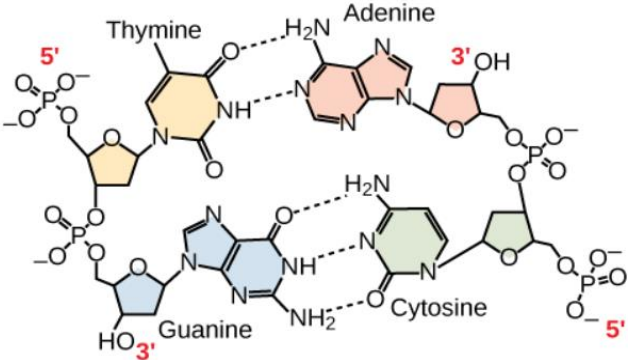
SECTION-A

Q. No. 1 to 12 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.

Q.no	Question	Marks
1.	(c) a group of closely related species of plants or animals	1
2.	(d) generic name and specific name	1
3.	(a) sleeping sickness	1
4.	(b) protozoans	1
5.	C. Prosthetic group	1
6.	C. Angiosperms	1
7.	C. Both A and B	1
8.	a. Homologous chromosomes separate	1
9.	b. DNA in the cell does not replicate	1
10.	a. Robert Brown discovered the cell.	1
11.	(b) Carbamino haemoglobin	1
12.	(a) Permanent enlargement and destruction of alveolar area leading to reduction in respiratory surface	1
13.	B. Both A and R are true, and R is not the correct explanation of A.	1
14.	.A. Both A and R are true, and R is the correct explanation of A.	1
15.	B. Both A and R are true, and R is not the correct explanation of A.	1
16.	.A. Both A and R are true, and R is the correct explanation of A.	1
SECTION-B		
17.	Attempt either option A or B. A.(i) Fern prothallus is monoecious. Justify. (ii) Bryophytes are called 'amphibians of plant kingdom'. Give reason. OR B.(i) Both gymnosperms and angiosperms bear seeds. But, why are they classified separately? (ii) Name one gymnosperm tree species for each, where the stem is (a) branched and (b) unbranched, respectively.	2
18.	A. What is the significance of mitosis?	2
19.	Explain the composition of triglyceride.	2

20.	Explain how the frogs protect their eyes while in water. State the significance of webbed digits in frog.	2
21.	Study the diagram given below and answer the questions.  (i) Write down the consequence if cytokinesis and duplication of DNA do not occur during Mitosis. (ii) How cytokinesis in plant cell is different from that in animal cell?	2
<u>SECTION-C</u>		
22.	A. What does ICBN stands for? B. A ball of snow when rolled over snow increases in mass, volume and size. Is this comparable to growth as seen in living organisms? Why?	3
23.	Why are viruses called obligate parasites? Explain the special features of euglenoids.	3
24.	Differentiate between the three main classes of algae based on their pigment composition.	3
25.	a) Distinguish between Vital Capacity and Total Lung Capacity. What is the role of the carbonic anhydrase enzyme in the transport of gases during respiration?	3
26.	The diagram given below shows the different types of chromosomes.  A. How many chromosomes does a human cell have? What is the approximate length of DNA they possess? B. Give a technical term to the type of chromosomes that has (a) two equal arms, (b) one arm much longer than the other. C. Are kinetochore and centromere the same?	3
27.	Attempt either option A or B. A. (a) The following events occur during the various phases of the cell cycle. Name the phase against each of the events. (i) Disintegration of nuclear membrane (ii) Appearance of nucleolus (iii) Division of centromere (iv) Replication of DNA (b) How does movement of chromosome occur during mitotic phase? OR B. (i) Differentiate between the events of mitosis and meiosis. (ii) An organism has two pair of chromosomes (i.e., chromosome number = 4). Diagrammatically represent the chromosomal arrangement during different phases of meiosis II.	3
28.	Read the following and answer the questions that follows: Proteins are polypeptides or linear chains of amino acids linked by peptide bonds. Amino	3

	acids are organic compounds containing an amino group and an acidic group as substituent on the same carbon; they are also considered as substituted methane. A. What are essential amino acids? B. Why are proteins called heteropolymers and not homopolymers? C. Why does an enzyme catalyse only one kind of a reaction?	
	<u>SECTION-D</u>	
29.	The vascular system of a frog is well-developed closed type. Frogs have a lymphatic system also. Special venous connections are present. a) What is the composition of frog's blood? b) Write a short note on the structure of frog's heart. c) Name the two special venous connections in frog.	4
30.	In a remote, moist valley of the Himalayas, Dr Shah discovers a vast expanse of lush green growth covering the forest floor. He initially identifies the organisms as mosses. Upon closer inspection, he notices that the main plant body is soft, small, and non-woody, lacking true roots. He also observes tiny, stalked structures (sporophytes) growing out from the green cushion-like body. These sporophytes appear to be dependent on the main green plant for nutrition. The area remains damp year-round, and occasional heavy rainfall causes water to flow over the ground. A. Identify the group of the plant kingdom to which these organisms belong, and justify your identification with two features. B. Why are bryophytes considered crucial for ecological succession on bare rocks or soil? <u>Attempt either subpart C or D.</u> C. Why are bryophytes often referred to as the "amphibians of the plant kingdom"? OR D. What is the ploidy (n or 2n) of the main "lush green growth" plant body, and what is the ploidy of the "tiny stalked structures" growing from it?	4
	<u>SECTION-E</u>	
31.	Attempt either option A or B. A. Study the graph given and answer the questions that follow:  (i) What is this graph depicting? (ii) Formation of ES complex is the first step in catalysed reactions. Describe the other steps till the formation of product. (iii) Why the reaction after reaching V_{max} does not further exceed after increasing substrate concentration? (iv) Give one example of competitive inhibition. OR B. Study the diagram given below and answer the questions that follow:	5

	 (i) Identify the image shown. (ii) What is the backbone of this structure made up of? (iii) Name purine bases from diagram. (iv) What is the difference between a nucleotide and nucleoside?	
32.	Describe the following: a) kinetochores b) Bivalent c) interkinesis Draw a diagram to illustrate metaphase and anaphase of mitosis. OR Explain the phases of Prophase I of meiosis I.	5
33.	Mention the main steps by which respiration takes place in humans. OR How is respiration regulated by medulla?	5