

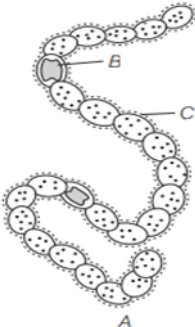
SET-1
KENDRIYA VIDYALAYA SANGATHAN RO LUCKNOW
CUMULATIVE EXAM-2022-23

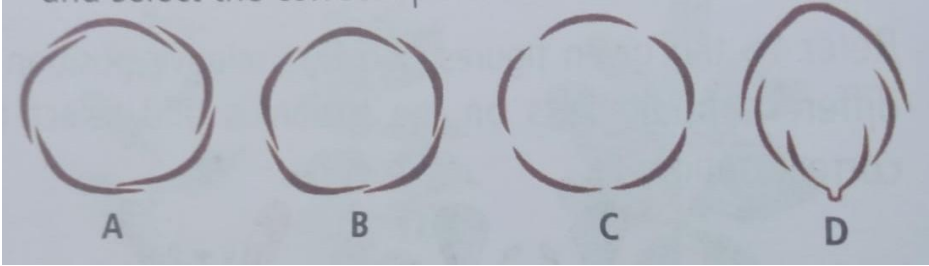
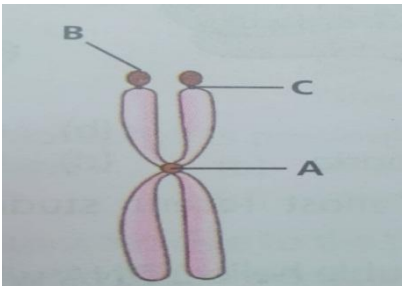
Subjects: Biology (044)
CLASS 11

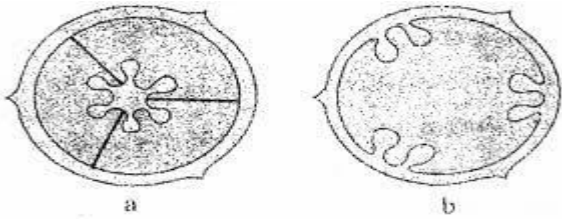
Time: 3 Hours
M.M.:70

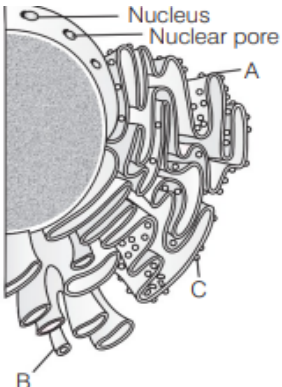
General Instructions:

- (i) All questions are compulsory.
- (ii) The question paper has five sections and 33 questions. All questions are compulsory.
- (iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
- (iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (v) Wherever necessary, neat and properly labeled diagrams should be drawn

Q.NO.	QUESTIONS	MARKS
SECTION A		
1.	A taxonomic category refers to: (a) The basic unit of classification. (b) A rank or level in a taxonomic hierarchy. (c) A group of related organisms able to interbreed. (d) A group of related organisms but unable to interbreed freely.	1
2.	The given figure is of filamentous blue-green algae. Identify the algae and choose the option that is correct for A B, and C in the figure.  (a) A–Gelidium, B–Vegetative cell, C–Heterocyst (b) A–Volvox, B–Somatic cell , C–Mucilaginous sheath (c) A–Chara, B–Mucilaginous sheath, C–Heterocyst (d) A–Nostoc, B–Heterocyst, C–Mucilaginous sheath	1
3.	Coralloid roots of _____ have a symbiotic association with N₂-fixing cyanobacteria. (a) Pinus (b) Cedrus (c) Cycas (d) Ginkgo	1
4.	Read the following statements and select the incorrect one: (i) Circulatory system in arthropods is closed type. (ii) Parapodia in annelids help in swimming. (iii) Phylum Mollusca is the second largest animal phylum. (iv) Aschelminthes is dioecious. (a) i and ii only (b) i only (c) ii only (d) i and iv only	1

5.	Identify the different types of aestivations (A, B, C and D) and select the correct option.	1
	 A B C D (a) Valvate Twisted Imbricate Vexillary (b) Imbricate Twisted Valvate Vexillary (c) Twisted Imbricate Vexillary Valvate (d) Twisted Imbricate Valvate Vexillary	
6.	Radial vascular bundles characteristically occur in: (a) Monocot and dicot stems (b) Monocot and dicot leaves (c) Monocot and dicot roots (d) All of these	1
7.	Casparian strips has a deposition of _____: (a) Pectin (b) Suberin (c) Lignin (d) Algin	1
8.	The Hindbrain of a frog consists of: (a) Cerebellum (b) Medulla Oblongata (c) Diencephalon (d) Both a and b.	1
9.	Packing of substances for export from the cell occurs in the: (a) SER (b) Golgi bodies (c) Nucleus (d) Lysosomes	1
10.	What does A,B and C represent in the given figure of chromosome?  A B C (a) Centriole Satellite Primary Constriction (b) Centriole Satellite Secondary Constriction (c) Centromere Satellite Secondary Constriction (d) Centromere Satellite Primary Constriction	1
11.	Which of the following secondary metabolites are used as drugs? (a) Abrin and Ricin b. Vinblastin and Curcumin c) Anthocyanins d.) Gums and cellulose	1
12.	Which of the following is a heteropolymer? (a) Cellulose b) Peptidoglycan c) Starch d) Glycogen	1
Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below: A. Both A and R are true and R is the correct explanation of A B. Both A and R are true and R is not the correct explanation of A C. A is true but R is false D. Both A and R are false.		
13.	Assertion (A) Spores in mosses are contained within the capsule Reason (R) Spores are formed by mitotic division in mosses	1
14.	Assertion (A) The Cymose type of inflorescence has limited growth.	1

	Reason (R) In Cymose inflorescence main axis terminates in a flower.	
15.	Assertion (A) Vascular bundles are conjoint collateral closed in dicot stem. Reason (R) Vascular bundles are conjoint collateral open in monocot stem.	1
16.	Assertion (A) Peripheral proteins are partially or totally buried in the membrane. Reason (R) Integral proteins lie on the surface of the membrane.	1
SECTION - B		
17.	What is metagenesis? Mention one example which exhibits this phenomenon.	2
18.	Fern prothallus is monoecious. Justify.	2
19.	Name the type of placentation shown in figures a and b.. give one example of each. 	2
20.	Write two differences between protoxylem and metaxylem.	2
21.	Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their function. Comment. Or Differentiate between essential and nonessential amino acids.	2
SECTION - C		
22.	How do archaebacteria differ from other bacteria? What is the role of methanogens?	3
23.	Draw a well-labeled diagram of the chordate plan. Differentiate between notochord and nerve cord.	3
24.	What are the different types of flowers based on symmetry? Give one example of each.	3
25.	Answer the following with reference to the anatomy of the dicot root: a. Which type of cells constitute the cortex. b. How are xylem vessels arranged? c. What do you call such an arrangement.	3
26.	Give an account of the alimentary canal of the frog.	3
27.	Explain any three different types of chromosomes on the basis of centromere. Or Comment upon the cartwheel structure of the centriole.	3
28.	What are nucleosides? Name the four of them that occur in RNA.	3
SECTION - D		
29.	Case 1: Read the passage given below and answer the following questions: All of us who have suffered the ill effects of COVID-19 know what effects viruses can have on us. Viruses are non-cellular organisms that are characterized by having an inert crystalline structure outside the living cell. Once they infect the cell they take over the machinery of the host cell to replicate themselves and kill the host. i. The name virus meaning venom or poisonous fluid was given by: a. M.W Beijerinck b. Dmitry Ivanovsky c. T.O Diener d. Pasteur ii. Read the following statements and select the correct option. a. No virus contain both RNA or DNA. b. Viruses are obligate parasites. c. The genetic material is infectious in virus. d. All of these. iii. Viruses that infect plants have: a. Double stranded DNA b. Double stranded RNA c. Single stranded RNA d. Single stranded DNA	4

	iv. Viruses cause the disease(s) a. Mumps b.Small pox c. Herpes d.All of these.																																				
30.	Case-2 Study the diagram given below and answer the questions that follow:  i. Identify the labels A,B, and C showed in the above diagram. <table><tr><th></th><th>A</th><th>B</th><th>C</th></tr><tr><td>a.</td><td>Ribosomes</td><td>SER</td><td>RER</td></tr><tr><td>b.</td><td>RER</td><td>SER</td><td>Ribosomes</td></tr><tr><td>c.</td><td>SER</td><td>Ribosomes</td><td>RER</td></tr><tr><td>d.</td><td>RER</td><td>Ribosomes</td><td>SER</td></tr></table> ii. The label C in the diagram is the site of: <table><tr><td>a. Respiration</td><td>(b) Photosynthesis</td></tr><tr><td>© Protein synthesis</td><td>(d) Fat synthesis</td></tr></table> iii. Difference between rough and smooth endoplasmic reticulum is that : <table><tr><td>a. Rough ER has ribosomes.</td><td>b. Smooth ER has ribosomes</td></tr><tr><td>c. Smooth ER takes part in protein synthesis.</td><td>C.Both have F1 particles.</td></tr></table> iv. Ribosomes are: <table><tr><td>I. Non-membrane-bound</td></tr><tr><td>II. Absent in plastids and mitochondria.</td></tr><tr><td>III. Present in Cytoplasm and RER.</td></tr></table> Choose the correct option: <table><tr><td>a. Only ii</td><td>b. i and ii</td><td>c. i ,ii and iii</td><td>d. i and iii</td></tr></table>		A	B	C	a.	Ribosomes	SER	RER	b.	RER	SER	Ribosomes	c.	SER	Ribosomes	RER	d.	RER	Ribosomes	SER	a. Respiration	(b) Photosynthesis	© Protein synthesis	(d) Fat synthesis	a. Rough ER has ribosomes.	b. Smooth ER has ribosomes	c. Smooth ER takes part in protein synthesis.	C.Both have F1 particles.	I. Non-membrane-bound	II. Absent in plastids and mitochondria.	III. Present in Cytoplasm and RER.	a. Only ii	b. i and ii	c. i ,ii and iii	d. i and iii	4
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SECTION- E																																					
31.	Name the three groups of plants that bear archegonia. Briefly describe the life cycle of any one of them. Or Briefly describe the different types of coeloms in the animal kingdom. Porifera and cnidaria contain spongocoel and coelenteron but still are not true coelomates. Comment.	5																																			
32.	Describe the floral family Solanaceae in semi technical terms. Or Describe the internal structure of a dorsiventral leaf with the help of a labeled diagram.	5																																			
33.	Explain the fluid mosaic model. Or <table><tr><td>a. Enlist the four steps involved in the catalytic action of the enzyme.</td></tr><tr><td>b. Differentiate between coenzyme and prosthetic group.</td></tr></table>	a. Enlist the four steps involved in the catalytic action of the enzyme.	b. Differentiate between coenzyme and prosthetic group.	5																																	
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