

**KENDRIYA VIDYALAYA SANGATHAN
SILCHAR REGION
SESSION ENDING EXAMINATION (2017-18)**

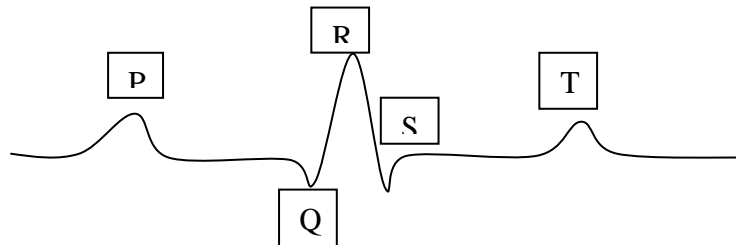
**CLASS – XI
SUBJECT: BIOLOGY**

**TIME: 3 Hrs
MAX.MARKS:70**

- a. All questions are compulsory.
- b. The question paper consists of 30 questions divided into four sections A, B, C and D. The section A contains 1-5 questions of **1mark each**, the section B consists of **6-10** questions of **2 marks each**, the section C has **11-22** questions of **3 marks each**, section D has the question no. **23** is a value based question of **4 marks** and section E includes **24-26** question of **5 marks each**.
- c. There is no overall choice. However, **internal choice** has been provided in **one** question of 2 marks each, in **one** question of 3 marks each and in **all the three** questions of 5 marks each. You are to attempt only one of the two alternatives in case of an internal choice question.
- d. Wherever necessary, the diagrams drawn should be neat, bold and properly labeled.

SECTION A

1. Name the micronutrient that acts as cofactor for the enzyme nitrogenase ?
- 2.



In the ECG graph given above, show the wave which represents depolarization of ventricles..

3. Which of the components of phloem is devoid in Rice ?
4. What are the two basic body forms of cnidarians ?.
5. What is the fate of the pyruvate in a medium consisting of lactobacillus ?

SECTION B

6. What do the depolarization of atrial muscles in the heart and axonal membrane of the neuron signify.
7. In the Salivary-amylase test for starch ,you have observed a blue colour when tested with solution A. What is A ? Why doesn't cellulose produce blue colour with A ?
8. Fill in the blanks A,B,C, D relating to the characteristics of the membrane transport.

CHARACTER	SIMPLE DIFFUSION	ACTIVE TRANSPORT	FECILITATED TRANSPORT
REQUIRES ATP	A	YES	NO
REQUIRES MEMBRANE PROTEINS	NO	B	YES
TRANSPORT SATURATES	C	YES	D

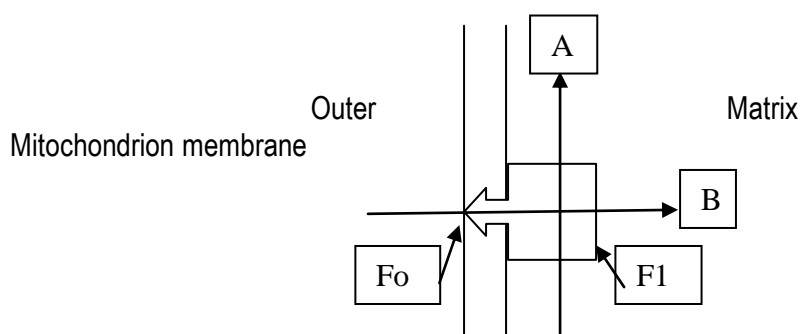
9. Mention the salient features of Singer and Nicolson model of cell membrane.

(OR).

- What is the internucleotide distance in the DNA helix (Angstrom unit) ?
 - A nitrogenous base + sugar + phosphate =
10. A) Certain amount of malonate , an inhibitor was found to compete for the same active site with the succinate, substrate. How will the rate of reaction be restored into a normal state ?
 B) How do calculate 'Km" value ?

SECTION C

11. What does this figure depict ? Name A and B , How does it differ in chloroplast ?

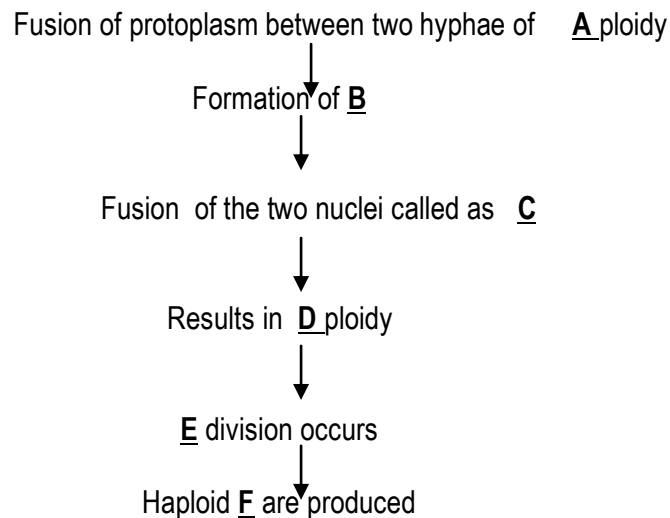


- What is the gametophytic stage in Funaria and in Adiantum known as ?
Name the unique fertilization event occurring in flowering plants ?
- Name the two types of Endoplasmic Reticulum. Why are they called so ? Give any function of each of them.
- What happens when a Rh- factor woman marries a Rh+ factor man ? Why a person with 'O' blood group cannot be blood transfused from any other blood groups ?
- Why C₂ cycle do not occur in C₄ plants but found in C₃ plants ?
- Draw a vertical section of human eye and label any four parts

(OR)

Draw the structure of a sarcomere of muscle fibre showing the muscle during relaxation.

- Name the three permanent tissues found in flowering plants. Write any ONE function for each.
- In class Basidiomycetes, sexual reproduction occurs in a different manner. Fill in the blanks mentioned as A,B,C,D,E,F and complete the flow chart.



19. a) A researcher performed an experiment in oats plant and analyzed that 6 FADH₂, 2 GTP and 8 NADH+H⁺ molecules had passed into ETS and oxidized. How many ATP molecules were obtained in overall ?
 b) How many ATP molecules are produced during the alcohol fermentation by yeast?
20. Answer the following questions about the stages of cell division at which these events occur-
- Pairing between homologous chromosomes
 - Two daughter cells are formed with equal chromosomes as that of parent cell.
 - Centromere splits and chromatids separate
 - Crossing over between non-sister chromatids
 - Chromosome are moved to equator of the spindle.
 - Homologous pair of chromosomes separate and move to opposite poles of the spindle
21. Mention the different mouth parts of *Periplaneta americana*.
 Which part assists in biting of food?
22. Interpret between the following:
- Primary and Secondary metabolites
 - Secondary Protein structure and tertiary protein structure
 - Lyases and Ligases

SECTION-D

23. In 2017, Noble Prize in Physiology or Medicine was awarded to three eminent researchers' for the discovery of Molecular mechanism controlling the Circadian Rhythm in Human beings. They emphasized about the sleep cycle and its regulation in our body.
- Name the Hormone responsible for inducing sleep rhythm in our body.
 - What is the response of the hormone in our body?
 - What values must be obtained by you for getting Good sleep ?

SECTION E

24. What is the known as Kranz anatomy ? Diagrammatically show the HATCH AND SLACK Pathway. What is CO₂ acceptor and 1st stable product in C₃ plants ?

(OR)

What are plant growth regulators ? Discuss the types and write on physiological actions of any

THREE of them.

25. Describe the PROPHASE I of meiosis I and give the significance of meiosis
(OR)

What is centromere ? How does the position of centromere form the basis of classification of Chromosomes ? Support your answer with neat illustrations.

26. How does the transport of substances are facilitated by the Henle's loop and vasa recta ?
Explain Renin-Angiotensin mechanism occurring in nephron.
What is artificial kidney ?

(OR)

a) Which is called as 'pace maker' of the heart ?

b) Describe the cardiac cycle

c) What is the difference between heart attack and cardiac arrest

d) Name the instrument used to monitor the heart function