

SUMMATIVE ASSESSMENT –I (2011)
SCIENCE- SC1 QP 470011
Class – IX (Biology)

Time allowed: 1 hour

Maximum Marks: 30

General Instructions:

- (i) The question paper comprises of two sections, A and B. You are to attempt both the sections.
- (ii) All questions are compulsory.
- (iii) There is no overall choice. However, internal choice has been provided in all the five questions of five marks category. Only one option in such questions is to be attempted.
- (iv) All questions of section A and all questions of section B are to be attempted separately.
- (v) Questions 1 to 3 in section A are one mark questions. These are to be answered in one word or in one sentence.
- (vi) Questions 4 to 7 in section A are two marks questions. These are to be answered in about 30 words each.
- (vii) Questions 8 to 19 in section A are three marks questions. These are to be answered in about 50 words each.
- (viii) Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- (ix) Questions 25 to 42 in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.

Section A

- 6.** Differentiate between the plasma membrane and cell wall.
- 7.** List any four salient features of meristematic tissue.
- 15.** (a) State the constituents of phloem ? (b) How does cork act as a protective tissue ?
- 16.** Give the location and functions of the following tissues : (a) Cartilage (b) Areolar tissue (c) Adipose tissue
- 17.** What will happen if : (a) ribosomes are removed from the cell, (b) golgi apparatus is removed from the cell, (c) plasma membrane ruptures ?
- 18.** What is animal husbandry? Differentiate between milch and draught animals. What do the following supply to dairy animals : (i) roughage (ii) concentrates.
- 19.** State differences between mixed cropping and intercropping with examples.
- 24.** (a) A farmer found that xanthium and parthenium are also growing along with paddy in the field ? What are such plants called ? How the presence of these plants affect the crop yield ? (b) List any four methods for controlling and preventing the growth of such plants ?

OR

- (a) List the different ways in which biotic and abiotic factors affect stored food grains ?
- (b) What preventive and controlling measures need to be taken before and after storing the grains ?

Section B

- 39.** Animal cells are commonly stained with : (a) methylene blue (b) acetocarmine (c) safranin (d) iodine solution
- 40.** Aditi observed following observations while looking into a permanent slide. (i) Cells are long and cylindrical (ii) Light and dark bands are present. It could be a slide of : (a) striated muscle fibre (b) smooth muscle fibre (c) neuron (d) parenchyma cells
- 42.** A permanent slide shows thin walled isodiametric cells with a large vacuole. The slide contains : (a) Parenchyma cells (b) Nerve cells (c) Sclerenchyma cells (d) Collenchyma cells

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Section A

- 1. What happens when you pour some acetone on your palm ?
- 2. In a high jump athletic event the athletes are made to fall on a cushioned bed. Why ?
- 3. Name the plastid which stores starch, oils and protein granules.
- 4. What is a solution ? On which factor does a solution said to be diluted, concentrated or saturated ?
- 5. The earth attracts the moon. Does the moon also attract the earth ? If it does, why does the earth not move towards the moon ?
- 6. Mention any two functions of Golgi apparatus.
- 7. In a temporary mount of a leaf epidermis we observe small pores. 2 (a) What are the pores present in leaf epidermis called ? (b) How are these pores beneficial to the plant ?
- 15. (a) Write the location and function of collenchyma tissue. (b) Draw a diagram of collenchyma tissue and label its any four parts.
- 16. (a) Name the connective tissue that is found between skin and muscles. (b) Draw its diagram and label any three parts.

17. Explain your observation in the following with reason involved in the process.

(a) Salt is applied to raw mango pieces

(b) Dried raisins are kept in water for a few hours.

18. What is animal husbandry? Differentiate between milch and draught animals. What do the following supply to dairy animals : (i) roughage (ii) concentrates.

19. State differences between mixed cropping and intercropping with examples.

24. (a) Differentiate between Intercropping and mixed cropping giving one example of each. (b) List any two advantages of such type of cropping patterns.

OR

(a) Mention the two ways of obtaining fish. (b) Explain composite fish culture system with the help of an example. (c) Mention the major problem in fish farming. How can this problem be overcome

Section B

39. In the cells of an onion peel the nucleus is seen :

(a) in the centre of the cell (b) in the corner of the cell (c) near the plasma membrane (d) on one side of the cell

40. Which of the following can be considered as the identifying character of **1**

sclerenchyma ? (a) Presence of inter cellular spaces. (b) Presence of thick cell wall. (c) Presence of chlorophyll. (d) Presence of stored food.

42. The slide observed under the microscope shows number of nuclei present in its cells.

The cells are of : (a) sclerenchyma. (b) striated muscle. (c) nerve cell. (d) parenchyma.

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- (viii) Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- (ix) Questions 25 to 42 in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.

Section A

- 6.(a)** What would happen to the life of a cell if there was no Golgi apparatus ? (b) Which cell organelle detoxifies poisons and drugs into liver of vertebrates ?
- 7.**List any two differences between striated and cardiac muscle with respect to their structure and location.
- 15.(i)** Draw a labelled diagram of longitudinal section of parenchyma. (ii) Write three functions of parenchyma cells.
- 16.**Mention the type of tissue which
- (a) enables the plant to transport food material from leaves to other parts of its body.
 - (b) helps in the growth of girth of the stem ?
 - (c) helps in the transport of water from the root to other parts ?
 - (d) provides support to plants and also stores food ?
- 17.**Explain the structural difference between plastids and mitochondria. Write one similarity between the two.
- 18.(a)** The black and white dots in the picture below are an indication of two different types of crop plants, identify the cropping pattern shown in figure 'A' and 'B'.
(b) Mention any two advantages of such cropping patterns.
- 19.(a)** Describe any two irrigation systems adopted in India to supply water to agricultural lands. (b) Write two advantages of building check dams.
- 24.(a)** A farmer found that xanthium and parthenium are also growing along with paddy in the field ? What are such plants called ? How the presence of these plants affect the crop yield ? (b) List any four methods for controlling and preventing the growth of such plants ?

OR

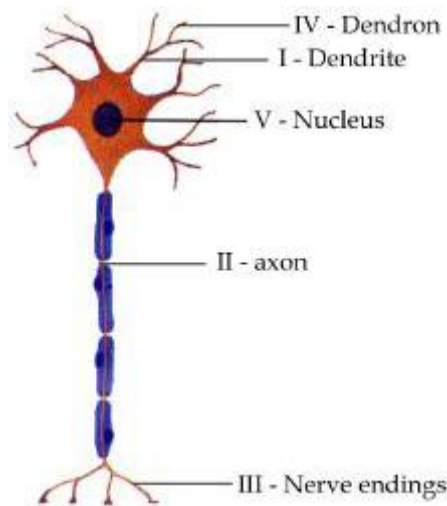
(a) A student visited a fish farm where he found Catla, Rohu, Mrigals, Common Carps and Grass Carps cultured in the same pond. Name the type of fish farming observed by the student. (b) Mention the advantages of such farming system. (c) What is the main problem in such fish farming ? How do farmers overcome such problem ?

Section B

39. Geeta was asked to prepare a temporary mount of onion peel and list the steps. While writing, she wrote following steps which may not be in proper sequence : The correct sequence would be : (i) Add few drops of safranin stain and transfer to a slide. (ii) Cover it with a cover slip. (iii) Add a drop of glycerine. (iv) Take out onion peel. (v) Keep the peel in water in a petri dish

(a) (i) (ii) (iii) (iv) (v) (b) (iv) (v) (iii) (ii) (i) (c) (iv) (v) (i) (iii) (ii) (d) (v) (iv) (i) (iii) (ii)

40. Anuradha observed a slide of nerve cell, drew its diagram. Choose the correct labelling :

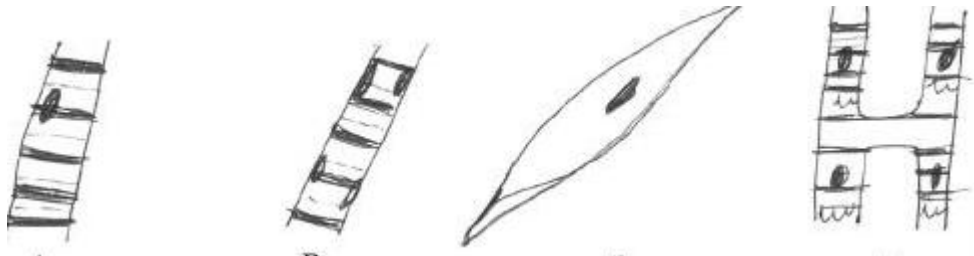


(a) I, II, III, IV, V are correct (b) V, II, III, are correct (c) IV, V, II, III are correct (d) Only I and IV are correct

41. A student was asked to identify the process which occurs when the raisins are soaked in water :

(a) Osmosis (b) Plasmolysis (c) Endocytosis (d) Diffusion

42. Nemesh was given three slides. By mistake he drew four diagrams. Select the correct diagram of striated muscle.



(a) A (b) B (c) C (d) D

(a) A (b) B (c) C (d) D

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- (viii) Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
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Section A

- 6.(a)** In which form does the mitochondria release energy ? Write its full form. (b) The inner membrane of mitochondria is deeply folded : What is the advantage of these folds ?
- 7.**State one important function of each of the following : (a) areolar tissue (b) cuboidal epithelium
- 15.(i)** What type of tissue is bone ? (ii) What is the hard matrix made up of ? (iii) Write the functions of ligaments and tendons. (i)
- 16.**Why is parenchyma called a permanent tissue ? Name the two special types of parenchyma. Mention their specific roles in plants.
- 17.**Describe an activity to demonstrate endosmosis and exosmosis. Draw a diagram also.
- 18.**Mention the types of honey bee you will prefer to rear if you are running an apiary. Give any three reasons for your choice. List any two factors on which the quality of honey depends.
- 19.**Distinguish between : (a) Inland fishery and marine fishery (b) Culture fishery and capture fishery (c) Apiculture and aquaculture
- 24.(a)** How are new varieties of poultry birds with desired traits produced ? (b) Mention any four desirable traits for which new varieties are produced ? (c) List the management practices that are common between dairy and poultry farming. (a)

OR

Explain five different factors for which varietal improvement is carried out by the farmers.

Section B

- 39.**A student observed the following points in a temporary mount : (i) Large irregular shaped flat cells. (ii) Cytoplasm is dense. (iii) Blue coloured dense nucleus placed centrally. (iv) Each cell is bounded by a cell membrane. Which type of cells he recognises out of the following : (a) Onion peel cells. (b) Parenchymatous cells. (c) Nerve cell. (d) Epithelial cells of human cheek.
- 40.**One of the following is not visible in cheek cells. (a) Cell membrane (b) Cell wall (c) nucleus (d) cytoplasm
- 42.**Raisins swell up after being placed them in a beaker containing water for sometime because. (a) Water inside the raisins exits when placed in a beaker of water. (b) The concentration of water in the cell sap is the same as that of water in the beaker. (c) The concentration of water in the cell sap is higher than the water in the beaker. (d) The concentration of water in the cell sap is lesser than that of water in the beaker.

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- (vii) Questions 8 to 19 in section A are three marks questions. These are to be answered in about 50 words each.
- (viii) Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
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Section A

- 6.**What will happen to a plant cell if it is kept in a (i) hypotonic solution (ii) hypertonic solution.
- 7.**Name the tissue that smoothens bone surfaces at joints. Describe its structure with the help of a diagram.
- 15.**(a) Identify the given figures. (b) State in brief their structure. (c) Describe the role performed by the two.
- 16.**Draw a well labelled diagram of cardiac muscle found in human body. Write two differences between striated and smooth muscles.
- 17.**State main functions of the following : (a) Mitochondria (b) Golgi apparatus (c) Vacuoles
- 18.**(a) Give an example for exotic and indigenous breeds of the following. Poultry, milk cattle (b) Name two shell fish.
- 19.**Mention the three different ways in which insect pest can attack the plant. Mention the preventive and control measures that need to be taken before storing the agriculture

produce.

24.(a) How do good animal husbandry practices benefit farmers ? (b) What are the two purpose for which cattle husbandry is followed ? (c) Which method is commonly used for improving cattle breeds and why ?

OR

(a) Identify and define the cropping pattern shown in the figure. (b) On what basis the selection of different crops as shown in the figure are carried out ? (c) List the advantages of growing crops in this pattern.

Section B

39.Human cheek cells stained in methylene blue and mounted in glycerine were observed with the help of a compound microscope. The components of the cell which would be seen are : (a) cell wall, cytoplasm, nucleus (b) plasma membrane, cytoplasm, nucleus (c) plasma membrane, cytoplasm, nucleus, mitochondria (d) plasma membrane, cytoplasm, nucleus, mitochondria, golgi bodies, lysosomes(stain)

40.In a compound microscope, the slide is first focused at : (a) low power (10 \times) (b) high power (40 \times) (c) 100 \times to observe large cells (d) none of these

42.The shape of striated muscle cells is : (a) cylindrical (b) spindle shaped (c) Elongated with tapering ends (d) spherical