

SFS

Series.	K I	R II	M III	GIV
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Code No.-1/1/1

Candidate must write the Code No. on the title page of the answer book.

- Please check that this question paper contains 3 printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 27 questions.
- Please write down the Serial Number of the question before attempting it.

**FIRST TERM EXAMINATION (2017 -2018)**  
**CLASS - IX**  
**SCIENCE**

Time allowed: 3 Hours

SET - 1

Maximum Marks: 80

**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. But internal choice is there in question numbers 9, 11 and 19.
- (iv) All questions of section A and all questions of section B are to be attempted separately.
- (v) Question numbers 1 and 2 in section A are one mark questions. These are to be answered in one word or in one sentence.
- (vi) Question numbers 3 to 5 in section A are two marks questions. These are to be answered in about 30 words each.
- (vii) Question numbers 6 to 15 in section A are three marks questions. These are to be answered in about 50 words each.
- (viii) Question numbers 16 to 21 in section A are five marks questions. These are to be answered in about 70 words each.
- (ix) Question numbers 22 to 27 in section B are two marks questions based on practical skills. Each question is to be answered in about 30 words.

**SECTION A**

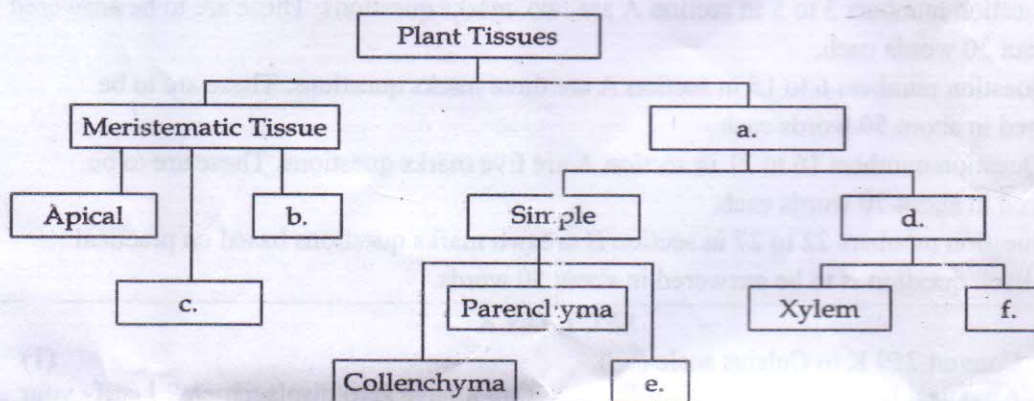
- 1. Convert 259 K to Celsius scale ( $^{\circ}\text{C}$ ). (1)
- 2. An object has moved through a distance. Can it have zero displacement? Justify your answer. (1)
- 3. Passengers tend to fall forward when moving bus suddenly comes to stop. Explain. (2)
- 4. A racing car has a uniform acceleration of  $4\text{m/s}^2$ . What distance will it cover in 10s after start? (2)
- 5. Which cell component can be called: (2)
  - (i) the director of the cell
  - (ii) the little nucleus
  - (iii) kitchen of the cell
  - (iv) powerhouse of the cell
- 6. a) State two points of difference between boiling and evaporation (2+1)  
 b) Gases are more compressible than liquids. Give two reasons.

OR

6. a) Name the process involved in the following changes:  
i) liquid to solid ii) solid to vapour iii) vapour to liquid iv) solid to liquid  
b) What happens when acetone is poured on the palm?
7. a) A solution contains 50 g of sugar in 350g of water. Calculate the concentration of solution in terms of mass by mass percentage of the solution. (2+1)  
b) Name the two components of a colloid.
8. a) State the law of Conservation of Mass. (1)  
b) When 6g of carbon is burnt in 16g of oxygen, 22g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 6g of carbon is burnt in 50g of oxygen? Which law of chemical combination will govern your answer? (2)
9. Draw VT graph for a uniformly accelerated object. Derive second equation of motion from it. (3)
10. State which of the following situations is possible and give an example for each:- (3)  
a) an object with constant acceleration but zero velocity  
b) an object moving in a certain direction with acceleration in perpendicular direction  
c) an object moving with constant speed but still accelerating
11. A bullet of mass 10g travelling horizontally with a velocity of 400m/s strikes a freely suspended wooden block of mass 900g and gets embedded in it. What will be the velocity acquired by the block? (3)

OR

11. Give reasons -  
a) When bullet is fired from a gun, the gun recoils to conserve momentum.  
b) Fielder moves his hands backwards while catching a ball.
12. A ball thrown up vertically returns to the thrower after 6s. Find - (3)  
a) the velocity with which it was thrown up (take  $g = 10\text{m/s}^2$ )  
b) the maximum height it reaches, and  
c) its position after 4s
13. (a) Where are the ribosomes present in a cell? (3)  
(b) Where are they synthesised and what makes them so important?
14. Complete the following flow diagram: (3)



15. Proper disposal of agricultural byproducts was a problem in the village. Santosh who had come to his ancestral village during vacation advised the villagers to put up a poultry farm to overcome this production. They accepted his advice and introduced certain exotic breeds to increase the number and quality of eggs and meat. Their combined decision helped in providing balanced diet to all the villagers.  
(i) Mention any two advantages of adopting poultry farming.  
(ii) Write name of one indigenous and one exotic breed of poultry.  
(iii) Mention two values shown by Santosh. (3)

Q15 You visit a small village and during discussion with farmers you make two observations:-  
• They have been rearing the same cereal crop in the field year after year.  
• Their expenditure on fertilizer are much more than

suggest to the farmer

16. a) Draw a labeled diagram of the apparatus used to separate a mixture of two miscible liquids (boiling point difference is more than  $25^{\circ}\text{C}$ ) (3+2)  
b) Name the separation technique which is used to separate butter from curd. List one more application of this technique. *Centrifugation.*
17. a) State and derive Newton's second law of motion. (5)  
b) Define 1N  
c) Show that first law of motion is contained in second law.
18. a) What do you mean by free fall? (5)  
b) Prove that acceleration experienced by a freely falling object is independent of its mass.  
c) If acceleration due to gravity is same for all objects, explain why a plain sheet of paper falls slower than a crumpled one?  
d) An object weighs more on poles than on equator of earth. Justify the statement.
19. (a) Define osmosis. Write its types. What happens when a cell is placed in hypotonic and hypertonic solutions respectively? (5)  
(b) Mention two points of difference between osmosis and diffusion. (5)

OR

19. (a) Identify the type of cell and write one characteristic feature of each (3+2)  
(i) large vacuole, nucleus pushed to the periphery  
(ii) cell does not burst even in a very dilute medium  
(iii) nuclear region is not well defined and is known as the nucleoid  
(b) Define diffusion. Explain this phenomenon with the help of an example.
20. Identify the following tissues : (5)  
(a) The epithelial tissue which has pillar like tall cells.  
(b) The cells of this tissue are filled with fat globules.  
(c) The movement of this tissue pushes the mucus forward to clear respiratory tract.  
(d) It gives buoyancy to lotus to help it afloat.  
(e) This tissue is present in lung alveoli.
21. Define 'Hybridisation'. Explain the three types of cross-breeding practiced during hybridisation? What do you mean by genetically modified crops? (5)

SECTION B

22. On measuring the temperature of ice during the process of its melting, the temperature (2)  
a) increases b) decreases c) remains constant d) first increases and then decreases. Give reason to support your choice.
23. Write down the correct sequence of the four steps which should be followed to separate the components of the given mixture -  $\text{NaCl} + \text{Sand} + \text{NH}_4\text{Cl}$ . (2)
24. Sulphur powder and Iron filings are mixed together and given to a group of students. They were asked to a) run magnet over it b) heat it. Mention the observations reported by the students based on the activities a) and b). (2)
25. Sugar crystals are dissolved in water and a solution is obtained. Comment on its transparency and stability. (2)
26. While preparing a temporary mount of onion peel why are cells stained? While preparing temporary mount which is the reagent used to stain animal cell? (2)
27. Draw a well labeled diagram of the cardiac muscle. (2)

(3) what value you will learn from farmer who grows food for the country? — 3 marks