PRINCE PUBLIC SCHOOL
HALF YEARLY EXAMINATION (2018-19)
SAMPLE PAPER -2
SCIENCE
IX

TIME ALLOWED: 3 HOURS **MAXIMUM MARKS: 80**

General instructions

1. This question paper consists of 27 questions. All the questions are compulsory.
2. The question paper comprises of two sections A and B. You are to attempt both the sections.
3. All questions of Section A and all questions of Section B are to be attempted separately.
4. Question numbers 1 and 2 in Section A are 1 mark questions.
5. Question numbers 3 to 5 in Section A are 2 marks questions.
6. Question numbers 6 to 15 in Section A are 3 marks questions.
7. Question numbers 16 to 21 in Section A are 5 marks questions.
8. Question numbers 22 to 27 in Section B are 2 marks questions based on practical skills.

SECTION A

Q1. Pick the odd one out. Give suitable reason for your selection.
Golgi apparatus, Endoplasmic Reticulum (E.R), Cytoplasm, Lysosomes.

Q2. Give an example of a uniform circular motion.

Q3. What is weightlessness? When do objects experience weightlessness?

Q4. "All the objects in the universe attract each other".
a) What is this force of attraction called as?
b) Name any two factors on which this force of attraction depends.

Q5. a) A sponge can be compressed, yet it is a solid why? Explain.
b) Name the state of matter that has minimum space between particles.

Q6. You are provided with a mixture of mustard oil and water. Name the method to separate it and write the principle involved. Draw diagram of the method used.

Q7.Draw a distance-time graph for
a) an object moving with a uniform velocity. b) an object at rest.

Q8.Give two features of the following.
a) Tissue that stores fat. b) Tissue that stimulates impulses .
c) Tissue that controls contraction and relaxation of heart.

Q9. Calculate the acceleration due to gravity on the surface of satellite having mass 7.4 x 1022 kg and radius 1.74 x 106cm (G=.6.7x 10-11 Nm/kg^2).

Q10. Why copper Sulphate solution in water does not show Tyndall effect but mixture of water and milk shows?

Q11. State the form of energy possessed by particles of matter in motion? How does the increase in temperature affect the rate of diffusion?

Q12. Raghu had a poor yield due to failure of the crop. His father Rajan suggested that he should grow two or more crops simultaneously in his field as this would reduce risk of loss. He suggested two crops that can be grown together.
a) Write the name of the cropping pattern which his father suggested.
b) Write the names of the examples of crops given by his father.
c) Mention any two values that are worth appreciation in his father's behavior.

Q13. Draw a diagrammatic labeled sketch of stem-tip to show the location of meristematic tissue. Mention the function of different types of meristematic tissue.

Q14. Mention three points to justify that air is a mixture not a compound.

Q15. a) State law of inertia.

b) Why do we fall in forward direction, if a moving bus stops suddenly and fall in backward direction, if it suddenly accelerates from rest?

Q16. a) Draw a neat diagram of an animal cell and label the parts whose functions are as follows.

i) Helps in storage modification and packaging of products in vesicles.

ii) Helps in keeping the cell clean by digesting worked-out cell organelles.

iii) Helps in oxidation of glucose to produce energy in the form of ATP.

iv) Allows the entry and exit of some materials into and out of the cells.

b) Define nucleoid.

Q17. Draw a velocity time graph for a body that starts to move with velocity 'u' under a constant acceleration 'a' for time 't'. Using this graph, derive an expression for distance covered 's' in time 't'.

Q18. Distinguish among true solution, suspension and colloid in the tabular form under the following characteristics.

a) type of mixture

b) stability

c) filterability

d) size of solute

e) visbility of particles

Q19. a) Define weed. Give two examples.

b) Why is it essential to remove weeds from agricultural fields ?

c) What are weedicides?

Q20. a) Define buoyant force. Name two factors on which it depends.

b) Account for the following.

i) A ship made of iron floats but a nail of iron sinks in water.

ii) It is easier to swim in sea water than in river water.

c) Find the density of a substance if its volume is $300cm^3$ and mass 60g.

Q21. a) Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/location in the body.

b) How are simple tissues different from complex tissues in plants?

SECTION B

Q22. There are three solutions in test tubes, such that one of them is suspension, and the others being colloidal solution and a true solution. How will you distinguish between them without using any equipment?

Q23. Iron particles in a mixture of iron and sulphur are attracted by a magnet.However,the iron particles in iron sulphide are not attracted. Why?

Q24. What kind of reaction takes place when copper sulphate crystals are strongly heated? Is this reaction reversible or irreversible?

Q25. What were the two main differences you observed while observing the slides of onion peel and cheek cells under a compound microscope?

Q26. Which stain is used to stain the cells of onion peel? How can excess stain be removed from the peel?

Q27. Two slides of parenchyma and sclerenchyma tissues are shown to you. How can you differentiate between them?