

# AMRITA VIDYALAYAM

## HALF YEARLY EXAMINATION 2017 -'18

Class : IX

Marks : 80

Time : 3 hrs

### SCIENCE

#### GENERAL INSTRUCTIONS :

1. Questions 1 - 2 carry 1 mark each. They are to be answered in one word or in one sentence.
2. Questions 3 - 5 carry 2 marks each. They are to be answered in about 30 words each.
3. Questions 6 - 15 carry 3 marks each including a value based question. They are to be answered in about 50 words each.
4. Questions 16 - 21 carry 5 marks each. They are to be answered in about 70 words each.
5. Questions 22 - 27 are explanatory questions based on practical skills and carry 2 marks each.
6. All questions are compulsory. However an internal choice is provided in 2 questions of 3 marks each and one question of 5 marks.

1. Why are gases compressible but not liquids?
2. Define uniform circular motion.
3. The minute hand of a clock is 7 cm long. Find the displacement and the distance covered by it from 9.00 am to 9.30 am.
4. What is dry ice? State the conditions to liquify gases.
5. Give reasons for the following.
  - a) When a carpet is beaten with a stick, dirt comes out of it.
  - b) It is difficult for a fireman to hold a hose which ejects large amount of water at high velocity.
6.
  - a) Draw the shape of the distance time graph for uniform and non-uniform motion of object.
  - b) A bus starting from rest moves with uniform acceleration of  $0.1 \text{ ms}^{-2}$  for 2 minutes. Find (i) the speed acquired. (ii) the distance travelled.
7. Three students A, B and C prepared mixtures using chalk powder, common salt and milk respectively in water. Whose mixture
  - a) would not leave residue on filter paper after filtration?
  - b) would show tyndall effect?
  - c) would give clear solution?
  - d) would settle down at the bottom when left undisturbed?
  - e) could be filtered by filter paper?
8. State the main features of cell membrane.
9. Ravi Prasad, a farmer has 25 acres of land. He noticed some infections on the leaves of his crops. He called his friend Raghav who advised him to use DDT. However Ravi Prasad preferred to use dry powder of neem leaves as an insecticide.  
Answer the following questions based on the above information.
  - a) Why did Ravi Prasad prefer using neem powder?
  - b) In your opinion did he take the right decision?
  - c) Write the values associated with decision taken by Ravi Prasad.
10. A body of mass 5 kg starts from rest and accelerates uniformly to attain a velocity of 4 m/s in 10s. Calculate
  - a) the force needed to cause this change.
  - b) the momentum at the start.
11. Show that the rate of change of momentum of an object is the product of its mass and acceleration.



23. You are shown two slides of plant tissues parenchyma and sclerenchyma. How can you identify the sclerenchyma?
24. What are the features that best describe the cells of parenchyma?
25. Trupti was observing an onion peel stained with safranin under a microscope. What was the colour of the cell wall?
26. Sand and naphthalene balls were heated together in a china dish. What substance will be left in the china dish? Give reason.
27. What happens when iron nail is put in copper sulphate solution?