

CYHXFB5

## SUMMATIVE ASSESSMENT - I, 2016-17

SCIENCE

Class - IX

Time Allowed : 3 hours

Maximum Marks : 90

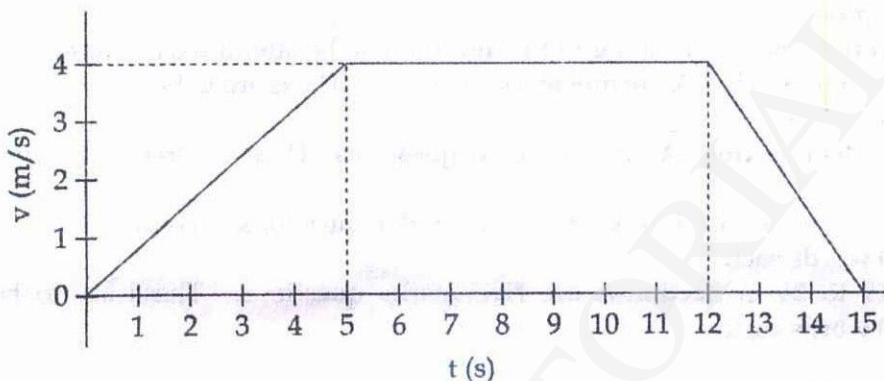
### General Instructions :

1. The question paper comprises of two Sections, A and B. You are to attempt both the sections.
2. All questions are compulsory
3. All questions of Section-A and all questions of Section-B are to be attempted separately.
4. Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence
5. Question numbers 4 to 6 in Sections-A are two marks questions. These are to be answered in about 30 words each.
6. Question numbers 7 to 18 in Section-A are three marks questions. These are to be answered in about 50 words each
7. Question numbers 19 to 24 in Section-A are five marks questions. These are to be answered in about 70 words each.
8. Question numbers 25 to 33 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.
9. Question numbers 34 to 36 in Section-B are questions based on practical skills. Each question is of two marks.

### SECTION-A

- 1 Identify the phenomenon by which the cell contents shrink away from the cell wall. 1
- 2 A body is moving with a velocity of 15 m/s. If the motion is uniform, what will be its velocity after 10 s? 1
- 3 When a man jumps out from a boat to the bank of the river the boat moves backwards. Identify the action and reaction in this situation. 1
- 4 Define centrifugation. Write its any one application. 2
- 5 What is the function of sieve tube cells and how are they designed to carry out their function? 2
- 6 "All the objects in the universe attract each other".  
(a) What is this force of attraction called as? 2  
(b) Name any two factors on which this force of attraction depends. 2
- 7 What do you mean by crystallization? How can we get pure copper sulphate from impure sample by this process? 3
- 8 Define latent heat of vaporization. Give reason why steam causes more severe burns than boiling water. 3
- 9 Give reasons for the following observations : 3  
(i) We get the smell of lighted incense stick sitting at a distance.  
(ii) We are not able to cut the stream of water with our fingers.

- 10 (iii) When we make lemonade (nimbu pani), each sip has same taste. 3  
 (a) State the difference between tendon and ligament. 3  
 (b) Give the function of adipose tissue. 3
- 11 How is the genetic material, Deoxyribo nucleic acid present in a non-dividing cell and in a cell which is about to divide? What are genes? How do they help in heredity? 3
- 12 State reasons for the following : 3  
 (i) When a hanging carpet is beaten with a stick, the dust particles start coming out of it.  
 (ii) It is dangerous to jump out of a moving bus.  
 (iii) The passengers in a bus tend to fall backward when it starts suddenly.
- 13 The gravitational force between two objects is 100 N. How should the distance between these objects be changed so that the force between them becomes 50 N ? 3
- 14 The velocity-time graph of a truck is plotted below. 3

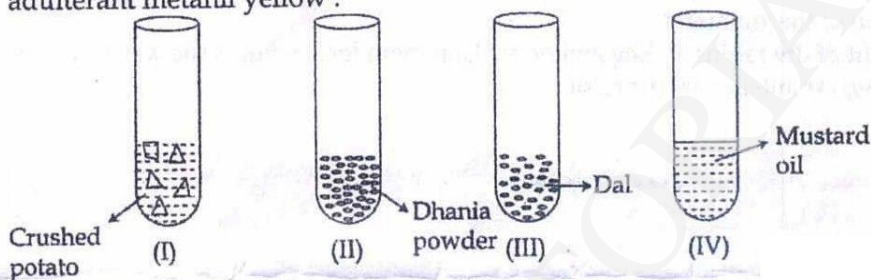


- (a) Calculate the magnitude of displacement of the truck in 15 seconds.  
 (b) During which part of the journey was the truck decelerating?  
 (c) Calculate the magnitude of average velocity of the truck.
- 15 A gun of mass 3 kg fires a bullet of mass 30 g. The bullet takes 0.003 s to move through the barrel of the gun and acquires a velocity of 100 m/s. Calculate : 3  
 (i) The velocity with which the gun recoils  
 (ii) The force exerted on gunman due to recoil of the gun.
- 16 A cheetah accelerates from rest at the rate of  $4 \text{ m/s}^2$ . 3  
 (a) What will be the velocity attained by it in 10 s?  
 (b) How far will it travel in this duration?
- 17 Bhola and Rajni, who are studying in class IX, were travelling in a train. Rajni observed a field with two crops growing simultaneously in a definite pattern. While Bhola was busy in playing with a video game, Rajni noticed that rows of bajra and lobia were grown in alternate rows. She asked her grandfather why Bajra and Lobia are grown together? 3  
 (i) On what basis are the two crops selected in this pattern?  
 (ii) How does this practice benefit the farmer ?  
 (iii) State any two values in Rajni's behaviour here that differentiate her from Bhola.
- 18 Explain the meaning of 'milch' and 'draught' animals. Mention the scientific name of a common Indian cow. 3
- 19 Explain what is a mixture? Name the two types of mixtures. List two points of difference between them. How would you confirm that a colourless liquid given to you is pure water? 5
- 20 Compare the three states of matter on the basis of density, compressibility, rate of diffusion. 5  
 Give four reasons to prove that the pen you are writing with is a solid.

- 21 (a) What are the consequences of the following conditions? 5  
 (i) A cell having higher water concentration than the surrounding medium.  
 (ii) A cell having lower water concentration than the surrounding medium.  
 (iii) A cell having equal water concentration to its surrounding medium.
- 22 (b) Name the materials of, which the cell membrane and cell wall are composed of. 5  
 Write three points of difference between mass and weight? How much would a 70 kg astronaut weigh on the moon? What would be his mass on the earth and on the moon? 5
- 23 (a) Define momentum. Write its SI units. 5  
 (b) Calculate the change in momentum of a car weighing 1500 kg, when its speed increases from  $36 \text{ kmh}^{-1}$  to  $72 \text{ kmh}^{-1}$  uniformly. 5
- 24 Apart from manure how are green manures and vermi - compost significant for the crop production in agriculture? How green manure is produced? 5

### SECTION - B

- 25 The sample which will give positive test with conc hydrochloric acid to detect the presence of adulterant metanil yellow : 1



- (a) I (b) II  
 (c) III (d) IV
- 26 Rohit was trying to test the presence of starch in potato extract. He forgot the reagent with which starch gives blue black colour. Help him to select the correct stain from the following : 1  
 (a) Safranin (b) Methylene blue  
 (c) Iodine solution (d) Eosin
- 27 Sulphur powder and iron filings were mixed in a china dish. The colour of sulphur powder observed by students is : 1  
 (a) black (b) grey  
 (c) yellow (d) reddish
- 28 Three components Iron, Sulphur and iron sulphide were taken in different test tubes and heated on a burner flame. The component which will melt first is : 1  
 (a) Iron (b) Sulphur  
 (c) Iron sulphide (d) Iron and sulphur both
- 29 When a few drops of water are added to anhydrous copper sulphate its colour changes from : 1  
 (a) white to blue (b) blue to white  
 (c) white to green (d) No colour change
- 30 While observing a stained mount of onion peel under the high power of a compound microscope, the part of the cell that appears to take very little stain is : 1  
 (a) Nucleus (b) Cytoplasm  
 (c) Vacuole (d) Cell wall
- 31 On observing the muscles with alternate light and dark bands, which are voluntary muscles a student noticed that there is some difference related to nucleus. 1

- The number of nucleus in these cells is :
- (a) zero (b)  one  
(c) two (d) many
- 32 After separating ammonium chloride from a mixture of ammonium chloride, sand and common salt by sublimation the contents of the china dish, mixture of sand and common salt were poured in a beaker containing distilled water. On stirring it well one component dissolved in water and the other was separated by filtration. The filtrate contained :
- (a) ammonium chloride (b) sand  
(c)  common salt (d) distilled water
- 33 The spring balance used for pulling the block has least count of 0.5 kg wt. The block starts sliding when pointer is at 25th division. The applied force is : 1
- (a) 25 kg wt (b) 0.5 kg wt  
(c) 12.5 kg wt (d)  5.0 kg wt
- 34 How would you confirm in your school laboratory whether the given solution is a true solution ? List two tests. 2
- 35 Mention the type of thermometer that should be used to determine the melting point of ice in laboratory. What should be the position of bulb of thermometer ? 2
- 36 A student recorded the weight of dry raisins as 5.4g and on soaking them for 4-5 hours the weight was 7.6g 2  
Calculate the percentage of water imbibed by the raisins.