

Class 9-SA-1-TEST-2

SECTION A

- 1- Why does the level of water not change when common salt is dissolved in water?
- 2- An unbalanced force is acting on an object. List the possible effects that will be caused in the motion of object.
- 3- State the full form of ATP.
- 4- What mass of water must be added to 5 g of NaCl to make 5% mass by mass percentage of the solution?
- 5- Write the S.I. unit of G. why is gravitational constant (G) known as universal constant?
- 6- What will happen to a plant cell if it is kept in a
Hypotonic solution
Hypertonic solution
- 7- Name the tissue that smoothness bone surfaces at joints. Describe its structure with the help of a diagram.
- 8- Solubility of potassium nitrate at 313 K is 62 g. What mass of potassium nitrate would be needed to produce a saturated solution of KNO_3 in 50 g of water at 313 K? What is the effect of change of temperature on the solubility of a salt?
- 9- How will you separate common salt, sulphur powder and sand from their mixture?
- 10- An object is moving with uniform speed in a circle of radius? Calculate the distance and displacement
 - a) When it complete half the circle
 - b) When it completes full circle
 - c) What type of motion does the object possess? (Justify your answer)
- 11- What happens when we accidentally step on a peel of banana? Explain with reference to Newton's law of motion.
- 12- Give three points of differences between mass and weight.
- 13-
 - a) State the unit of force and define it.
 - b) A stone is dropped from the edge of a 4.9 m high roof. Find out the following:

- i. Time taken to fall 4.9 m.
- ii. Velocity just before it reaches the ground.
- iii. What is its acceleration after 1 s and 2 s from start?

14-

- a) State Universal law of Gravitation.
- b) If the moon attracts the earth, why does the earth not move towards the moon?

15- Draw a well labeled diagram of cardiac muscle found in human body. Write two differences between striated and smooth muscles.

16- State the main functions of the following:

- a) Mitochondria
- b) Golgi apparatus
- c) Vacuoles

17- a) Give an example for exotic and indigenous breeds of the following:

Poultry, milk cattle

18- 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 starting the agriculture

20- (a) A solution contains 50 ml of alcohol mixed with 150ml of water. Calculate the concentration of this solution.

(b) Write any two characteristics of colloidal solution.

OR

(a) Write the steps involved in the process of obtaining pure copper sulphate from an impure sample.

(b) Give any one application of this method.

(c) Why is this technique better than simple evaporation to purify solids?

21- (a) what is matter?

(b) "The rate of diffusion of liquids is higher than that of solids." Why?

(c) Write the full form of:

(i) LPG

(ii) CNG

OR

Define boiling point of a liquid. At what temperature in the Kelvin scale does water boil? Explain what happens when we supply heat energy to water till it changes its state. What is this heat energy called?

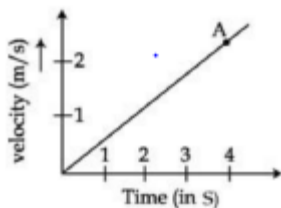
22- (a) derive an expression to prove the law of conservation of momentum.
 (b) Why does a karate expert suddenly reduce the speed of his hand while striking a slab of ice? Explain with reference to Newton's law of motion.

OR

- (a) State Newton's first law of motion.
 (b) A scooter is moving with an initial velocity of 90 km/hr and it takes 10s to stop it, after the brakes are applied. Calculate the force exerted by the brakes on the scooter if its mass along with the rider is 200 kg.

What would be the force if the mass is halved?

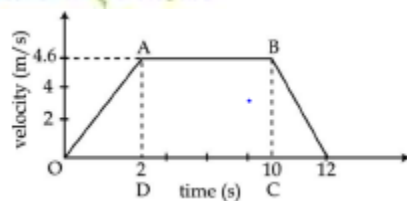
23- The velocity time graph of a particle of mass 50gm moving in a definite direction is shown the following figure. Answer the questions based on this figure



- (a) What is the velocity of the particle at point 'A'.
 (b) Find the momentum of the particle, at time $t = 4s$.
 (c) What does the slope of graph represent?
 (d) Calculate the distance travelled in 4 seconds.

OR

Study the velocity- time graph of an ascending passenger lift in the figure shown below. What is the acceleration of the lift



- (a) During the first two seconds.
 (b) Between second and tenth second.
 (c) During the last two seconds.
 (d) Which physical quantity is measured by area under the quadrilateral ABCD?

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

Section B

25- Which of the following does not form suspension when added to water?

- (a) Soil
 (b) Chalk powder
 (c) Milk
 (d) Fine sand

26- Which of the following is most stable?

- (a) True solution
 (b) Colloidal solution
 (c) Suspension
 (d) None of these

27- Which is not the property of a mixture?

- (a) It is a heterogeneous system.
 (b) It is a system of constant composition.
 (c) It is a system of variable composition.
 (d) Its components can be separated by physical methods.

28- The color of the solution obtained, when iron nails are kept immersed in copper sulphate solution is

- (a) Dark blue

- (b) Dark green
- (c) Brown
- (d) Greenish blue

29- A thermometer has 20 equal divisions between 90°C and 100°C marks. A student while determining the boiling point of water finds that the mercury thread becomes stationary at the 19th mark above 90°C . he should record the boiling point of water as:

- (a) 90.19°C
- (b) 99.5°C
- (c) 109°C
- (d) 119°C

30- What is the state of water at 100°C ?

- (a) Solid
- (b) Vapour
- (c) Liquid
- (d) Liquid and vapors

31- A mixture of Ammonium Chloride and sand was heated, ammonium chloride changes directly into vapors due to:

- (a) Evaporation
- (b) Fusion
- (c) Distillation
- (d) Sublimation

32- While heating iron filing and sulphur, keep your eyes away from vapors because:

- (a) Sulphur vapors may cause irritation in eyes.
- (b) Sulphur vapors are harmless.
- (c) Iron vapors may cause irritation in eyes.
- (d) H_2S gas may cause irritation in eyes.

33- A student took about 10 ml of dil. H_2SO_4 in a conical flask and added a few pieces of clean zinc metal. He observed small bubble of a colorless and odorless gas coming out of the flask. On bringing a candle flame at the mouth of the flask, he observed that the candle flame goes off and the gas in the flask burns with a pop sound. This gas is:

- (a) O_2
- (b) H_2S
- (c) SO_2
- (d) H_2

34- A student heated a mixture of sand and a chemical substance in a beaker. The mixture started giving dense white fumes which condensed on a cool glass plate to form white powdery mass. This process (of separating constituents of mixture) is called:

- (a) Evaporation
- (b) Decantation
- (c) Sublimation
- (d) Distillation

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

- (a) Osmosis
- (b) Plasmolysis
- (c) Endocytosis
- (d) Distillation

36- Given below are four operations for preparing a temporary mount of human cheek cells:

- (a) a-b-c-d
- (b) d-a-c-b
- (c) d-a-b-c
- (d) a-c-b-d

37- A student added only two drops of iodine to a rice extract in test tube 'A'. Another student added a little rice extract to iodine solution in test tube 'B'. They would then observe:

- A) change of color to blue black in test tube 'A' but not in test tube 'B'
- B) A change of color to blue black in test tube 'B' but not in test tube 'A'
- C) A change of color to blue black in test tube 'A' and 'B' both
- D) No change of color in any test tube

38- To observe starch granules in potato under a microscope, freshly cut surface of potato was pressed on a slide. The stain that will show starch granules clearly is:

- a) Methylene blue
- b) Iodine
- c) Safranin
- d) Eosin

39- Human cheek cells stained in methylene blue and mounted in glycerin 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

40- In a compound microscope, the slide is first focused at:

- (a) Low power (10x)
- (b) High power (40x)
- (c) 100 x to observe large cells
- (d) None of these

41- To prepare a temporary stained mount of onion peel a student must take the material from:

- (a) Green leaf of spring onion
- (b) Crushed pulp of onion
- (c) Dry scale leaf of onion
- (d) Thin layer of fleshy leaf base of onion

42- The shape of striated muscle cells is:

- (a) Cylindrical
- (b) Spindle shaped
- (c) Elongated with tapering ends
- (d) Spherical

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