

REVISION EXAMINATION 2017-18**Class –IX****M. MARKS – 80****Subject – Science and Technology****Duration – 3 hours****This question paper consists of 27 questions and 5 printed sides**

- i. The question paper comprises of three sections, A and B. You are to attempt all the sections.
- ii. All questions are compulsory.
- iii. There is internal choice in two three-mark questions and one five-mark question
- iv. All questions of section A and 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 one sentence.
- vi. Question numbers 3 to 5 in section A are two marks questions, to be answered in about 30 words each.
- vii. Question numbers 6 to 15 in section A are three marks questions, to be answered in about 50 words each.
- viii. Question numbers 16 to 21 in section A are five marks questions, to be answered in about 70 words each.
- ix. Question numbers 21 to 27 in section B are two mark questions, and are practical based questions.

SECTION A

1. What is formula unit mass? 1
2. What is the acceleration produced by a force of 12N exerted on an object of mass 3kg. 1
3. For the symbol H, D and T tabulate the three subatomic particles found in each of them. 2
4. a) Distinguish between smooth and rough endoplasmic reticulum. 2
b) Which special modifications are observed in the epidermis of leaf and root respectively?
5. Which of the following are chronic diseases? Give reasons. 2
Cholera, Malaria, AIDS, Common cold, Tuberculosis
6. a. Arrange the following in order of increasing density. 3
Exhaust from chimney, air, water, chalk.
b. For any substance why does the temperature remain constant during change of state?
c. Why do we see water droplets on the outer surface of a glass containing ice-cold water?
7. a. What is the dispersed phase and dispersing medium in sponge? 3
b. Which method will you use to separate mixture of two immiscible liquids? State its principle.
c. Write any two applications of chromatography.

8. a. State the working principle of lactometer 3
b. Differentiate between G and g

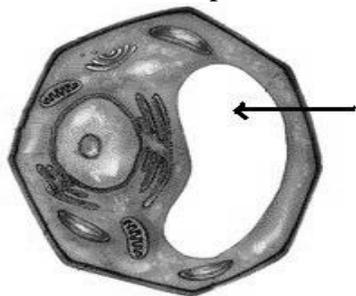
OR

- a. A brick of dimensions 30cm X 20cm X 15 cm and having a mass of 4 kg is kept on a levelled ground. Calculate the thrust exerted by the brick on the ground. Also, find the pressure exerted by the brick on the ground if its sides of dimensions 30cm x 15cm are in contact with the ground.
a. How does the force of gravitation between two objects change when the distance between them is reduced to half?
9. a. What is reverberation? 3
b. Why are ceiling of a concert hall curved?
c. A person clapped his hands near a cliff and heard the echo after 5s. what is the distance of the cliff from the person, if the speed of sound is taken as 346m/s?

10. Derive the expression $v^2 = u^2 + 2as$ by graphical method. 3

11. Give reason 3
a. To walk on the ground, we push the ground backwards with our foot.
b. In high jump event, the athletes are made to fall either on a cushioned bed or on a sand bed.
c. External force is required to take a turn in left side, for a car which is moving in a straight line.

12. a. Differentiate between organisms belonging to kingdom Monera and Protista on the basis of their genetic material. 3
b. Identify **A** in the given diagram and write its functions. Also state its specialised role in an *Amoeba*



A

13. a) Name the living component common to both complex permanent tissues found in plants. Why are they called complex tissues? 3
b) Show the differences between smooth and striated muscles with the help of a diagram.
14. a) Explain what would happen if carbon dioxide content of the atmosphere increases? 3
b) How does change in temperature affects aquatic organisms?
c) State the significance of ozone layer.

OR

- a) Distinguish between nitrification and denitrification.
b) What happens when CFCs reach ozone layer? How will it affect life on earth?
c) Name any two biomolecules containing oxygen.

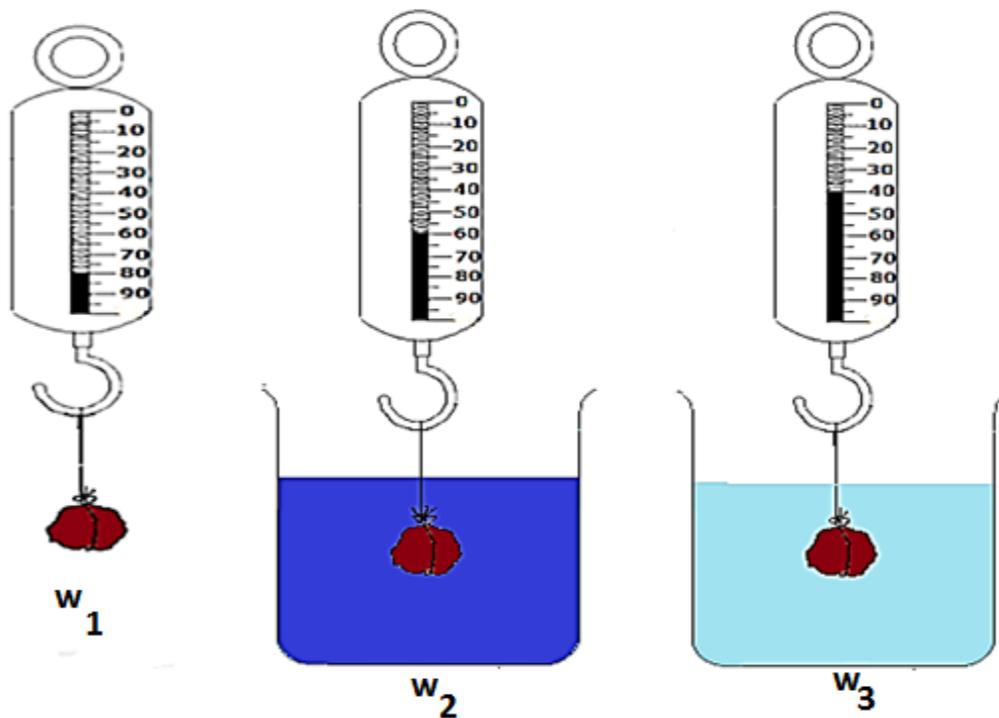
15. Madan's uncle who is a farmer adds excessive fertilizers in his field to increase fertility of the soil. Madan suggested his uncle to practise organic farming. 3
- What are the ill effects of excessive use of fertilizers in a field?
 - Define any one type of cropping system which his uncle can practise to avoid excessive use of fertilizers.
 - What are the values displayed by Madan?
16. 5
- Differentiate between transverse and longitudinal waves
 - Explain the uses of multiple reflection (any 2 uses)
 - Which wave property determines (i) loudness and (ii) pitch.
17. 5
- A body of mass 5 kg, initially at rest, is subjected to a force of 20 N. What is the kinetic energy acquired by the body at the end of 10s.
 - Define the commercial unit in which electrical energy is measured. Obtain its value in terms of S.I unit of energy.
 - A lamp consumes 1000J of electrical energy in 10s. What is its power?
18. 5
- Write the formula of copper(I) oxide, Ammonium sulphide.
 - When 3.0g of carbon is burnt in 8.00g of oxygen, 11.00g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.00g of carbon is burnt in 50.00g of oxygen? Which law of chemical combination will govern your answer?
 - Calculate the number of molecules of Sulphur (S_8) present in 16g of solid Sulphur ($S=32u$)
19. 5
- Write the Bohr Bury rules for filling up of shells.
 - Will ^{35}Cl and ^{37}Cl have different valencies? Justify your answer.
- OR
- Write postulates of Bohr's model of atom.
 - What was the drawback of Rutherford's model of atom?
 - An element X has 11 protons, 11 electrons and 12 neutrons. What type of ion will be formed by X, and what will be the number of protons neutrons and electrons in the ion formed?
20. 5
- Identify the group of plants known as vascular cryptogams. Give example.
 - What is notochord?
 - State the appropriate terms for the following.
 - Plants which bear seeds with two cotyledons.
 - Animals which do not have a true coelom.
 - Write any two similarities and dissimilarities between the classes Aves and Mammalia.
21. 5
- Why antibiotics do not work against viruses?
 - What can be the symptoms of a disease if liver is infected?
 - What is the specific way of preventing infectious diseases?

d) Complete the given table.

Causative organism	disease	Type of pathogen
<i>Trypanosoma</i>	a) _____	b) _____
c) _____	Acne	d) _____

SECTION B

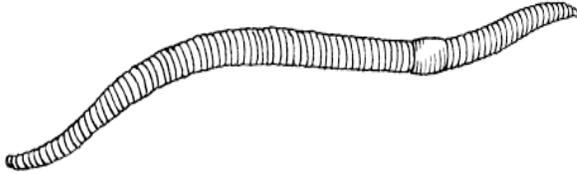
22. A spring balance used for measuring mass of cuboid has a least count of 2g. Two students using the same spring noted two different readings, 32g and 35g. which reading is correct? Why? 2
23. Write any two differences between a colloid and a solution. 2
24. a. Write down the values of W_1 , W_2 and W_3 , 2
b. Which liquid is less denser?



$$\text{Relative density} = \frac{\text{upthrust received by a body in } x}{\text{upthrust received by a body in water}}$$

25. What do you observe when ? 2
- Iron filings are added to aqueous solution of copper sulphate.
 - Aqueous solution of barium chloride and mixed with aqueous solution of sodium sulphate.

26. In which phylum would you place the following organism? Write its scientific name. Also state the identifying features of the phylum. 2



27. Draw a well labelled diagram of transverse section of sclerenchyma tissue. State its unique features. 2