

## SCIENCE

**Date:**  
**Time:3Hrs**

**Class: VIII**  
**M. M: 90**

### General Instructions:

1. There are 36 questions in this paper.
2. Read all questions carefully.
3. Marks are indicated against each question.
4. Q25-Q36 are based on practical based questions.
5. All questions are compulsory.

- |    |  |   |
|----|--|---|
| 1  | Name the cell organelle which is called as power house of the cell.  | 1 |
| 2  | Mention the type of force acting in following cases:<br>a) Force which stops a moving ball.<br>b) Squeezing a piece of lemon between your fingers.   | 1 |
| 3  | Why are frog's eggs covered with a layer of jelly?   | 1 |
| 4  | Give the scientific term for following:<br>a) Female gametes in human beings.<br>b) Part of female reproductive system where fertilization takes place.<br>c) Artificial technique of fertilization outside the body.<br>d) Cell produced after fusion of gametes. | 2 |
| 5  | A bucket full of water is held above the ground.<br>i) Name the forces acting on it.<br>ii) Why do the forces acting on it not bring a change in its state of motion?  | 2 |
| 6  | Why is it difficult to move a box from the rest than when it is already in motion?   | 2 |
| 7  | i) Differentiate between prokaryotic and eukaryotic cells on the basis of the following:<br>a) Nuclear membrane<br>b) Membrane bound organelles<br>ii) Give one example each of prokaryotic and eukaryotic organisms.  | 3 |
| 8  | With reference to Polymers ,answer the following:<br>a) Define the process by which polymers are formed..<br>b) Differentiate between synthetic and natural fibres on the basis of:<br>i) Cost      ii) maintenance  | 3 |
| 9  | i) Suggest two methods by which friction can be reduced<br>ii) Explain giving example that friction is a necessary evil.   | 3 |
| 10 | Give reasons for the following:<br>a) Kabaddi players rub their hands with mud before playing<br>b) It's difficult to walk on wet floor.<br>c) Brake pads are fitted in brake systems of bicycles.   | 3 |

- 11 Name the following: 3
- Variety of coal with lowest percentage of carbon.
  - Slow process of formation of coal.
  - Fuel used in jet aircrafts.
  - Constituent of petroleum used in making ointments and vaseline.
  - Domestic fuel which can be transported through pipes.
  - A petroleum product used in surfacing of roads.

- 12 What do you mean by destructive distillation of coal? Write its two products. Mention one use of each of these products? 3

- 13 Sex hormones bring about changes at puberty. With reference to this, answer the following: 3
- Site of secretion of sex hormone in females.
  - Name of female sex hormone.
  - How these sex hormones reach their target sites?
  - Write any one change in females which occur at puberty.

- 14 a) "Excessive use of fossil fuels leads to global warming." Justify your answer giving suitable reason. 3  
b) Write any two ways by which fossil fuels can be conserved.

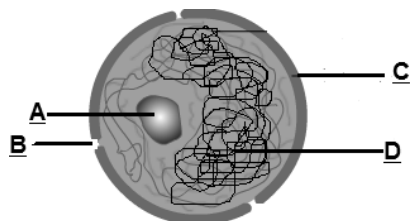
- 15 An object oscillates 260 times in 10 seconds. Find out the time period and frequency of the object. Will the sound produced be audible to human ear or not? 3

- 16 i) Define smog. 3  
ii) Explain two harmful effects of air pollution (other than smog).

- 17 "Acid rain corrodes the marble of monuments." 3
- What is this phenomenon called as?
  - How is acid rain caused?
  - Write another effect of acid rain.

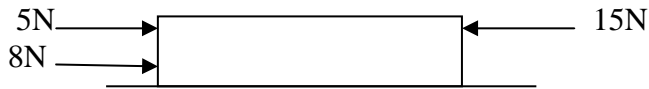
- 18 Ravi read in newspaper that 25% of world's population is without potable water. He discussed the matter with his science teacher and classmates. With reference to this incident answer the following : 3
- Why do we need to purify water before drinking?
  - Name two diseases which can be caused by drinking contaminated water.
  - List any one method of water purification.
  - What value is depicted by Ravi's behaviour?

- 19 a) Label the following diagram of nucleus: 5
- What is the function of part 'D'?
  - Differentiate between plant cell and animal cell on the basis of :
    - Plastids
    - Location of nucleus



- 20 a) A brick is 40 cm long, 10 cm wide and 5 cm thick. It weighs 20 N and is lying on the ground. Find the minimum pressure exerted by the brick on the ground. 5  
b) Explain why heavy trucks are fitted with six to eight wheels?

c) Find resultant force and its direction in the following case:

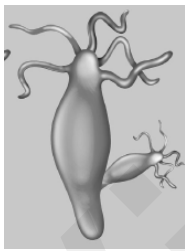


- 21 a) Differentiate between Thermoplastics and Thermosetting plastics on the basis of following: 5
- i) Effect of heat
  - ii) Recycling
- b) Draw the diagram to show arrangement of monomers in Thermosetting plastics.
- c) Write full form of PVC.
- d) Why are nylon fibres used to make rock climbing ropes and parachutes?

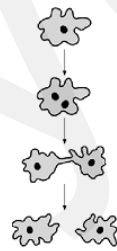
- 22 i) “The belief that mother is responsible for the sex of child is completely wrong.” 5  
Justify the statement and explain with the help of diagram how the sex of child is determined?
- ii) Write two ways by which AIDS is spread.
- iii) Why is Pituitary gland called as master gland?

- 23 a) What is the difference between noise and music? 5
- b) List two effects of noise pollution.
- c) What will be the effect on pitch of sound if frequency is doubled?
- d) Name the part of ear which:
- i) collects the sound waves.
  - ii) Converts sound vibrations into electrical impulse.

- 24 5



(A)



(B)

- i) Identify the modes of reproduction shown in figure A and B.
- ii) **Define** the above shown modes of reproduction and give **one example** of each.
- iii) Mention one difference between above shown modes of reproduction.
- 25 Segregate biodegradable and non-biodegradable items from the following: 2  
Aluminium foil, leather, paper, plastic.
- 26 Seema was cutting fruits for her sick mother. She was not able to cut fruits easily .Her 2  
sister Neeta advised her to use a sharp knife.
- a) Why a sharp edged knife is preferred to cut fruits?
  - b) What value do you learn from Seema?
- 27 Write the different stages of life cycle of frog. Name the hormone required for 2  
metamorphosis of frog.
- 28 Which of the following exerts greater friction? 1
- a) Solids
  - b) Liquids
  - c) Gases
  - d) All of the above exerts same friction

- 29 On which surface a toy car pushed with same force travel the farthest? 1  
a) Sand  
b) Glass  
c) Cloth  
d) Grass
- 30 Adolescence is a period of rapid growth and development. Which of the following components of diet is required more by adolescents? 1  
a) Proteins  
b) Fats  
c) Carbohydrates  
d) Lipids
- 31 Which gas can kill a person when inhaled in excess? 1  
a) Carbon dioxide  
b) Carbon monoxide  
c) Oxygen  
d) Sulphur dioxide
- 32 CNG is preferred as a fuel now a days. Which of the following is not a reason to make it popular? 1  
a) It is cheaper  
b) It is less polluting  
c) Available in abundance  
d) Easy to transport.
- 33 Which of the following is not a unicellular organism? 1  
a) Amoeba  
b) Paramecium  
c) Hydra  
d) Yeast
- 34 The time taken by pendulum bob to complete one oscillation is called: 1  
a) Frequency  
b) Amplitude  
c) Time period  
d) Pitch
- 35 Which of the following is not a percussion instrument? 1  
a) Tabla  
b) Drum  
c) Manjira  
d) violin
- 36 A hormone 'H' is secreted in human beings which helps to adjust in emergency situations like fear, nervousness etc . The gland which secretes 'H' is: 1  
a) Adrenal  
b) Testis  
c) Pancreas  
d) Thyroid

## Answer Key

Date of Exam:

Class: VIII

Subject: SCIENCE

Instructions:

1. Mitochondria. 1m
2. a) Force of friction. 0.5m      b) Muscular force 0.5m
3. Frogs eggs are joined together by jelly .It also provides protection. 0.5+0.5
4. a) Ova  
b) oviduct.  
c) IVF  
d) Zygote 0.5x4=2
5. i) Muscular force , gravitational force. 1  
ii) Both forces balance each other. 1
6. Irregularities are more tightly fit when box is at rest. Irregularities break when box is once moved. 1+1
7. i) a) Nuclear membrane is present in eukaryotes and absent in prokaryotes.  
b) Membrane bound organelles are found only in eukaryotes. 1+1  
ii) Prokaryote-Bacteria, Eukaryote-Amoeba 0.5+0.5
8. a) Many monomers join to form a big molecule called polymer by polymerization. 1  
b) Synthetic fibres                      natural fibres  
    Cheap                                      costly  
    Easy to maintain                      Attacked by insects 1+1
9. i) Oiling, greasing, polishing. .5+.5  
ii) We cannot write without friction.  
    It causes wear and tear e.g shoe soles. 1+1
10. a) To increase friction for better grip.  
b) Friction is very less so no grip is formed on floor.  
c) To increase friction to stop movement of wheel. 1x3
11. a) peat.  
b) Carbonisation  
c) Kerosene  
d) Paraffin wax  
e) LPG  
f) Bitumen .5x6=3
12. Heating of coal in absence of air in closed furnace. 1  
    Coke, Coal tar .5+.5  
    One use of each .5+.5
13. a) Ovaries .5  
b) Oestrogen 1  
c) Through blood. ....5  
d) Menstruation starts or any other feature. 1
14. a) Fossil fuels are burnt to release CO<sub>2</sub> which causes global warming being a green house gas and traps more heat inside atmosphere. 2  
b) Car pooling, use of solar energy. .5+.5
15. Time period=time taken/no. of vibrations  
    =8/260=0.03s 1  
  
    Frequency=no.of vibrations/time  
    =260/8 = 32.5 Hz 1  
    It is audible to human ear. 1

- 16 i) It is mixture of smoke and Fog. 1
- ii) Respiratory diseases, skin problems, lowering of visibility. 1+1
17. i) Marble cancer. 1
- ii) Oxides of Nitrogen and Sulphur combine with water to form nitric and nitrous and sulphuric acids fall down with rain. 1
- iii) Harms aquatic bodies, plants, soil quality 1
18. a) To kill germs to avoid diseases. 1
- b) Typhoid, Cholera. .5+.5
- c) Filtration, Boiling ..... 5
- d) Curious, Scientific bent of mind..... 5
19. i) A- nucleolus, B- nuclear pore, C- nuclear membrane, D- Chromosome .... 5x4=2
- ii) Chromosomes carry genes which help in heredity. 1
- iii) Plant cell Animal cell
- |                     |           |     |
|---------------------|-----------|-----|
| Plastids present    | absent    |     |
| Nucleus on one side | in centre | 1+1 |
20. a) Area=  $40 \times 10 = 400 \text{m}^2$
- Force=20 N .5
- Pressure=Force/area .5
- =  $400/20 = 20 \text{Pa}$  1
- b) To increase surface area to reduce pressure on ground. 1
- c) Resultant force= 15-13
- =2N 1
- Direction is backward. 1.
21. a) i) Thermosetting plastics Thermoplastics
- |                        |                       |   |
|------------------------|-----------------------|---|
| Heat resistant         | Get melted on heating |   |
| ii) Cannot be recycled | recyclable            | 2 |
- b) Diagram= 1 m
- c) Polyvinylchloride 1
- d) nylon fibres are very strong. 1
22. i) Father contributes X and Y chromosome which fuses with female gamete and decides the sex of child. Explanation 1 Diagram= 1
- ii) Blood transfusion, mother to baby. 1+1
- iii) It controls all other glands in our body. 1
23. a) Noise- 80dB and above sounds, Music is pleasant rhythmic sound. 1+1
- b) Hearing impairment, anxiety. .5+.5
- c) Pitch is 2 times 1
- d) i) ear pinna
- ii) Cochlea 0.5+0.5
24. i) A- Budding , B= Binary fission .5+.5
- ii) e.g Hydra by budding .....5, Definition=1
- e.g Amoeba by binary fission .5, Definition=1
- iii) One difference 1
25. Biodegradable= leather, paper.
- Non-biodegradable= Al foil, plastic .5x4=2
26. a) Sharp knife provides lesser surface area thus exerts more pressure to cut fruits. 1
- b) Caring, Responsible. 1
27. Egg, larva, adult. 1.5
- Thyroxin .5
28. a
29. b
30. a
31. b
32. c
33. c
34. c
35. d
36. c