

Science

Time:3hrs

M. M: 90

General Instructions:

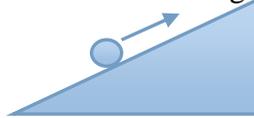
1. There are two sections in this paper. Section A contains Q 1-24 & section B contains Q25-36.
2. Marks are indicated against each question.
3. Read all questions carefully.
4. All questions are compulsory.

Section A

- 1 Why is an animal cell regarded as eukaryotic cell? 1
- 2 Give one method which we can adapt to use inexhaustible resources. 1
- 3 Give the direction of force of friction in the following cases. 1



(i)



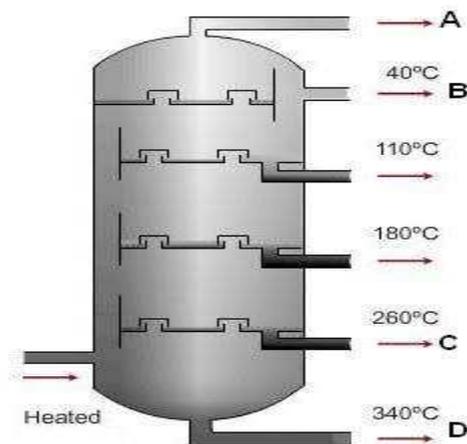
(ii)

(Arrows indicate the movement of the ball on the inclined plain)

- 4 Name the following 2
 - a) A female hormone
 - b) Male gamete in human beings
 - c) Process of formation of zygote
 - d) Part in the female reproductive system where implantation takes place.
- 5 Compare any two properties of Rayon and Acrylic. 2
- 6 Explain what happens to meteors when they enter into the Earth's atmosphere. 2
- 7 Discuss the various shapes of cells found in human body and write one example for each (any three shapes) 3
- 8 Differentiate between thermoplastic and thermosetting polymers on the basis of : 3
 - a) nature
 - b) effect of high temperature
 - c) toughness
- 9 With the help of diagram, explain the causes of friction. 3
- 10 Explain the process of binary fission in amoeba with the help of well labeled diagram. 3

11 a) Write the principle involved in the given process.

3



b) Label the parts A,B,C and D in the above diagram

12 Give reason for the following:

3

- a) Heavy suitcases are provided with small wheels.
- b) The body of a racing car is streamlined.
- c) Thick grooves are made in the tyres of heavy vehicles.

13 Explain how does the development of an embryo take place in a hen?

3

14 A string vibrates 60 times in 2 seconds. Find the frequency and time period of vibrations of the string. Will this sound produced be audible to human ears or not? Give reason to support your answer.

3

15 a) What is carbonization.

3

b) Write conditions required for destructive distillation.

c) Give the relevant scientific term for the following:

- i) A product used to make candles.
- ii) A fuel used in aero planes.

16 List any three changes that take place in females during adolescence.

3

17 a) What are sex chromosomes?

3

b) How is the sex determined in the human beings? Explain with the help of a flow chart.

18 Rohan read about the devastating effect of Oil Spills in the ocean and he wants to know more about it. Help him by answering the questions given below:

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- a) What is an oil spill?
- b) Give any two ill effects of oil spill.
- c) How can it be prevented?

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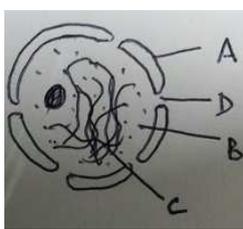
- a) What is noise pollution?
- b) Name any two sources of noise pollution.
- c) Suggest two ways to reduce noise pollution

20 a) Differentiate between plant cell and animal cell on the basis of

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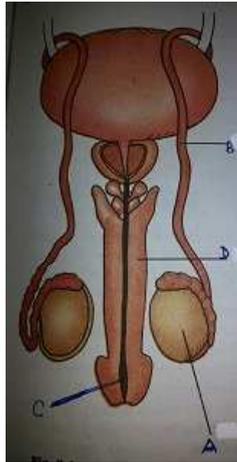
- i) Presence of cell wall
- ii) Size of the vacuole
- iii) Presence of plastids

b) Label the parts A,B,C & D in the given diagram



21 Observe the diagram of the male reproductive system and answer the following

5



- i) Label the parts A,B,C & D
- ii) Write the function of part B and C.
- iii) What is the role of the hormone secreted by the part 'A'.

22 a) Complete the table

S.NO	Gland	Hormone	Effect
1	Thyroid		
2		Adrenaline	
3			Lowers blood glucose level

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b) Give reason for the following:

- i) We should take iodized salt in our diet.
- ii) Females can reproduce only during some years of their life span.

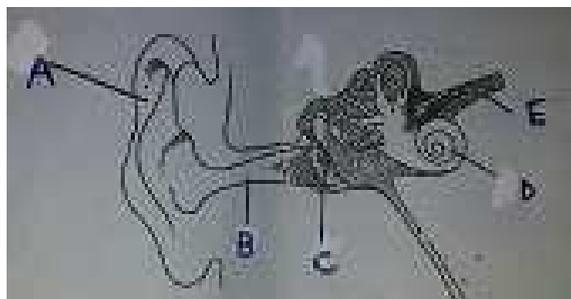
23 Justify the statements given below:

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- a) Dust bin bags are black in colour.
- b) We should throw waste such as plastics in blue bin.
- c) Nylon clothes are not preferred in summers.
- d) Countries having good resource of petroleum are economically stable.
- e) We should not sleep in a closed room near the fire place.

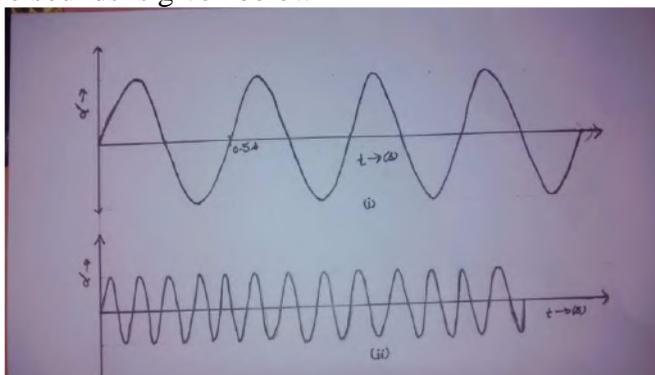
24 Observe the given diagram of human ear .Label the parts A,B,C,D,E and write the role played by each part in the process of hearing.

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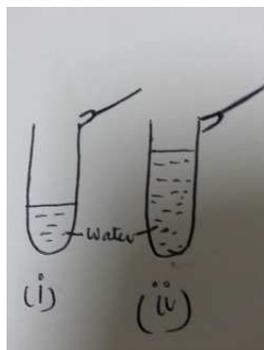


Section B

- 25 Name a commonly used dye/stain used for staining to observe the cell under a microscope 1
- 26 Justify the statement 'pituitary gland is often regarded as the master gland of the body.' 1
- 27 Why is the use of biogas becoming popular in villages? 1
- 28 Ramu keeps his car engine in good condition by bringing his car to the service station regularly. Which value of Ramu is depicted by his action 1
- 29 How do we protect our environment by selling plastic materials and old newspapers to garbage collectors. 1
- 30 A box of 5 kg is lying on the table. When a force of 50N is applied on it, the box just starts to slide on the table. What is the magnitude and direction of the force of static friction. 1
- 31 The wave forms of two sounds is given below 1



- In which case will the sound be shriller and why?
- 32 The same sound produced by a source is heard through water and air by two person Ram and Shyam. Who will hear this sound first and why? 1
- 33 Water is filled in two glass tumblers up to different levels. Each of them is struck with a metal spoon. In which case will the sound be shriller and why? 2



- 34 A poster showed a slogan 'Use of 4 R's' in our daily life. What do you understand with this slogan 1
- 35 Kamla is a maid who works in Ravi's house. She is planning to marry her daughter who is just 15 years of age Ravi warns her that what she is doing is legally and ethically wrong as her daughter is not physically and mentally mature getting married. Which value of Ravi is highlighted by this act? 2
- 36 Write any two ways in which, HIV may be transferred to a healthy person from an infected person 2