**SAMPLE PAPER( 2022-23)**

**MID-TERM**

**CLASS VII (SCIENCE)**

**Time: 3 Hours Maximum Marks: 80**

**General Instructions:**

1. *The question paper comprises four sections A, B, C and D. There are 36 questions in the question paper. All questions are compulsory.*
2. *Section–A - question no. 1 to 20 - all questions and parts thereof are of one mark each. These questions contain multiple choice questions (MCQs), very short answer questions and assertion - reason type questions. Answers to these should be given in one word or one sentence.*
3. *Section–B - question no. 21 to 26 are short answer type questions, carrying 2 marks each. Answers to these questions should in the range of 30 to 50 words.*
4. *Section–C - question no. 27 to 33 are short answer type questions, carrying 3 marks each. Answers to these questions should in the range of 50 to 80 words.*
5. *Section–D – question no. - 34 to 36 are long answer type questions carrying 5 marks each. Answer to these questions should be in the range of 80 to 120 words.*
6. *There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.*
7. *Wherever necessary, neat and properly labeled diagrams should be drawn*

**SECTION -A**

1. Mention any two diseases which are caused by bacteria present in the sewage. (1)

2.Mention the purpose of bubbling air into the aeration tank during the treatment of sewage. (1)

3. Identify the tree whose leaves provide food for the silk worms. (1)

4. Where are the wool-yielding animals called llama and alpaca found? (1)

5. Mention one state (or region) each in India having the following climates: (1)

1. Very hot and wet.

ii) Wet

6. Write the full form of ORS. (1)

7. Choose the correct option (1)

The water-bearing layer of the earth is called:

1. Conifer
2. Hydrosphere
3. Aquifer
4. Water table

8. How does 'huddling' help penguins? (1)

9. A polar bear has to move slowly, otherwise its body will get overheated. Why? (I)

10. How are temperature and hotness of a body related? (1)

11. Mention any one function of tongue in the human body. (1)

12. Why is the canopy not uniformly green? (1)

13. Wild animals like tiger, lion, and leopard do not eat plants .Does this mean that they can survive without plants? Can you provide a suitable explanation? (1)

For question 14,15 and 16,two statements are given-one labelled Assertion (A) and the other labelled Reason (R) .Select the correct answer to these question from the codes (i) ,(ii),(iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.

(ii) Both A and R are true and R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

14. **Assertion: -** Glass tumbler breaks when hot water in winter when hot water is poured to it.

**Reason: -** Whenhot water is poured, the outer surfaceof the glass expands. (1)

15. **Assertion: -** When our muscle cells respire anaerobically cramps occurs. (1)

**Reason: -** The accumulation of lactic acid causes cramps.

16. **Assertion: -** Cleaning of water is a process of removing pollutants before it enters a water body. (1)

**Reason: -** The process of cleaning water and removal of pollutants from it is called “sewage treatment”.

**Answer Q. No 17 - 20 contain five sub-parts each. You are expected to answer any four sub- parts in these questions.**

17. Read the following and answer any **four** questions from 17 (i) to 17 (v) (1X4=4)

Wastewater (or waste water) is any water that has been affected by human use. Wastewater is "used water from any combination of domestic, industrial, commercial or agricultural activities, surface runoff or storm water, and any sewer inﬂow or sewer infiltration".

Waste water also has disease causing micro- organisms. The most common detected are Enta- moeba histolytica, Giardia intestinalis (formerly known as Giardia lamblia), Cryptosporidium parvum. E. histolytica, G. intestinalis, and C. parvum are all common enteric pathogens and have been frequently detected in wastewater which has been contaminated with fecal material. Wastewater treatment is a process used to remove contaminants from wastewater or sewage and convert it into an efﬂuent that can be returned to the water cycle with minimum impact on the environment, or directly reused. Only one-third of India’s wastewater is currently treated, leading to the high burden of water-borne diseases. While urban water access is high on average, significant gaps remain across the country, and wastewater treatment remains stuck at the national average of around 33%.The solutions for wastewater treatment depends on several factors including: i) the volume of wastewater; ii) type of pollutants; iii) the treatment cost; iv) ex- tent of water scarcity in the region, and v) dilution of pollution in the water resources.

Water leaving our homes generally goes either into a septic tank in the back yard where it seeps back into the ground, or is sent to a wastewater-treatment plant through a sewer system.

Different treatment is used depending on the type of water coming into the plant and the water- quality requirements of water leaving the plant. Often the first stages of water treatment are purely physical methods, such as letting solid particles settle to the bottom of a holding tank and filtering the water through sand or other particulate matter. Filters are used to screen out large particles, and at a minimum, chlorine is added to kill dangerous bacteria and microorganisms. To reduce domestic wastewater, avoid using dishwashers, excess detergents and choose products that can be recycled.

(i). Which of the following is waste water?

* 1. Water trickling from a damaged tap.
  2. Water coming out of a shower.
  3. Water ﬂowing in a river.
  4. Water coming out of a laundry.

(ii) . Sewage is mainly a

(a) liquid waste. (b) solid waste.

(c) gaseous waste. (d) mixture of solid and gas.

## (iii) . Open drain system is not a breeding place for which of the following organisms?

(a) Flies (b) Mosquitoes

(c) Organisms which cause diseases (d) frogs

(iv) . The chemical used to kill dangerous bacteria and microorganisms is:

(a) hydrogen sulphide (b) hydrogen peroxide

© chlorine (d) bleaching powder

(v) . Only \_\_\_\_\_\_\_\_\_\_\_\_\_ of India’s wastewater is currently treated

(a) one-third (b) two-third

© two-fourth (d) one-fifth

18. Read the following and answer any **four** questions from 18 (i) to 18 (v) (1X4=4)

Weather is the day-to-day state of the atmosphere, and its short-term variation in minutes to weeks. Weather is a combination of temperature, humidity, precipitation, cloudiness, visibility, and wind. When some animals (and plants) encounter the impacts of climate change in their environment, they respond by changing behavior and moving to a cooler area, modifying their physical bodies to deal better with the heat, or altering the timing of certain activities to match changes in the seasons.

Animals often adapt themselves to the climatic conditions in which they are living. For example, a polar bear has a thick skin and a layer of fat and is adapted for Polar Regions. Birds migrate to different countries to escape harsh climate. India is a winter home for most of the Siberian birds such as Siberian Cranes, Greater Flamingo and Demoiselle Crane, also numerous species of birds from other regions of the world. These beautiful birds migrate to India every year during the winter and summer season for food, breeding and nesting.

There are animals who use unique ways to adapt to their surroundings For example: wood frogs freeze their bodies, kangaroo rats survive without ever drinking water, Antarctic fish have "antifreeze" proteins in their blood.

Plant also adapt to surroundings. Plant adaptations are changes that help a plant species survive in its environment. Aquatic plants that live underwater have leaves with large air pockets inside that allow the plant to absorb oxygen from the water. The leaves of aquatic plants are also very soft to allow the plant to move with the waves.

(i). Humidity is the measure of:

(a) temperature. (b) pressure

(c) moisture. (d) wind .

(ii) .Which of the following does not live in the polar region?

(a) Penguin (b) Polar bear

(c) Camel (d) Frog

(iii). The tropical climate is the one which is:

(a) neither very hot nor very cold. (b) very hot and humid

(c) very hot and dry (d) very cold and dry

(iv). Fish having "antifreeze" proteins in their blood is:

(a) antartic fish (b) arctic char

© sardines (d) wild Alaskan Pollock

(v) The animal which survive without ever drinking water is:

(a)kangaroo rat (b) black**rat**

© dusky field rat (d) Norwegian**rat**

19. Read the following and answer any **four** questions from 19 (i) to 19 (v) (1X4=4)

Clothes are made of fabric. and fabrics are made of fibres. Fabric is synonym of cloth. Fabric is not only used in making of clothes, rather fabrics are used in making bed–sheets, bags, door mats, mats, and many endless items. There are many types of fabrics. Wool, cotton, silk, jute, nylon etc are some of them. Some fabrics appear shiny while some appear very dull. Some fabrics keep us warm while some of the fabrics we like to use in summer. Fabrics depend upon fibres from which it is made.

Fibres that we get from nature are called natural fibres. For example cotton, wool, silk, and jute, etc. are examples of Natural Fibres. Silk is a natural protein fiber, some forms of which can be woven into textiles. Sericulture, also called silk farming, is the process of making silk fibers. It starts by raising silkworms and then processing the fibers they produce. Silk fibers are combined into silk thread. The thread can then be twisted into silk yarn or woven into silk cloth. There are four types of natural silk produced around the world: Mulberry silk, Eri silk, Tasar silk and Muga silk. Mulberry silk contributes around as much as 90% of silk production. Another natural fibre is wool which is obtained from the fur of animals of the Caprinae family, principally sheep, but the hair of certain species of other mammals such as goats, alpacas, and rabbits may also be called wool.

(i). Silk ﬁbre is obtained from

(a) ﬂeece of sheep (b) cotton ball

(c) cocoon (d) shiny jute stalk.

(ii). Wool ﬁbre cannot be obtained from which of the following?

(a) Goat (b) Llama

(c) Alpaca (d) Moth.

(iii). Silkworms secrete ﬁbres made of

(a) fat (b) cellulose

1. protein (d) nylon.

(iv).The process of making silk fibers.is known as:

(a) apiculture (b) sericulture

© agriculture (d) pisciculture

(v) Which one of the following is a natural fibre:

(a) nylon (b) rayon

© polyester (d) cotton

20. Read the following and answer any **four** questions from 20 (i) to 20 (v) (1X4=4)

Heat energy is the result of the movement of tiny particles called atoms, molecules or ions in solids, liquids and gases. Heat energy can be transferred from one object to another. The transfer or ﬂow due to the difference in temperature between the two objects is called heat. The temperature of an object is the degree of hotness (or coldness) of the object. It is measured by using thermometer. The thermometers used in clinics by doctors, are also called a doctor's thermometer or medical thermometer. Most show both Celsius scale and Fahrenheit temperature scales, and run from 35 degree Celsius to 42 degree Celsius. Heat conduction takes place in solids and the two objects are in contact with each other. In Conduction, the heat energy travels from the hot point to a cold point. Convection is the movement of heat by actual motion of matter; radiation is the transfer of energy with the help of electromagnetic waves.

(i). The device used for measuring temperature is called:

(a) tachometer (b) odometer

© thermometer (d0 barometer

(ii) Which of the following is not a method of transfer of heat?

(a) conduction (b) radiation

© convention (d) convection

(iii) The process of conduction takes place in :

(a) solids only (b) liquids only

©gases only (d) liquids, gases and solids

(iv) The invisible waves which transfer heat by radiation are called :

(a) ultraviolet waves (b) oltrasonic waves

© infrasonic waves (d) electromagnetic waves.

(v) The range of a clinical thermometer is from :

(a) 35-42 degree centigrade (b) 32-45 degree centigrade

© 45-52 degree centigrade (d) -10-110 degree centigrade

**SECTION -B**

21. At a camp site there are tents of two shades – one made with black fabric and the other with white fabric. Which one will you prefer for resting on a hot summer afternoon? Give reason for your choice. Would you like to prefer the same tent during winter? (2)

**OR**

List any two similarities between a clinical and laboratory thermometer.

22. (i) Name any four wool yielding animal. (2)

(ii) Why sheep have a thick coat of hair on their body?

23. Name the four different types of climates in the world. (2)

**OR**

What are the two body features which make penguin a good swimmer?

24. Mention any two difference e between scavengers and decomposers. (2)

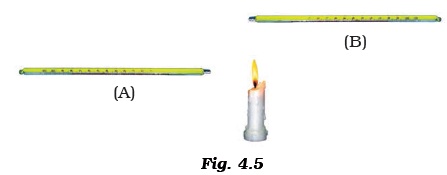
25. (i) Plants do not have a digestive system like us. Why do they not need a digestive system?

(ii) In which forms do plants store food in their body? (2)

26. Draw and label the diagram of water cycle. (2)

**SECTION- C**

27. (i) A laboratory thermometer A is kept 7 cm away on the side of the flame while a similar thermometer B is kept 7 cm above the flame of a candle as shown in Figure  (3)



Which of the thermometers, A or B, will show a greater rise in temperature? Give reason for your answer.

(ii) To keep her soup warm Saheli wrapped the container in which it was kept with a woollen cloth. Can she apply the same method to keep a glass of cold drink cool? Give reason for your answer.

(iii) You may have noticed a few jerks are given to a clinical thermometer before using it. Why is it done so?

28. (i) Differentiate between natural and man - made fibers. (Two points) (3)

(ii) What is selective breeding?

29. . (i) What are tropical rain forest? Name any four countries where tropical rain forest are found.

(ii) State any four adaptations of the animals living in a tropical rain forest. (3)

**OR**

. (i) What is migration?

(ii) Why does Siberian crane come from Siberia to places like Bharatpur in Rajasthan every year for a few months?

(iii) Mention any one difference between weather and climate.

30. (i) Write short notes on rearing of silkworm. (3)

(ii) Why caterpillars need to shed their skin when they grow bigger?

31. Explain the process of land breeze along with the diagram. (3)

32. How do elephants living in the Tropical region adapt itself? (3)

33. Take three test –tubes. Fill three-fourth of each with water and place the following: (3)

Test-tube A: snail

Test-tube B: water plant

Test-tube C: both snail and water plant

Which test –tube will have the highest concentration of carbon dioxide?

**SECTION-D**

34. Write an activity to show the presence of starch in leaves. (draw diagram) (5)

OR

Write an activity to show that light is necessary for the process of photosynthesis. (draw diagram)

35. (i) What is the difference between a Milk teeth and permanent teeth? (5)

(ii) Name the four types of teeth present in our mouth along with their functions.

(iii) **Why do we get instant energy from glucose?**

**36. (i)** Write an activity to show that the air we breathe out is carbon dioxide (5)

(ii) Mention the composition of Inhaled air and Exhaled air.

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**OR**

(i) Explain any three similarities between aerobic and anaerobic respiration.

(ii) What is breathing rate?

(iii) What is the average breathing rate of an adult human being at rest?