Q.P. SET CODE
A

MT - w

Seat No. | | | | | | | |

MT - w - SCIENCE & TECHNOLOGY - II (72) - PRELIM - I : Set - A

Time : 2 Hours **(Pages 6)** **Max. Marks : 40**

Note :

(i) All questions are compulsory.

(ii) Sketch well labelled correct diagram wherever necessary.

(iii) Solve each main question on a separate page.

(iv) Figures to the right indicate 'marks'.

(v) Only first attempt will be evaluated for each multiple choice question (Que. 1 B).

(vi) Answer to each multiple choice question should be written with correct option.
Ex. i. a) ----------. ii. c) ----------.

Q.1. (A) Solve the following questions : **[5]**

(1) **Fill in the blank:**
The flow of nutrients is ..... .

(2) **Complete the analogy :**
(i) Mitosis : : Stem cells : : Meiosis : ..... .
(ii) Ideonella sakaiensis : Plastic : : Actinomycetes : ..... .

(3) **Match the columns :**

Column A	Column B
(1) Annelida	(a) Jointed appendages
(2) Arthropoda	(b) Segmented body
(3) Mollusca	(c) Flat body
(4) Echinodermata	(d) Soft body
	(e) Spiny body

Q.1. (B) Choose the correct alternative and rewrite the sentences : [5]

(1) Which special cells are present in the body of sponges (Porifera)?
(a) Collar cells (b) Cnidoblasts
(c) Germ cells (d) Ectodermal cells

(2) In case of fire, which of the following things should not be done?
(a) Inform fire brigade
(b) Evacuate the building as early as possible.
(c) Use the lift
(d) Call for help from the window

(3) Yeast reproduces by ..... .
(a) budding (b) binary fission
(c) spore formation (d) multiple fission

(4) Each nuclear fission of uranium nucleus releases ..... neutrons.
(a) One (b) Two
(c) Three (d) Four

(5) All different types of dals are made from which type of seeds?
(a) Monocot (b) Dicot
(c) Both Monocot and dicot (d) None of them

Q.2. Solve the following questions : (Any 5) [10]

(1) Write a note on Disaster Management Authority.

(2) Complete the following table : Thyroid gland

Hormone	Function
(i) Thyroxine	
(ii) Calcitonin	

(3) Write the difference. Complete the table.

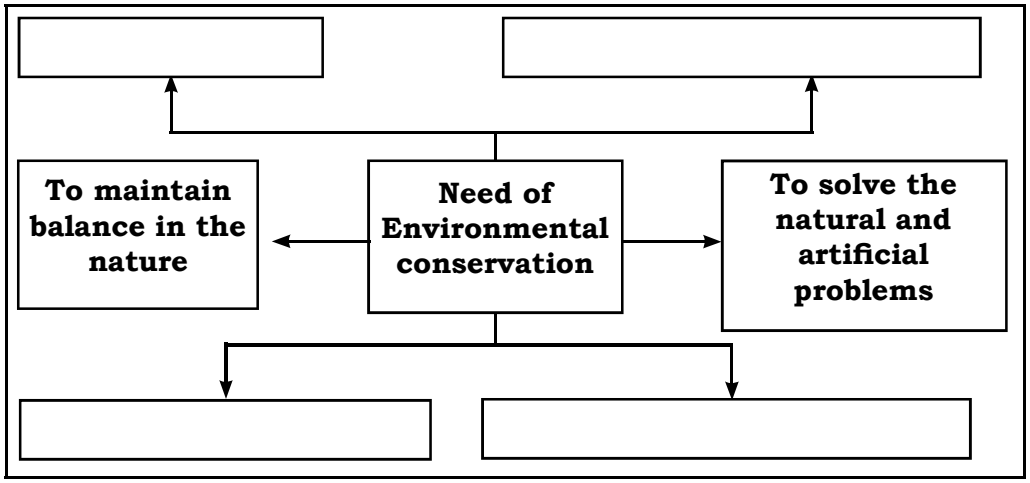
Asexual reproduction	Sexual reproduction
(a) Reproduction that occurs with the help of somatic cells is called as asexual reproduction.	(a) _____
(b) _____	(b) Male and female parents are necessary for sexual reproduction.
(c) This reproduction occurs with the help of mitosis only.	(c) _____
(d) _____	(d) New individual formed by this method is generally different from parents.

(4) Explain the importance of good communication with others.

(5) Give scientific reason :
Cell division is one of the important properties of cells and organisms.

(6) Write a note on connecting links.

(7) Now a days, we are observing the environmental degradation everywhere. Complete the flow chart given below.



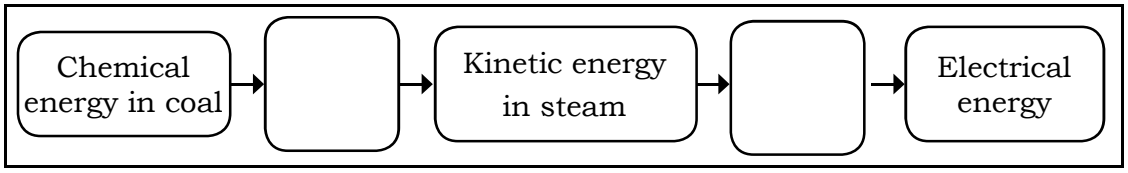
Q.3. Solve the following questions : (Any 5) **[15]**

(1) Explain with suitable examples importance of anatomical evidences in evolution.

(2) How can the oil spills of rivers and oceans be cleaned?

(3) In case of sexual reproduction, newborn shows similarities about characters. Explain this statement with suitable example.

(4) (i) Complete the following flowchart :



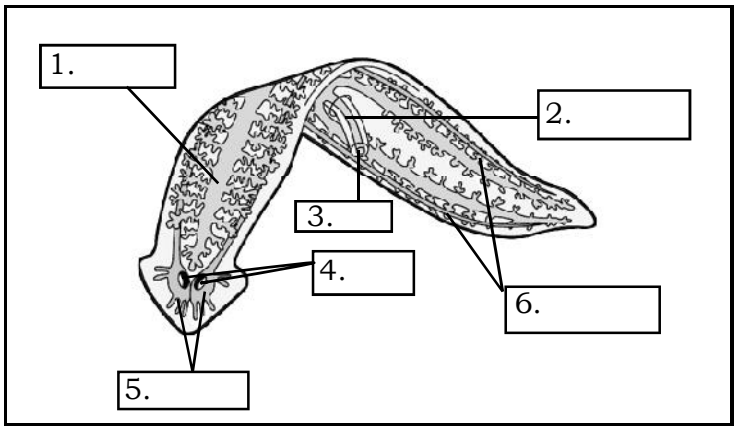
(ii) Name the power plant in which the above given energy transformation occurs.

(5) Read the given paragraph and answer the questions:

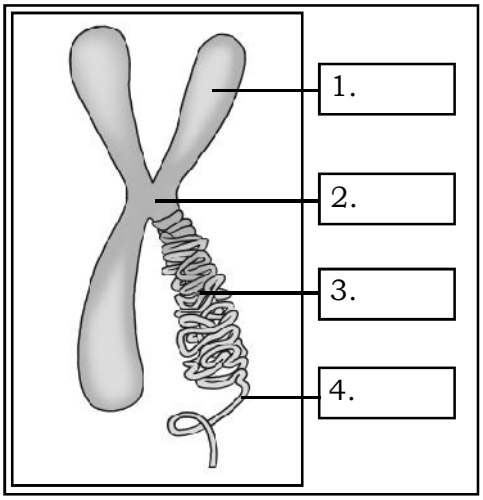
DNA fingerprinting: DNA sequence of each person is unique as that of the fingerprints. Due to this, identity of any person can be established with the help of its available DNA. This is called as DNA fingerprinting. It is mainly useful in forensic sciences. Identity of the criminal can be established with the help of any part of its body found at the site of crime. Similarly, identity of father of any child can be established. This research is performed in Center for DNA fingerprinting and Diagnostics, Hyderabad.

(i) What is DNA fingerprinting?
(ii) DNA fingerprinting is mainly used in which stream of science?
(iii) What is the use of DNA fingerprinting?

(6) Identify, label and classify the following organism.



(7) Observe the diagram and answer the following questions :

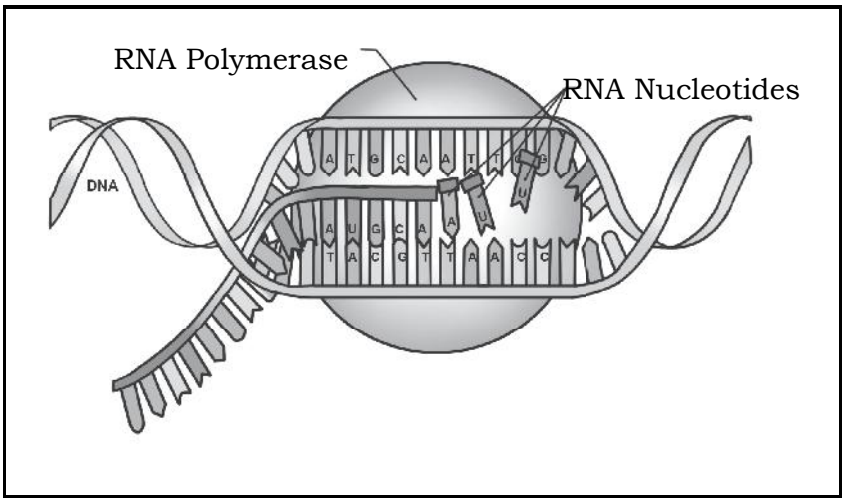


(i) Label the parts in the given diagram.
(ii) What does it depict?
(iii) Name the different types.

Q.4. Solve the following questions : (Any 1) **[5]**

(1) Explain sexual reproduction in plants.

(2)



(a) Identify and define the process shown in the above figure. **2**
(b) What is Central Dogma? **1**
(c) Name the four nitrogenous bases of RNA. **1**
(d) State the function of rRNA. **1**

Best of Luck 👍