

# N 853

Seat No.

2025 III 12 1100 – N 853 – SCIENCE AND TECHNOLOGY (72) – PART II (E)

(REVISED COURSE)

Time : 2 Hours

(Pages 8)

Max. Marks : 40

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**Note :—** (i) All questions are compulsory.

(ii) The numbers to the right of the questions indicate full marks.

(iii) In case of MCQs [Q. No. 1 (A)] only the first attempt will be evaluated and will be given credit.

(iv) Scientifically and technically correct, labeled diagrams should be drawn wherever necessary.

(v) Each new question should be started on the new page.

P.T.O.

## 2/N 853

1. (A) Choose the correct option and write the correct alternative : 5

(i) A molecule of glucose is completely oxidised in aerobic respiration and molecules of  $H_2O$  and ..... are produced along with energy.

(A)  $CO_2$

(B)  $O_2$

(C)  $NaOH$

(D)  $HNO_3$

(ii) Vinegar contains ..... acid.

(A) acetic

(B) lactic

(C) tartaric

(D) hydrochloric

### 3/N 853

- (iii) Any nucleotide of the gene suddenly changes its position that causes a minor change which is nothing but the .....
- (A) changes
  - (B) mutation
  - (C) disability
  - (D) translocation
- (iv) In humans, sperm production occurs in the ..... organ.
- (A) vas deferens
  - (B) ejaculatory duct
  - (C) testes
  - (D) urinogenital duct
- (v) Solar photovoltaic cell converts the solar radiation energy directly into ..... energy.
- (A) Chemical
  - (B) Solar
  - (C) Mechanical
  - (D) Electrical

(B) Answer the following questions :

5

(i) Find the odd one out :

Fragmentation, Regeneration, Budding, Fertilization.

(ii) Write the correct co-relation :

Diabetes : Insulin :: Cancer : .....

(iii) State whether true or false :

Study of fossils is an important aspect of the study of evolution.

(iv) Give any *two* commercial uses of Biotechnology.

(v) Being a fish, I perform respiration with the help of lungs. Who am I ?

2. (A) Give scientific reasons (any *two*) :

4

(i) Sometimes, higher plants and animals too perform anaerobic respiration.

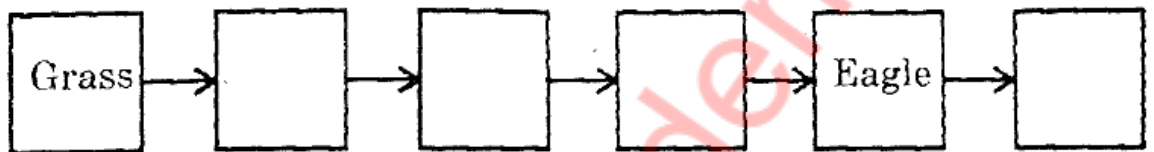
(ii) It is not right to consider the mother responsible, for giving birth to a girl child.

(iii) The energy generated from nuclear fuels is not environment friendly.

(B) Answer the following questions (any *three*) :

6

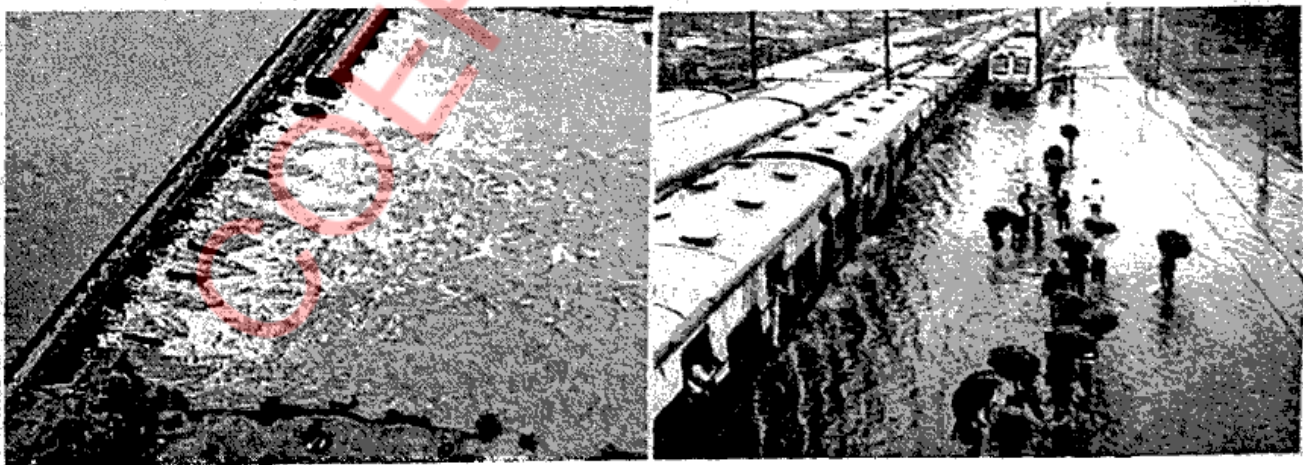
(i) Complete the following food chain :



(ii) Distinguish between the following :

Class Pisces and Class Reptiles

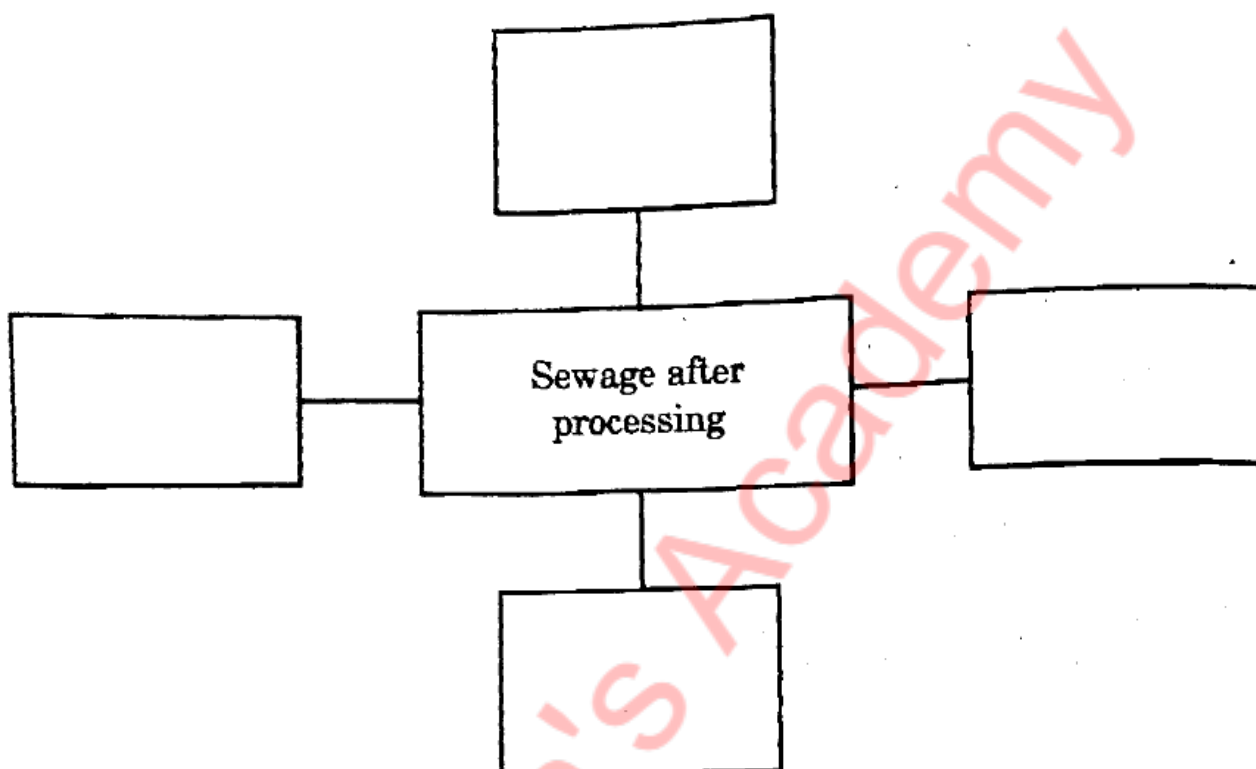
(iii) Observe the following picture and write any *two* effects of this disaster :



(iv) Write any *four* methods to reduce stress.

P.T.O.

(c) Complete the following conceptual picture :



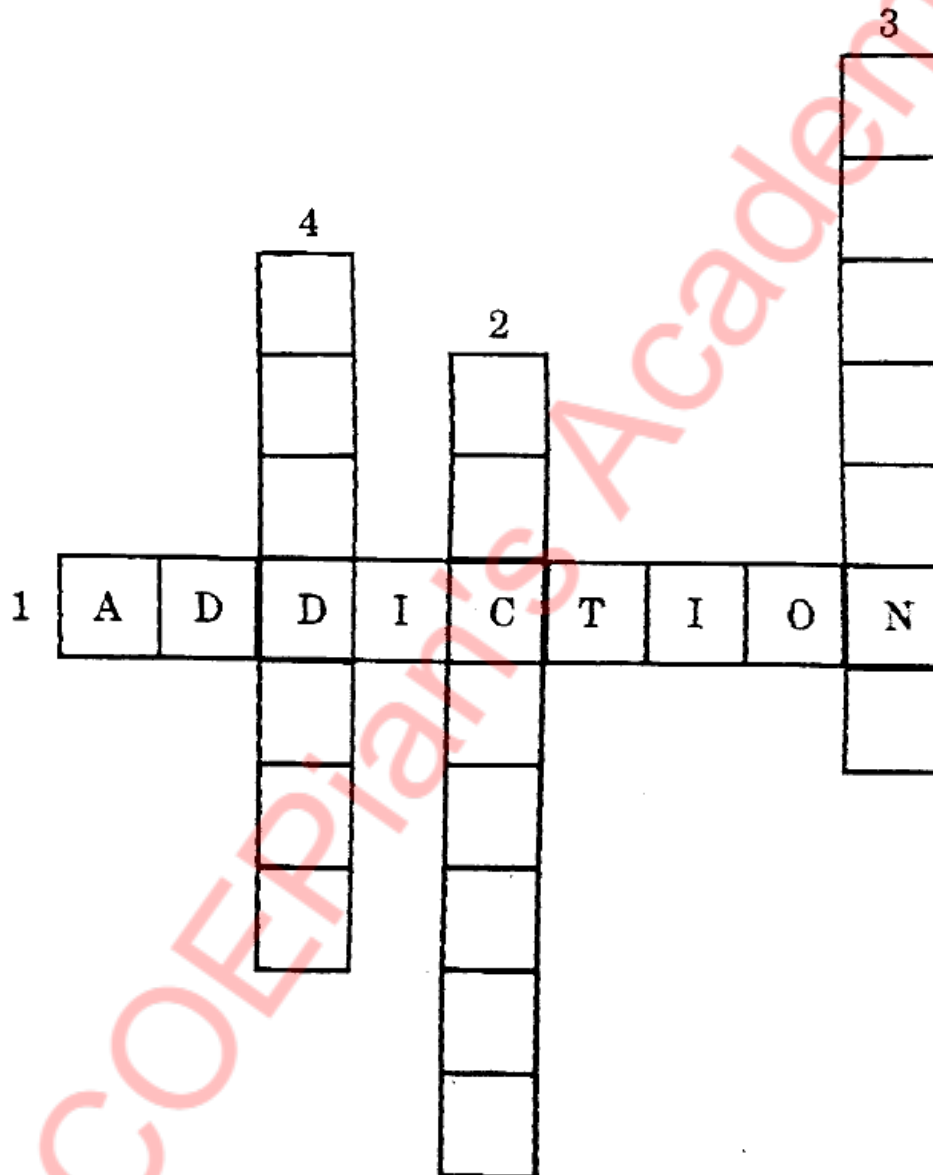
3. Answer the following questions (any five) :

15

- (i) Define heredity. Explain the mechanism of hereditary changes.
- (ii) Write any four stages of mitosis and explain any two of them.
- (iii) Explain with examples types of asexual reproduction in unicellular organism.
- (iv) Which fuel is used in thermal power plant ? Write any two problems associated with this type of power generation.
- (v) Write three characteristics of phylum-Mollusca.

(vi) What are the constituents of acid rain ? What are its *two* effects on earth's surface ?

(vii) Solve the following crossword :



- (1) Continuous consumption of alcoholic and tobacco materials.
- (2) This app may cause cyber crimes.
- (3) A remedy to resolve stress.
- (4) Requirement for stress free life.

- (viii) Write down the reasons, effects and remedial measures taken for any *one* disaster seen or heard by you.

4. Answer the following questions (any *one*) :

5

- (i) What is biodiversity ? Write any *four* steps to conserve biodiversity.
- (ii) What is stem cell ? Write any *four* uses of stem cell.