

# N 853

Seat No.

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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  $\text{H}_2\text{O}$  and ..... are produced along with energy.

(A)  $\text{CO}_2$

(B)  $\text{O}_2$

(C)  $\text{NaOH}$

(D)  $\text{HNO}_3$

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

(A) acetic

(B) lactic

(C) tartaric

(D) hydrochloric

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- (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

P.T.O.

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**(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.

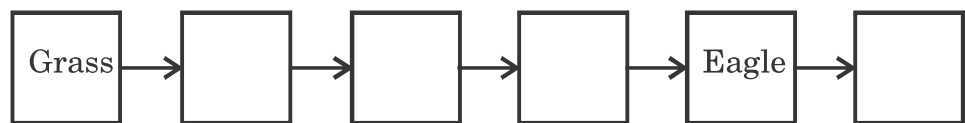
(iii) The energy generated from nuclear fuels is not environment friendly.

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

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(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 :

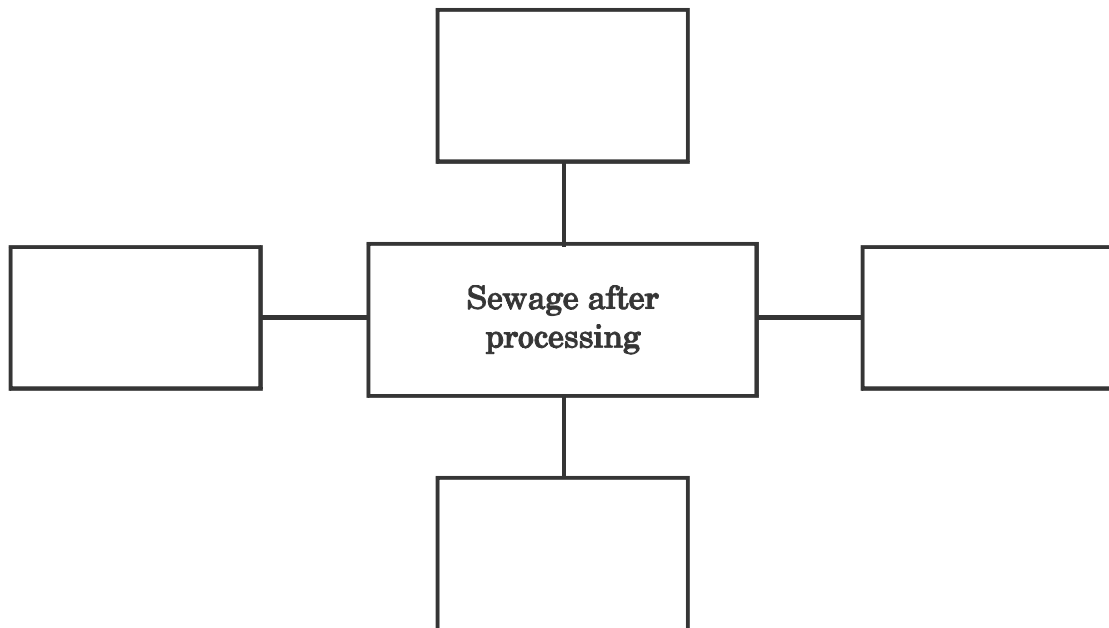


(iv) Write any *four* methods to reduce stress.

P.T.O.

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- (v) Complete the following conceptual picture :



**3. Answer the following questions (any *five*) :**

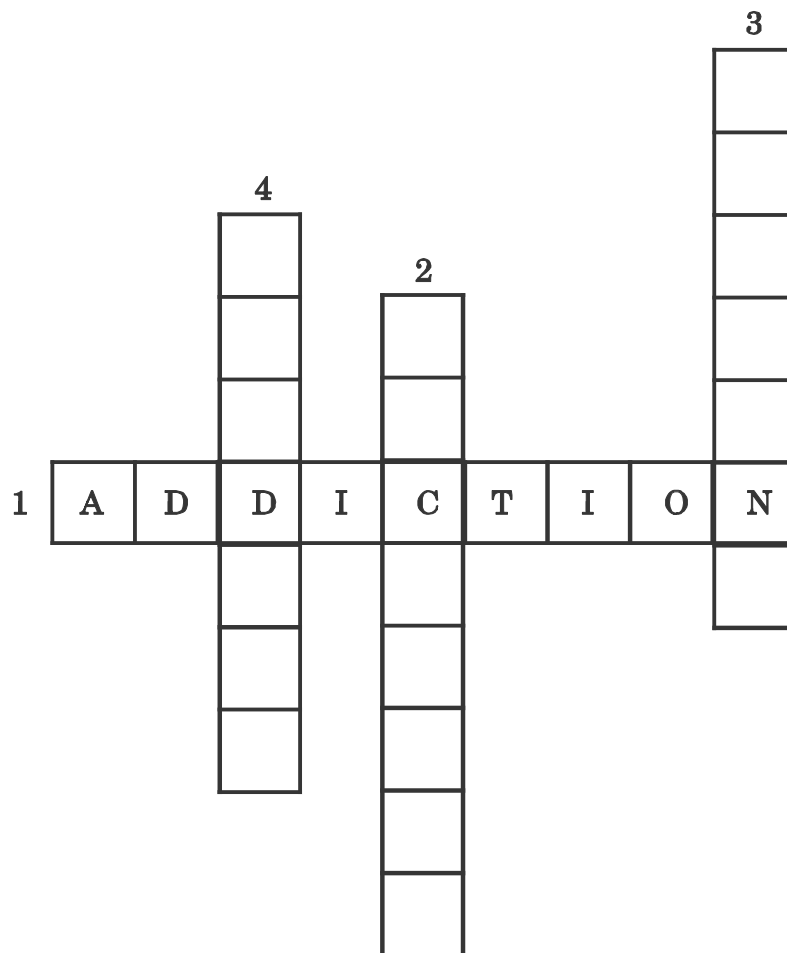
**15**

- (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.

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(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.

P.T.O.

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(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.