



SCIENCE-2

Class 10 - Science & Technology - II

Time Allowed: 2 hours

Maximum Marks: 40

General Instructions:

1. All questions are compulsory.
2. Use of a calculator is not allowed.
3. The numbers to the right of the questions indicate full marks.
4. In case of MCQs (Q. No. 1(A)), only the first attempt will be evaluated and given credit.
5. For each MCQ, the correct alternative (a), (b), (c) or (d) with subquestion number is to be written as an answer.  
For e.g. (i) (a), (ii) (b), (iii) (c)
6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

1. [10]
- (a) **Write the correct alternative:**
- i. Bones contain \_\_\_\_\_ amino acids. [1]
- a) Insulin b) Haemoglobin
- c) Ossein d) Melanin
- ii. Giant squirrel is an example of \_\_\_\_\_ threatened species. [1]
- a) Vulnerable b) Indeterminate
- c) Endangered d) Rare
- iii. \_\_\_\_\_ is a cold blooded animal. [1]
- a) Rabbit b) Elephant
- c) Snake d) Bat
- iv. The \_\_\_\_\_ bacteria are useful for cleaning the hydrocarbons and oil pollutants from soil and water. [1]
- a) Streptococcus b) Lactobacilli
- c) Acidobacillus d) Pseudomonas
- v. Which of the following is a man-made disaster? [1]
- a) Flood b) Earthquake
- c) Meteoric d) Leakage of toxic gases
- (b) **Answer the following questions as per the given instructions:**
- i. Earthquake, Flooding, Tsunami, War [1]

- ii. Oxidation of proteins is carried out in aerobic respiration. [1]
- iii. To which class does bat belong? [1]
- iv. Which type of fuel is used in thermal power plant? [1]
- v. Write full form of WHO. [1]

2. [10]

(a) Give scientific reasons. (Any 2)

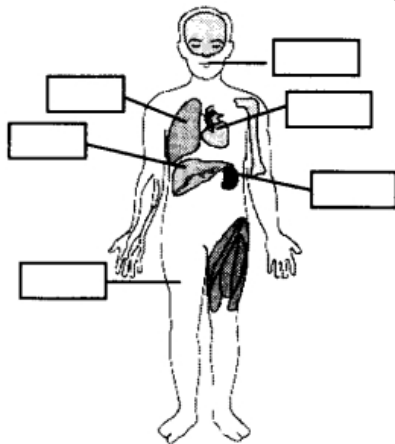
- i. Cell division is one of the important properties of cell and organisms. [2]
- ii. It is absolutely necessary to control the fission reaction in nuclear power plants. [2]
- iii. Flower is structural unit of sexual reproduction in plants. [2]

(b) Answer the following questions (Any 3)

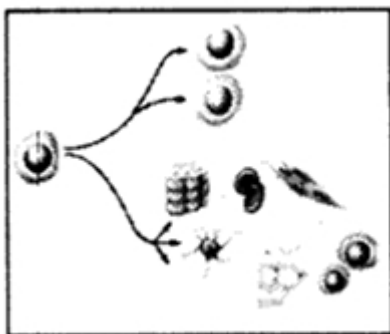
- i. Write any two objections that were raised against Darwin's Theory of Natural Selection. [2]
- ii. Write a short note on Environmental Conservation. [2]
- iii. Despite of various diagnostic tests, a couple could not have a child. In this situation, which remedies will you suggest? [2]
- iv. State any four benefits of animal classification. [2]
- v. Draw a neat and labelled diagram of mitochondria and tri-carboxylic acid cycle. [2]

3. Answer the following questions (Any 5): [15]

- (a) Write the factors affecting environment. [3]
- (b) Label the body organization of human in the following figure: [3]



- (c) Which precautions are necessary for proper decomposition of domestic waste? [3]
- (d) i. Which process is shown in the given diagram? [3]
- ii. What is the importance of this process?
- iii. Which organs can be transplanted by this process?

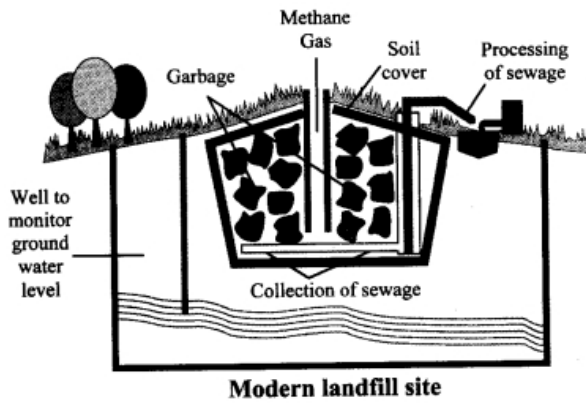


- (e) Read the statements and answer accordingly: [3]

- i. Calcareous spines are present on the body. Tube feet are used for locomotion and capturing prey also.
  - Identify the phylum and give one example.
- ii. I live in your small intestine. Pseudocoelom is present in my thread like body.
  - Identify the phylum and give one example.
- iii. My body is spindle shaped. I respire with the help of gills.
  - Identify my class and give one example.

(f) Observe the following figure and answer the questions:

[3]



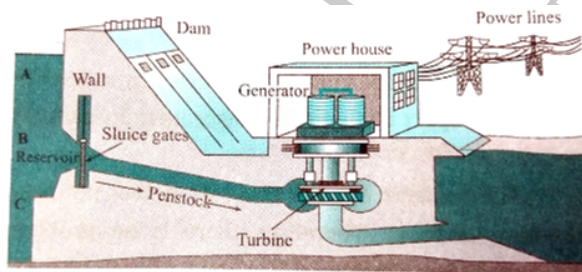
- i. Identify the process shown in the figure.
- ii. Explain the process in short.

- (g) i. What do you mean by central dogma?
- ii. What is transcription?
- iii. What is meant by triplet codon?

[3]

(h) Answer the following questions from figure:

[3]



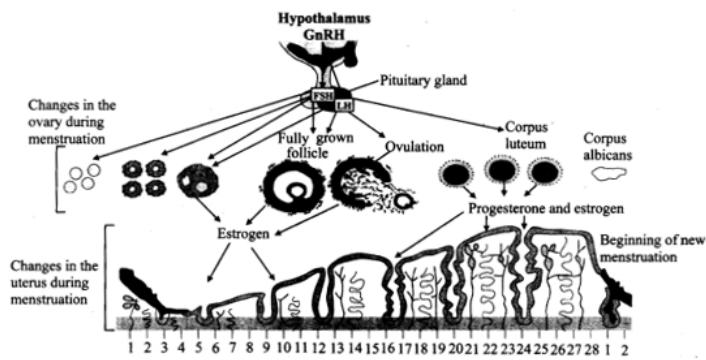
- i. With reference to point B, potential energy of how much water reservoir in the dam will be converted into kinetic energy?
- ii. What will be the effect on electricity generation, if the channel taking water to turbine starts at point A?
- iii. What will be the effect on electricity generation, if the channel taking water to turbine starts at point C?

4. Answer any one of the following questions:

[5]

- (a) Answer the following questions by observing the diagram of menstrual cycle:

[5]



- i. What is the period of menstruation?
  - ii. On which day does ovulation occur during menstrual cycle?
  - iii. In menstrual cycle which reproductive organs undergo changes?
  - iv. Which period is said to be period of regeneration of endometrium?
  - v. Which period is said to be period of secretions of glands in endometrium?
- (b) Attempts at various levels are performed for conserving environment. Which role would you like to perform. Give two actions each: [5]
- i. Prevention
  - ii. Control
  - iii. Production
  - iv. Awareness
  - v. Conservation