



BOARD QUESTION PAPER: JULY 2020

Science and Technology Part - 2

Time: 2 Hours

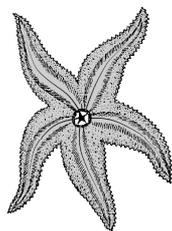
Max. Marks: 40

- Note:**
- All questions must be attempted.
 - Wherever necessary scientifically correct diagrams and correct labelling should be drawn.
 - Start every main question on a new page.
 - Numbers to the right indicate full marks.
 - For Question No.1(A) MCQ marks will be given only for the first attempt.
 - The answer to every MCQ should be written as shown:
Example – Q. No. 1(A) (i) (b).

- Q.1. (A) Choose the *correct* alternative from the given options:** [5]
- Water reservoir possesses _____ energy.
(A) Nuclear (B) Thermal
(C) Kinetic (D) Potential
 - In mitotic division, nuclear membrane completely disappear in _____ phase.
(A) Telophase (B) Prophase
(C) Metaphase (D) Anaphase
 - Genetic changes occur due to _____ pollution.
(A) Radioactive (B) Air (C) Water (D) Soil
 - In human, sperm production occurs in the _____ organ.
(A) Seminal vesicle (B) Testes
(C) Prostate gland (D) Cowper's gland
 - Which sanctuary of Assam is under threat due to dams and indiscriminate use of water?
(A) Tadoba (B) Kaziranga (C) Manas (D) Sundarban

(B) Answer the following sub-questions as per given instruction: [5]

i.



Name the locomotory organ of animal shown in the above figure.

- Find the *correct* co-relation:
Spirogyra: Fragmentation :: Planaria : _____.
- Write whether the following statement is True *or* False:
DNA fingerprinting is mainly useful in Forensic Sciences.
- Write the molecular formula:
4% acetic acid (Vinegar).
- Which molecules are necessary for the formation of plasma membrane?

- Q.2. (A) Give scientific reasons (any two):** [4]
- While performing the exercise, we feel tired.
 - Hydroelectric energy, solar energy and wind energy are called renewable energies.
 - Microbial enzymes are used instead of chemical catalysts in chemical industry.

(B) Answer the following questions (any three): [6]

- Distinguish between Aerobic respiration and Anaerobic respiration (any two points).
- Write a short note on Sacred groves.
- Explain the term:
Modern technology of reproduction IVF.

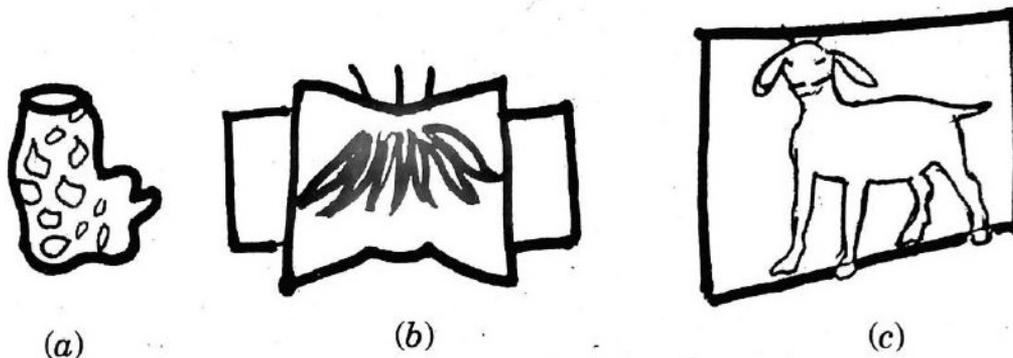


- iv. How is Balanoglossus connecting link between chordates and non-chordates?
- v. Explain Darwin's theory of natural selection.

Q.3. Answer any five questions from the following.

[15]

i.

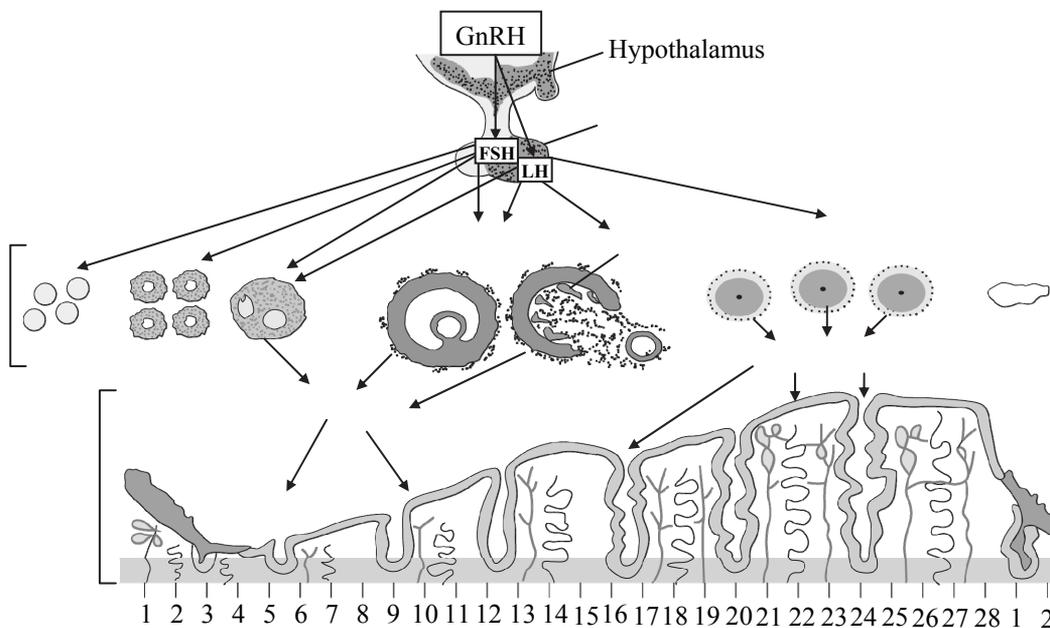


Identify and explain the above different types of symmetry.

- ii. Write any six factors affecting the social health.
- iii. Complete the following chart:

	Substance obtained by microbial processing	Roles
(a)	Citric acid	_____
(b)	Ascorbic acid	_____
(c)	Beta carotene	_____
(d)	Glycolipids	_____
(e)	Vanillin	_____
(f)	Xylitol	_____

- iv. Explain the three different levels of Biodiversity.
- v. Observe the following figure and answer the questions:



- a. Identify the process in above figure and after how many days it will repeat again?
- b. Write the names of hormones involved in this process.
- vi. What are the advantage of hydroelectric power generation?
- vii.
 - a. Define vestigial organs.
 - b. Write name of any two vestigial organs in human body.
 - c. Explain how one human vestigial organ is functional in another animal.

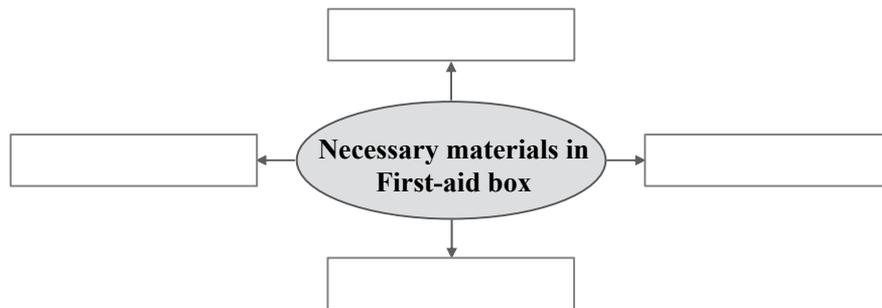


- viii. What will you do in the following cases and why?
- a. Child of your neighbour is addicted to tobacco chewing.
 - b. You have to use free space around your home for good purpose.
 - c. Your friend has developed the hobby of snapping selfies.

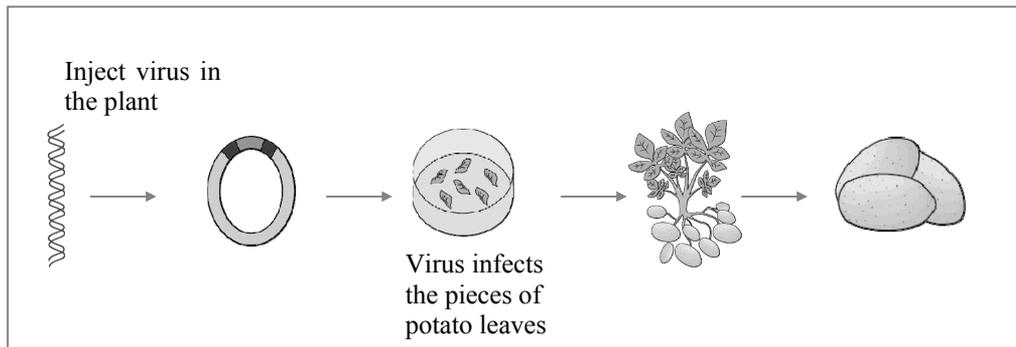
Q.4. Solve any one of the following:

[5]

- i. a. What is meant by disaster management? [1]
- b. Classify the following activities into pre-disaster management and post-disaster management: [2]
- (i) Identifying the pro-disaster areas.
 - (ii) Quick establishment of help centre.
 - (iii) Participation of preferably local peoples saved from the disaster in arranging the help to victims.
 - (iv) Getting special training for disaster management.
- c. Complete the diagram: [2]



- ii. Observe the figure and answer the following questions:



- a. Identify the process given in the above figure. [1]
- b. Write the importance of above process. [2]
- c. Write any *two* benefits of Biotechnology. [2]