

**PAPER SET: HT****SUB: SCIENCE & TECHNOLOGY-Part II****Max. Marks :40**

SSC Board - Sample Paper - II

**Duration : 2 HRS.****Note:**

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

**Q.1(A) Choose the correct alternative.****5M**

- i. \_\_\_\_\_ supplies food material to the developing embryo in uterus.  
a) Corpus luteum    b) Endometrium    c) Follicle    d) Placenta
- ii. Which of the following is NOT a physical problem arising due to radiation of cell phones?  
a) Headache    b) Leprosy    c) Insomnia    d) Tinnitus
- iii. Phenylketonuria is a genetic change in \_\_\_\_\_ cells.  
a) liver    b) skin    c) heart    d) lungs
- iv. \_\_\_\_\_ is the process of transfer of information from DNA to mRNA.  
a) Translocation    b) Mutation    c) Transcription    d) translation
- v. Which of the following is the first phase of karyokinesis?  
a) Anaphase    b) Telophase    c) Metaphase    d) Prophase

**Q.1(B) Answer the following****5M**

- i. What is the central dogma?
- ii. Identify the phylum of the given organism.

**iii. Find the correlation.**Coffee: \_\_\_\_\_ :: Cider : *Saccharomyces cerevisiae***iv. Find the odd one out and explain.**

Cowper's gland, Bartholin's gland, Prostate gland, Seminal vesicle.

**v. Match the following**

|    | Column I    |    | Column II       |
|----|-------------|----|-----------------|
| a. | Interferon  | 1. | Diabetes        |
| b. | Factor VIII | 2. | Dwarfism        |
|    |             | 3. | Viral infection |
|    |             | 4. | Cancer          |
|    |             | 5. | Hemophilia      |

**Q.2. A Give scientific reasons (Attempt any 2)****4M**

- Children get addicted to deadly substances like tobacco, cigarette, gutkha, etc.
- Microbial enzymes are used instead of chemical catalysts in chemical industry.
- Biotechnology plays an important role in human health.

**Q.2. B Answer the following (Attempt any 3)****6M**

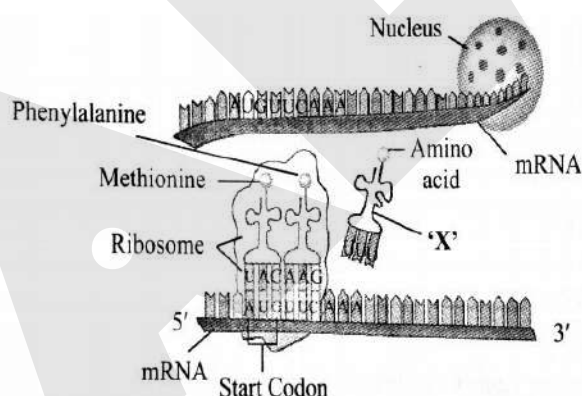
- Distinguish between Aerobic and Anaerobic respiration.
- Write four distinguishing characters of phylum-Echinodermata.
- Complete the table.

| No | Fruit           | Microbe used                               | Role of microbe             | Name of beverage |
|----|-----------------|--|-----------------------------|------------------|
| a. | Coffea arabica  | -----                                      | Separating seeds from fruit | Coffee           |
| b. | Theobroma cacao | Candida, pichia (Hansenula), Saccharomyces | Separating seeds from fruit | -----            |
| c. | -----           | -----                                      | Fermentation of juice       | Wine             |

- Write a short note on sacred groves.
- Give four examples of Geological disasters.

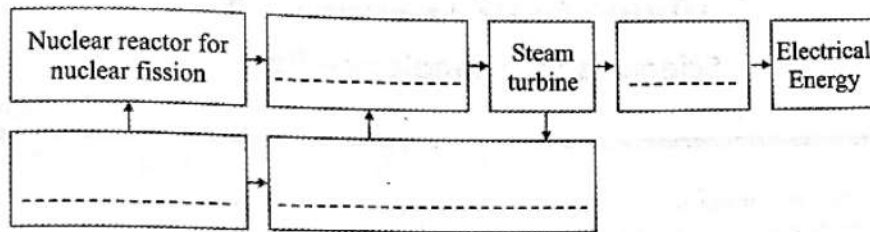
**Q.3. Solve the following questions (any five)****15M**

- “Gender of child is determined by the male partner of couple. “ Draw a diagram explaining the above statement.
- One solar panel produces a potential difference of 20 V and current 4 A. Describe how you can obtain a potential difference of 80 volts and current of 12 A with a solar array using solar panel. You can use sign of a battery for a solar panel.
- Observe the given diagram and answer the questions given below it.



- Identify the molecule labeled as 'X' in the given diagram.
- What would be the sequence on the anticodon, if the corresponding, if the corresponding codon sequence on the mRNA is GAU?
- During the process of translation, the amino acids are bound by which bond?

- iv. What are the benefits of mixing ethanol with petrol and diesel?
- v. Explain the concept of IVF.
- vi. Complete the flow chart and explain the energy conversion in the given power plant.



- vii. You are in your house when you suddenly experience earthquake tremors. What necessary rescue steps will you take?
  - viii. Explain the problems faced by common man due to incidences of cyber crime.
- Q.4. Answer the following (Attempt any 1)**
- i Explain double fertilization with the help of a neat and labeled diagram.
  - ii a. What are biodiversity hotspots?  
b. Explain in detail how threatened animals are classified.

**5M**

*Together, we will make a difference.....*