This Question Paper contains 4 Printed Pages.

20E(A)

GENERAL SCIENCE, Paper - II

(Biological Science)

(English version)

Parts A and B

Time : 2 hours 45 min.] ***[Maximum Marks : 40***

Instructions :

1. *In the time duration of 2 hours and 45 minutes, 15 minutes of time is allotted to read and understand the Question paper.*
2. *Answer the questions under* ***Part-A*** *on separate answer book.*
3. *Write the answers to the questions under* ***Part-B*** *on the Question paper itself and attach it to the answer book of* ***Part-A****.*

Part - A

Time : 2 hrs. 15 min. ***Marks : 35***

Instructions :

1. **Part-A** comprises of **three** sections I, II and III.
2. **All** the questions are **compulsory**.
3. There is no over all choice. However there is internal choice to the questions under section-III.

SECTION - I

NOTE : *(i)* Answer **all** the following questions. *7×1=7*

(ii) Each question carries **1** mark.

(iii) Write answers in 1 - 2 sentences for each question.

1. Name any two valves present in human heart.

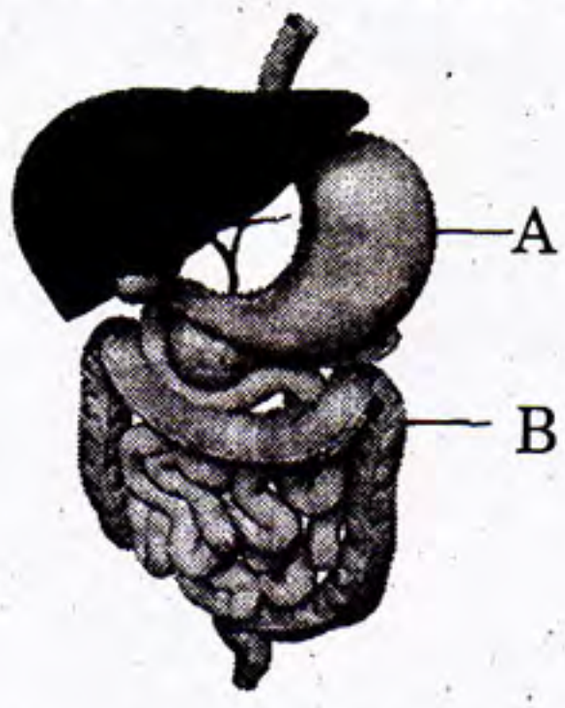
2. Why vasopressin is not secreted when a person drinks a lot of water ?

3. "Respiration is the energy releasing process". Write your opinion on this statement.

[2]

4. Mention two materials you have used to observe Rhizopus on bread mould.

5. Identify the two parts A and B indicated in the given figure.



6. Write any two measures you take in your home to reduce consumption of electricity.

7. Siri injured while playing, and the blood is flowing continuously from wound, what may be the reason for this ?

SECTION - II

NOTE : *(i)* Answer **all** the questions. $6 \times 2 = 12$

(ii) Each question carries **two** marks.

(iii) Answer the questions in 3 - 4 sentences.

8. If you cross a plant with pure yellow seeds (YY) with a plant with pure green seeds (*yy*), what would be the colour of the seeds in F_2 generation ? Show in a checker board.

9. What may happen if villi are absent in small intestine ?

10. Prepare 4 questions on meiosis, to conduct a Quiz programme.

11. Observe the following table and answer the questions given below.

Alkaloid	Name of the plant	Uses
Quinine	Cinchona	Anti malarial drug
Nicotine	Tobacco	Pesticides
Morphine	Opium	Pain killer
Pyrethroids	Chrysanthemum species	Insecticides

(i) Which alkaloid we get from the fruit, is used as pain killer ?

(ii) From which part of the plant we get Quinine ?

12. Draw the diagram showing peristaltic movement. Write the names of the parts responsible for it.

13. The indiscriminate digging of Borewells may result in what type of consequences in future ?

SECTION - III

NOTE : *(i)* Answer **all** the questions. *4×4=16*

(ii) Each question carries **4** marks.

(iii) There is internal choice for each question. Only **one** option from each question is to be attempted.

(iv) Answer each question in 8 - 10 sentences.

14. Mention different modes of nutrition. Explain the mode of nutrition in Cuscuta.

OR

What are the accessory excretory organs in human body ? How do the liver carries out excretion as a secondary function ?

15. Explain the farmer based and community based interventions to conserve soil and water resources.

OR

"The humans who were developed by using the natural resources, today has become the reason for destroying them". Explain analytically.

16. "Taste is connected to the tongue and palate". Write an activity to prove it and write your observations.

OR

Write the procedure and observations of the experiment which you have conducted in your laboratory to prove that CO_2 and heat are evolved during anaerobic respiration by using yeast.

17. Analyse the table and answer the following questions.

Sl.No.	Part of Brain	Functions
1.	Cerebrum	Mental abilities, memory, speech.
2.	Diencephalon	Sensory impulses, emotional impulses, muscular activities.
3.	Midbrain	Reflexes of sight and hearing.
4.	Cerebellum	Equilibrium.
5.	Medulla oblongata	Respiratory, cardiac centres, blood pressure.

(i) Which part of the brain recollects the childhood incidents ?

(ii) Write two parts of hind brain.

(iii) Name the part of the brain that will not function in drunken person.

(iv) Name the part of the brain that controls involuntary actions.

OR

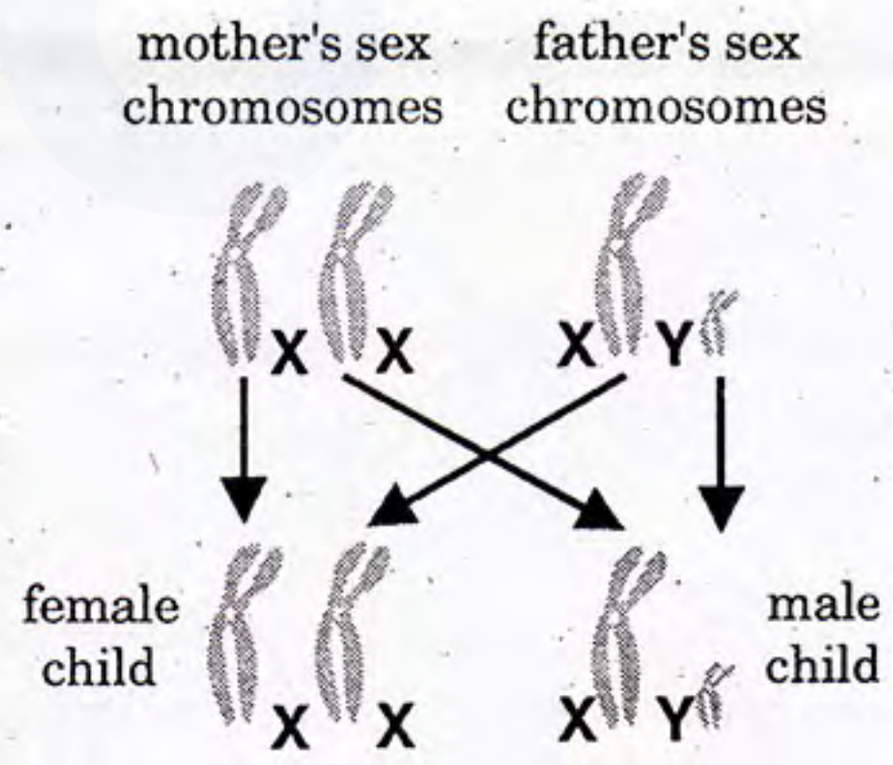
Observe the given flowchart and answer the following questions :

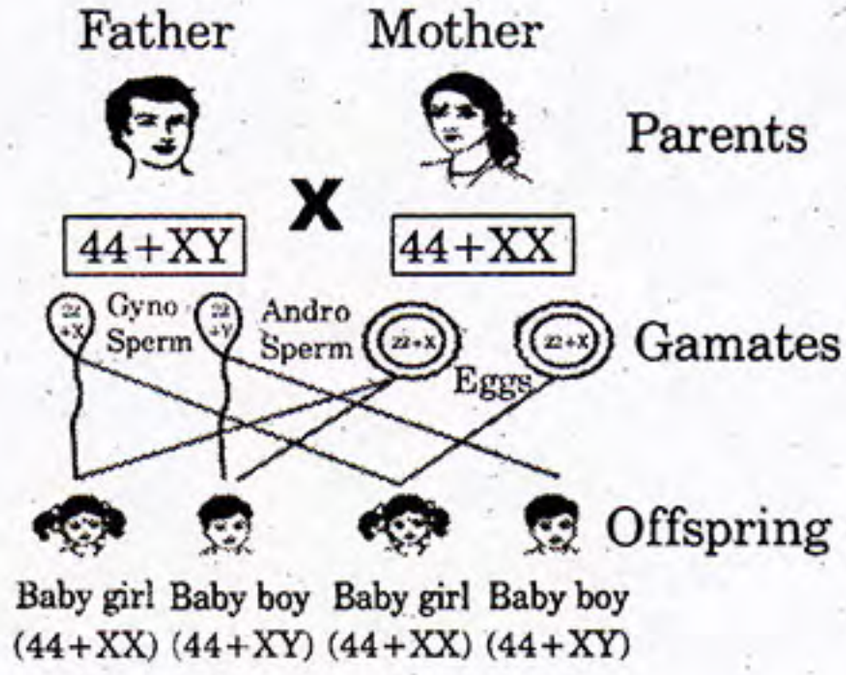
(i) Name the chromosomes that determine the sex of an individual.

(ii) Show given information in the form of Checker Board.

(iii) In this situation, which principle of Mendel is applicable ?

(iv) "Mother determines the sex of the baby". Is this statement correct or not ? Why ?





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20E(B)

GENERAL SCIENCE, Paper-II

(Biological Science)

(English version)

Parts A and B

Time : 2 hours 45 min.] **[Maximum Marks : 40**

Instruction : *Write the answers to the questions under* ***Part-B*** *on the question paper itself and attach it to the answer book of* ***Part-A****.*

Part - B

Time : 30 minutes ***Marks : 5***

NOTE :

1. *Answer* ***all*** *the questions.*
2. *Each question carries ½ mark.*
3. *Answers are to be written in question paper only.*
4. *Marks will* ***not*** *be awarded in any case of over-written, rewritten or erased answers.*

I *Write the CAPITAL LETTER (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them.*

1. Chlorophyll : Magnesium :: Haemoglobin : .... [ ]

(A) Sulphur

(B) Iron

(C) Phosphorus

(D) Calcium

P.T.O.

2. Choose the correct statement. [ ]

(A) Arteries carry blood from body parts to heart.

(B) Walls are thick in veins.

(C) Blood pressure is more in arteries.

(D) Valves are present in arteries.

3. Travelling of pollen tube towards ovum represents .... [ ]

(A) Chemotropism

(B) Phototropism

(C) Geotropism

(D) Thigmotropism

4. Identify the correct one from the following food chains. [ ]

(A) Eagle → Rat → Snake → Grains.

(B) Grains → Rat → Snake → Eagle.

(C) Grains → Eagle → Rat → Snake.

(D) Rat → Snake → Grains → Eagle.

5. Arrange the relevant order of the stages of cell cycle. [ ]

S - Phase	G_1 - Phase	M - Phase	G_2 - Phase
1	2	3	4

(A) 2 → 1 → 4 → 3

(B) 4 → 1 → 2 → 3

(C) 4 → 2 → 3 → 1

(D) 1 → 3 → 4 → 2

6. Delay in healing of wounds, fractures of bones are due to the deficiency of ... [ ]

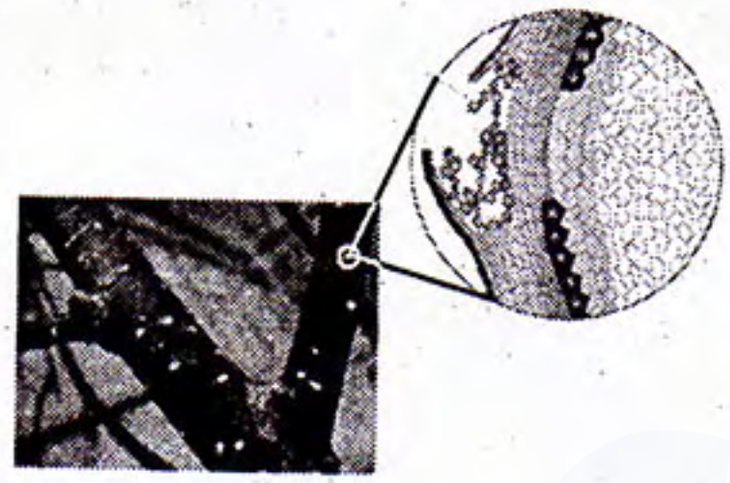
(A) Retinol

(B) Niacin

(C) Folic acid

(D) Ascorbic acid

7. Identify the diagram. [ ]



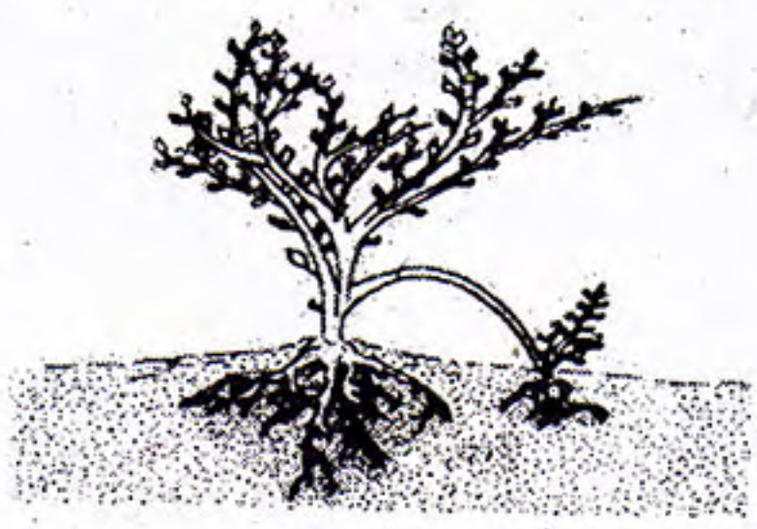
(A) Stomata

(B) Root

(C) Lenticels

(D) Tendrils

8. This type of vegetative propagation is [ ]



(A) Layering

(B) Cutting

(C) Stolon

(D) Corms

9. The chemical used in the experiment to prove that Carbon-di-oxide is essential for Photosynthesis is ... [ ]

(A) Diazine solution

(B) Crystal violet

(C) Safranin

(D) Potassium hydroxide

10. For testing starch in the leaf instead of iodine, we can use ..... [ ]

(A) Betadine

(B) Bromine

(C) Chlorine

(D) Benzene
