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 hours ***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 :
1. Answer **all** the following questions. $7 \times 1 = 7$
2. Each question carries **1** mark.
3. Write answers in 1 - 2 sentences for each question.

1. How can we say that Photosynthesis is the basic energy source for the living world ?

2. Name the food material on which tripsin acts and name the end products.

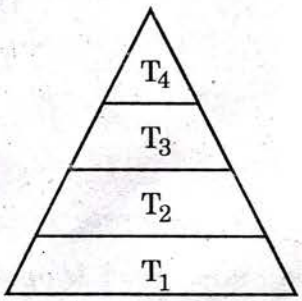
3. List out the materials you have used to observe the goat heart in your laboratory.

4. Give any two suggestions to create awareness to stop female foeticide.

5. Write two precautions you take, while observing Rhizopus in the laboratory.

6. "We can't imagine the world without insects and birds". Suggest two methods to conserve them.

7. The figure given below represents a food pyramid. Study it and answer the following questions.



(i) Which trophic level has maximum energy ?

(ii) Give one example for T_4 trophic level.

SECTION - II

NOTE : 1. Answer **all** the questions. *6×2=12*

2. Each question carries two marks.

3. Answer the questions in 3 - 4 sentences.

8. Explain two tropic movements with suitable examples.

9. Prepare four questions you will ask a nephrologist about Kidney failure.

10. Observe the checker board and answer the following questions.

♀ \ ♂	Y	y
Y	YY	Yy
y	yY	yy

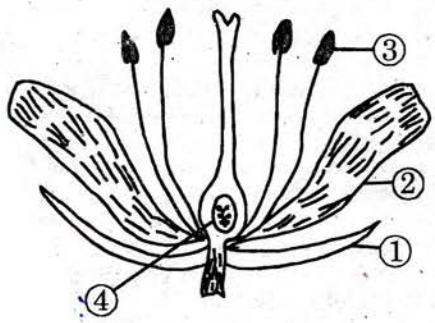
(i) Write phenotypic ratio of monohybrid cross.

(ii) How many heterozygous plants are present in the checker board ?

11. What will happen, if Islets of langerhans fail to function ?

12. Suggest four measures to conserve fossil fuels.

13. Observe the diagram and answer the following questions.



(i) Name male and female reproductive parts of the above figure.

(ii) Write the names of (1) and (2) in the diagram.

SECTION - III

NOTE : 1. Answer **all** the questions. *4×4=16*

2. Each question carries **4** marks.

3. There is internal choice for each question. Only one option from each question is to be attempted.

4. Answer each question in 8 - 10 sentences.

14. Explain artificial methods of vegetative propagation in plants.

OR

What do you understand by the term Natural Selection ? Write Darwin's theory of evolution.

15. What are four R's ? Explain how they help to conserve the environment.

OR

How pesticides, herbicides and fungicides are effecting the ecosystems ? Explain about Bioaccumulation and Biomagnification with examples.

16. List out the materials required and the procedure to be followed to prove that "Carbon dioxide is essential for Photosynthesis".

OR

Write the procedure you have followed to observe "heat is evolved during respiration" in your laboratory. What precautions did you take during the activity ?

17. Analyse the following information and answer the questions.

Sl. No.	*Organ*	*List-1 Effect of Nervous system*	*List-2 Effect of Nervous system*
1	Eye	Dialates pupil	Constricts pupil.
2	Mouth	Inhibits salivation	Stimulates salivation.
3	Lungs	Relaxes bronchi	Constrict bronchi.
4	Heart	Accelerates heart beat	heart beat to normalcy.
5	Blood vessel	Increase blood pressure	Decrease blood pressure.
6	Pancreas	Inhibits Pancreas activity	Stimulates Pancreas activity.

(i) Write two functions of Sympathetic Nervous System.

(ii) Name two organs that are influenced by Parasympathetic Nervous System.

(iii) Name the Nervous system mentioned in the table that increases the blood pressure.

(iv) What systems constitute Autonomous Nervous System ?

OR

Read the following table and answer the following questions.

Sl. No.	*Structure*	*Location*
1.	Tricuspid valve	Right auriculo-ventricular aperture.
2.	Guard cells	Epidermis of leaves.
3.	Glomerulus	Nephron.
4.	Alveoli	Lungs.
5.	Acrosome	Above the head of a sperm

(i) Name the structure concerned to the heart.

(ii) What is the function of a acrosome ?

(iii) Name the structures which are helpful for gaseous exchange.

(iv) Name the part performing Excretion.
