

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. 15 minutes are allocated to read the question paper and 2.30 hours are allocated to write answer.
  2. Write the answers to the questions under **Part-B** on the Question paper itself and attach it to the answer book of **Part-A**.
  3. **Part-A** consists of **three** sections. Answer the questions under **Part-A** on a separate answer book.
  4. **Part-B** (Bit paper) should be tagged to the answer sheet.
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**Part - A**

**Time : 2 hours**

**Marks : 30**

**SECTION - I**

**NOTE :** (i) Answer the following questions in one or two sentences.  $4 \times 1 = 4$   
(ii) Each question carries **ONE** mark.

1. What are the end products of Aerobic and Anaerobic Respirations ?
2. In which organisms, blood does not supply the Oxygen ?
3. What is Colostrum ?
4. Why do we use KOH in Mohl's half leaf experiment ?

**20E(A)**

**V**

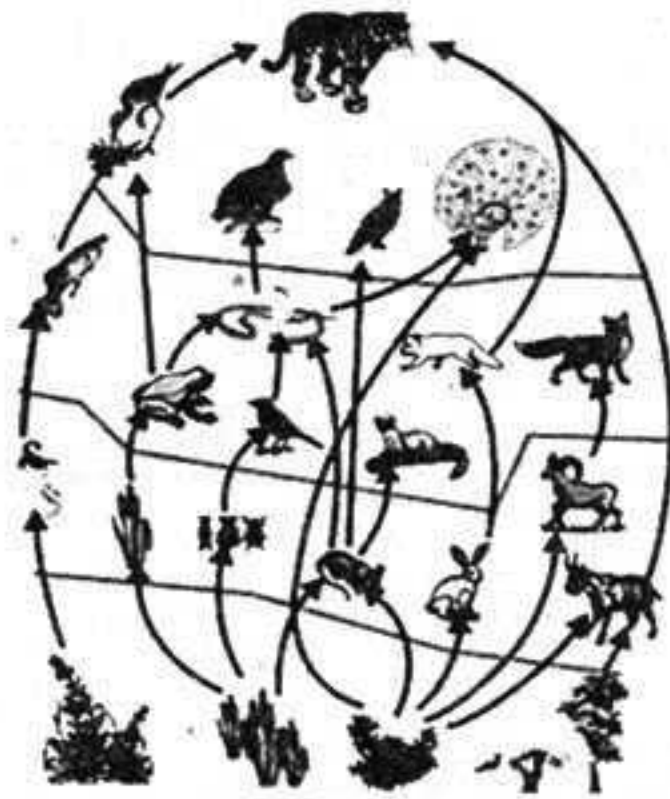
**SECTION - II**

**NOTE :** (i) Answer the following questions in 3 to 4 sentences. 5×2=10

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

5. What will happen if pulmonary veins are tied with a thread ?

6. Observe the diagram and answer the following.



(i) Write any two food chains from the diagram.

(ii) What are the secondary consumers in the food chain that are written by you ?

7. Suggest some precautions to avoid Cardiac problems.

8. What questions do you ask a nephrologist to know more about kidney related diseases ?

9. Prepare some slogans about 'VANAM - MANAM' programme to display in your school rally.

**SECTION - III**

**NOTE :** (i) Answer the following questions in 8 to 10 sentences.

Each question has internal choice.

4×4=16

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

10. (A) Explain the structure of cell organelle that performs the Photosynthesis, with the help of a labelled diagram.

**OR**

(B) Name the important parts of the brain and write the functions of fore-brain.

11. (A) You have done an experiment in your school laboratory to prove Carbondioxide is evolved during respiration. Now answer the following questions.

(i) List out the apparatus used in this experiment.

(ii) Write the procedure of the experiment.

**OR**

(B) "Taste is something connected to the tongue and the palate." Write an activity to prove it.

12. (A) Read the information about Kolleru lake in the given table and answer the following question.

Classes	Area in 1967 (Km <sup>2</sup> )	Area in 2004 (Km <sup>2</sup> )
Lake-water spread area	70.70	62.65
Lake with sparse weed	0	47.45
Lake with dense weed	0	15.20
Lake-labile to flood in rainy season	100.97	0
Aquaculture ponds	0	99.74
Rice fields	8.40	16.62
Encroachment	0.31	1.37
Total	180.38	180.38

(a) In which year, lake water spread area is more ?

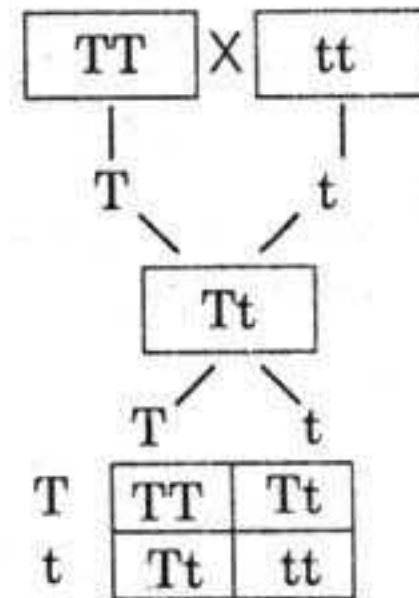
(b) Why do you think weeds are more in the lake ?

- (c) Guess the reasons for decrease in the lake area.  
 (d) What measures are to be taken to control pollution in the lake ?

**OR**

(B) Observe the flow-chart and answer the following.

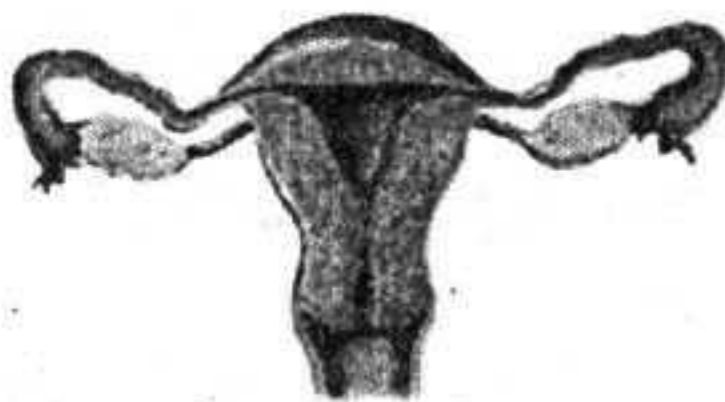
- (i) What does the flow-chart represent ?  
 (ii) What is the Phenotype characters in  $F_1$  generation ?  
 (iii) What is the Genotype, Phenotype ratio of  $F_2$  generation ?  
 (iv) What laws of inheritance did you understand by this flow-chart ?



13. (A) Which diagram do you draw to label these parts ?  
 1. Bowman's capsule. 2. Uriniferous tubule. 3. Collecting tubule.  
 Draw the diagram and label the parts.

**OR**

(B) Observe the diagram and answer the following.



- (i) Which part produce the female gamete ?  
 (ii) Where does the fertilization takes place in female reproductive system ?  
 (iii) Where does the embryo develops until it is ready to born ?  
 (iv) In some cases doctor's cut and tie the cut ends of the fallopian tubes. What is the name of surgery ?

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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**.

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**Part - B**

**Time : 30 minutes**

**Marks : 10**

**SECTION - IV**

$20 \times \frac{1}{2} = 10$

**NOTE :**

1. Answer **all** the questions.
2. Each question carries  $\frac{1}{2}$  mark.
3. Marks will **not** be awarded in any case of over-written, rewritten or erased answers.
4. Write the **CAPITAL LETTER** (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them.

14. Name the plant that is used to make the soil Nitrogen rich. [ ]

- (A) Marygold
- (B) Acacia
- (C) Gliricidia
- (D) Cactus

15. Which enzyme starts the digestion in human beings ? [ ]

- (A) Salivary amylase
- (B) Pepsin
- (C) Trypsin
- (D) Lipase

**20E(B)**

**V**

16. Which of the following is not related to the Darwin's theory of Evolution ? [ ]
- (A) All living organisms of a group are not identical.  
(B) Variations may be passed from parent to off-spring.  
(C) Evolution is a slow and continuous process.  
(D) Population do not grow in geometrical progression.
17. Which of the following Pyramid in aquatic ecosystem is not upright ? [ ]
- (A) Pyramid of Number. (B) Pyramid of Biomass.  
(C) Pyramid of Energy. (D) Pyramid of Heat.
18. Which of the following is not a secretion in human beings ? [ ]
- (A) Enzyme (B) Hormones  
(C) Saliva (D) Sweat
19. What reagent do you use to prove action of Saliva on Starch ? [ ]
- (A) KOH (B) Alcohol  
(C) Iodine (D) Lime water
20. In Mimosa Pudica, Thigmotropism helps in protection, whereas in bitter-gourd, tendrils helps in ..... [ ]
- (A) Support. (B) Nutrition.  
(C) Respiration. (D) Excretion.
21. Which of the following is not a Greenhouse gas ? [ ]
- (A) Carbon dioxide (B) Methane  
(C) Ozone (D) Chloro-fluoro carbons
22. Find the statement that does not belong to Prophase. [ ]
- (A) Nuclear membrane disappears.  
(B) Chromosomes splits.  
(C) Nucleoli become smaller.  
(D) Centromeres splits.

23. Find the correct match. [ ]

- 'A'
- (i) Bulbs
  - (ii) Tuber
  - (iii) Stolon

- 'B'
- (a) Potato
  - (b) Jasmine
  - (c) Onion

(A) (i) - c, (ii) - a, (iii) - b

(B) (i) - b, (ii) - c, (iii) - a

(C) (i) - a, (ii) - b, (iii) - c

(D) (i) - b, (ii) - a, (iii) - c

24. Fibrinogen  $\xrightarrow{\quad?}$  Fibrin

Name the enzyme that involves in this reaction. [ ]

(A) Thrombokinase

(B) Thrombin

(C) Prothrombin

(D) Enterokinase

25. Reason for the growth of mosquito population. [ ]

(A) Sea water.

(B) Streams of rivers.

(C) Streams of canals.

(D) Stagnation of water.

26. The second brain refers to ..... [ ]

(A) Cerebrum.

(B) Cerebellum.

(C) Enteric Nervous System.

(D) Hind brain.

27. The middle step between gaseous exchange at lung's level and tissue level is ..... [ ]

(A) Cellular respiration.

(B) Gas transport by blood.

(C) Breathing.

(D) Lung's expansion.

28. What precaution do you take while conducting experiment on root pressure? [ ]

(A) Plant should have branches.

(B) Plant should be kept in the dark.

(C) Size of the glass tube should be equal to the size of the stem.

(D) Size of the glass tube should be more than the size of the stem.

29. Rama's Heart beat is 72 per minute, so his pulse rate is ..... [    ]
- (A) more than  $\frac{72}{\text{min}}$                       (B) less than  $\frac{72}{\text{min}}$
- (C) Exactly  $\frac{72}{\text{min}}$                       (D) Cannot given.
30. Analogous organs are ..... [    ]
- (A) Fore limb of Goat and wings of bird.  
(B) Fin of Whale and wings of bird.  
(C) Fore limb's of Man and wings of bird.  
(D) Wings of Bat and wings of bird.
31. Geetha always uses durable items because ..... [    ]
- (A) To reduce Waste.  
(B) To reduce Re-use.  
(C) To reduce Recycle.  
(D) To promote Recover.
32. Find the correct statement. [    ]
- (A) Using pressure cookers save the gas.  
(B) Use more water for cooking.  
(C) Do not soak the food materials before cooking.  
(D) Put on the stove before arranging the things.
33. Particulate matter causes ..... [    ]
- (A) Kidney problems.  
(B) Arthritis.  
(C) Joint pains.  
(D) Respiratory disease.
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