

MODEL PAPER 1

GENERAL SCIENCES – PAPER II

Time : 2 hrs 45 min

Max marks: 50

Instructions:

- 1. First 15 minutes are meant for reading the question paper, and remaining 2:30 minutes are for writing the exam.*
- 2. Answer all questions in the booklet given.*
- 3. The question paper contains four sections.*
- 4. Only section four has internal choice.*

SECTION - I

12X ½= 6 MARKS

Note: Answer all the questions. Each question carries ½ marks.

- Write the missing part from the flow chart.
Nostrils -> nasal cavities-> pharynx-> larynx -> _____ -> bronchi -> bronchioles -> alveoli.
- Water : xylem :: _____ : phloem
- Expand RUBP.
- Group A: - insulin, testosterone
Group B: - pepsin, trypsin.
Identify the group with enzymes.
- Pollen grains responds to sugary substance on stigma. What do you call this type of response?
-

Write the name of the logo.



- find the wrongly matched.
a) prophase - equatorial plate
b) anaphase - chromosomes split into two

c) meiosis - reduction division

8. Give an example for vestigial organs in humans.
9. The term NICHE denotes not only the animal's position in the food web and what it eats, but not its mode of life.

Rewrite the sentence by making necessary correction.

10. I am a type of resource and I can be replaced after being used. Who am I?

11 and 12. Complete the paragraph.

_____ (11) continue up to 30 - 45 minutes. Increase in _____ (12) levels result in sensation of hunger and motivation to consume food.

SECTION - II

8X 1= 8 MARKS

Note: Answer all the questions. Each question carries 1 mark.

13. Avinash is afraid of entry of food into respiratory passage. In order to convince him which organ you will refer to from respiratory system?
14. Jeevan said that oxygen is the waste product produced during light reactions. Then what are the useful products produced during light reactions?
15. Prepare any two questions to ask about fuel consumption from petrol vendor.
- 16.



What does the experiment indicate?

17.

iii) Tubular secretion: It is the active secretion of waste products by blood capillaries into the urinary tubule. It ensures removal of all the waste products from blood, viz., urea, uric acid, creatinine, salt ions like K^+ , Na^+ and H^+ ions. This maintains proper concentration and pH of urine.

How do concentration and pH of urine is maintained?

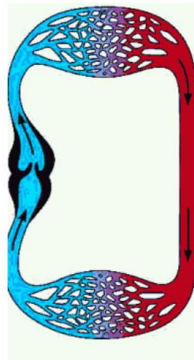
18.

	Round	Wrinkled		
Seed shape			5474:1850	2.96:1

What is expressed in f1 generation when a monohybrid cross is made using purelines of these two traits?

19.

Identify and write the name



of the diagram.

20. Write two slogans on importance of vaccination.

SECTION - III

8X 2= 16 MARKS

Note: Answer all the questions. Each question carries 2 marks.

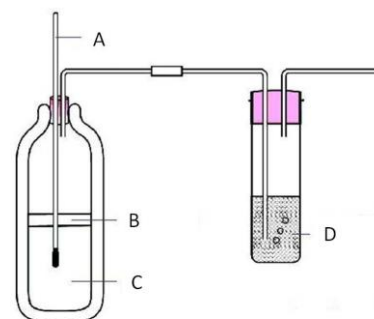
21. Write a note on the process of layering.

22. What is fluorosis? What are its symptoms?

23. Ravi wanted to know about dialysis. Help him to prepare a set of questions to ask the Urologist. Write the questions.

24. Suma told her friend to take milk, eggs, green leafy vegetables regularly, other wise you will be in deficient of riboflavin. What happens if there is the deficiency of riboflavin in our body?

25. What precautions you follow to perform this experiment?



26. Read the following and answer the questions given below:

Lymph is the vital link between blood and tissues by which essential substances pass from blood to cells and excretory products from cells to blood. The lymphatic system is a parallel system to venous system which collects tissue fluid from tissues and transports it to the venous system.

- a) What is the function of lymphatic system?
 - b) To which system lymphatic system acts as a parallel system?
27. Continuous usage of neck leads to its elongation in giraffe. Write any two examples from your surroundings to support the statement.
28. How do you appreciate the feedback mechanism to regulate the level of hormones in the body?

SECTION - IV

5X 4= 20 MARKS

Note: Answer all the questions. Each question carries 4 marks.

29. What is coagulation of blood? Describe the process of coagulation of blood.

OR

Explain the flow of energy in an ecosystem using pyramid of energy.

30. Write the differences between inspiration and expiration.

OR

Natural resources should be managed. Write a detailed note on their management.

31. a) What is the apparatus used to prove that carbon di oxide is essential for photosynthesis?
- b) Write the procedure of the experiment.

OR

What is the procedure you followed to demonstrate the role of mucus in protecting the stomach from its own acids? What did you observe?

32. From the given table of plant hormones, answer the following:

Hormones	Uses
Abscisic acid	closing of stomata; seed dormancy
Auxins	cell elongation and differentiation of shoots and roots
Cytokinins	promote cell division, promotion of sprouting of lateral buds, delaying the ageing in leaves, opening of stomata.
Ethylene	ripening of fruit
Gibberellins	germination of seeds and sprouting of buds; elongation of stems; stimulation of flowering; development of fruit, breaking the dormancy in seeds and buds.

- a) What are the hormones that effect seed dormancy?
- b) What are the hormones that help in opening and closing of stomata?
- c) Which hormones help in differentiation of shoots and roots?
- d) What is the function of ethylene?

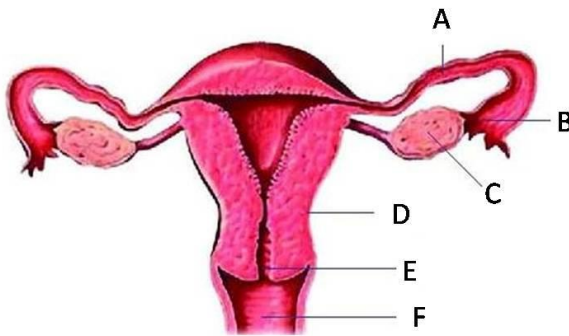
OR

List out the homologous and analogous organs from the following:

Swimmer of whale, using of bat, leg of cheetah, wing of butterfly, wing of bird, hand of man, claw of mole.

33. Draw a neat and well labeled diagram of nephron. Name the part in which ultrafiltration takes place.

OR



Label the parts A B C D E F in female reproductive system. Name the part in which fertilization takes place

8. Receptor -> sensory nerve -> interneuron -> _____ -> effector organ

Complete the flow chart of reflex arc.

9. Rakesh had seen a snake and is afraid of it. He then took a stick and thrashed it. What is the hormone that helps him in this situation?

10. What do this logo stands for?



11 and 12. Complete the paragraph.

_____ is the body's method of ridding itself of unwanted or harmful substances from the stomach. The _____ movements of the stomach and oesophagus reverse their normal direction and the food is expelled.

SECTION - II

8X 1= 8 MARKS

Note: Answer all the questions. Each question carries 1 marks.

13. Define synapse.

14. Write the phenotypic and genotypic ratios of monohybrid cross.

15. Write a few questions on disaster management to ask NDRF personnel.

16. Draw a rough sketch of bread mould you observed under microscope.

17.

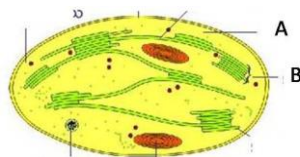
Type of teeth	Number
Molars	3
Premolars	2
Canines	1
Incisors	2

Write the dental formula for the above data.

18. Raju's blood pressure reads 140/90. What are the values of systolic pressure and diastolic pressure?

19.

label A and B.



20. Gaseous exchange takes place in alveoli. Appreciate the role of alveoli in gaseous exchange.

SECTION – III

8X 2= 16 MARKS

Note: Answer all the questions. Each question carries 2 marks.

21. What do you call the substances produced in the plant body which are not required for growth of the plant? Give two examples.

22. What is global warming? What are the causes of global warming?

23. Raju wanted to know about reproduction in amoeba. List out the questions he should ask his teacher about reproduction in amoeba.

24. Ovary secretes oestrogen. What happens if oestrogen is not secreted?

25. Varsha prepared a stethoscope using matchstick. Write the procedure she might have followed to prepare that stethoscope.

26. study the table:

Gas	% in inhaled air	% in exhaled air
Oxygen	21	16
Carbon dioxide	0.04	4
Nitrogen	79	79

Answer the following:

a) Which gas is utilized between inhalation and exhalation?

b) What is the percentage of carbondioxide that is released in excess to inhaled air?

27. Anand was asked to prepare slogans to participate in a rally to create awareness on conservation of soil. Help him and write the slogans.

28. Development and conservation can coexist in harmony. Can you support the statement? Write your reasons.

SECTION – IV

5X 4= 20 MARKS

Note: Answer all the questions. Each question carries 4 marks.

29. Compare the structure and functions of arteries and veins.

OR

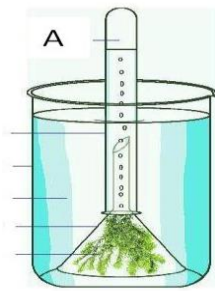
What are ecological pyramids? Explain pyramid of numbers using an example.

30. What are the advantages of conservation of forests and wild life?

OR

Write any four differences between photosynthesis and respiration.

31.

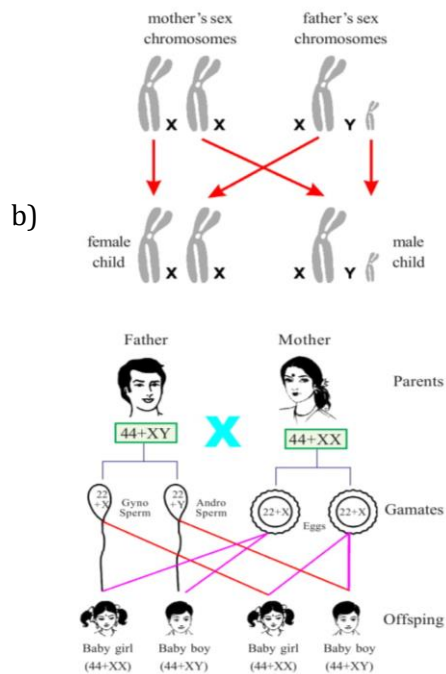


OR

- What is the aim of the given experimental setup?
- how do you test the gas that is released?
- What is the alternative plant that can be used for the plant given in the figure?

What is the procedure you followed to test the action of saliva on flour? What is the enzyme that is present in saliva?

32.



From the given flow chart, answer the following:

- What is the sex chromosome in ovum?
- What is the combination of sex chromosomes for male?
- Who decides the sex of the baby mother or father?
- Does sex is determined by Mendel's law of dominance?

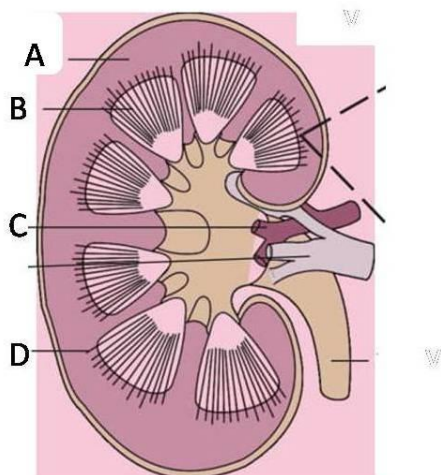
OR

Part of the brain	Functions
Cerebrum	i) Seat of mental abilities, controls thinking, memory, reasoning, perception, emotions and speech. ii) Interprets sensations and responds to cold, heat, pain and pressure.
Diencephalon	i) Relay centre for sensory impulses, such as pain, temperature and light. ii) Reflex centre for muscular activities. iii) Centre for certain emotions such as anger. iv) Centre for water balance, blood pressure, body temperature, sleep and hunger. v) The hypothalamus controls the pituitary gland, which functions as the master gland.
Midbrain	It relays motor impulses from the cerebral cortex to the spinal cord and relays sensory impulses from the spinal cord to the thalamus, reflexes for sight and hearing.
Cerebellum	i) Maintains posture, equilibrium and muscle tone. ii) Coordinates voluntary movements initiated by cerebrum.
Medulla oblongata	i) Contains centre for cardiac, respiratory and vasomotor activities. (Vasomotor refers to actions upon a blood vessel which alter its diameter) ii) Coordinates reflexes like swallowing, coughing, sneezing and vomiting.

Answer the following:

- Name the part that has center for emotions.
- What is the relay center for sensory and motor impulses between brain and spinal cord?
- Write any one function of cerebellum.
- Which part of the brain coordinates swallowing reflex?

33.



Identify the parts. What are the structural and functional units of kidney?

OR

Draw a neat and well labeled diagram of structure of flower. Write the names of the male parts of the flower.