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**SETHU BHASKARA MATRIC HR SEC SCHOOL
HALF YEARLY EXAMINATION- DEC 2022
ANSWER/SCORING KEY**

SCIENCE II

X STD

PART I

MAX MARKS

37

I CHOOSE THE BEST ANSWER(5X1=5)

8(b) mitochondrial matrix

9(d) All the above

10 (b) pituitary gland

11(c) cow pea

12 (b) afforestation

PART II

II ANSWER ANY SEVEN QUESTIONS (7X2=14)

19 In rabbits the teeth are of different types Hence, the dentition is called heterodont -(1 mark)

There are four kinds of teeth in mammals viz.the incisors (I), canines (C), premolars (PM) and molars (M) (1 mark.)

20 The valves regulate the flow of blood in a single direction 1 mark and prevent backflow of blood - 1 mark

21 A-exine

B-intine

C- generative nucleus

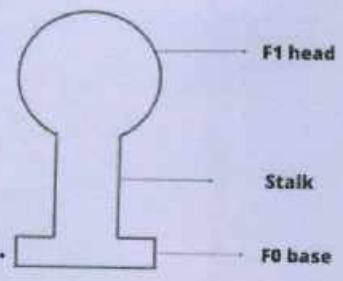
D- vegetative nucleus (4x1/2=2)

PART III

III ANSWER ANY SEVEN QUESTIONS

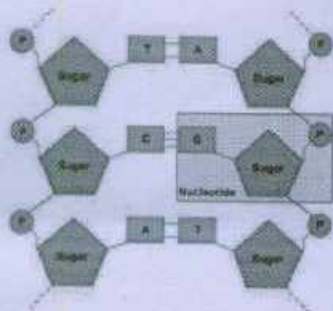
29

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(Diagram 2 1/2 marks labeling 1 1/2 marks)

30



Nucleotides in a DNA

(filling the spaces any two nucleotides

carries 1 mark)

1. DNA molecule consists of two polynucleotide chains.
 2. These chains form a double helix structure with two strands which run antiparallel to one another.
 3. Nitrogenous bases in the center are linked to sugar-phosphate units which form the backbone of the DNA.
 4. Pairing between the nitrogenous bases is very specific and is always between purine and pyrimidine linked by hydrogen bonds.
- * Adenine (A) links Thymine (T) with two

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hydrogen bonds (A = T)

* Cytosine (C) links Guanine (G) with three hydrogen bonds (C ≡ G)

This is called complementary base pair

5. Hydrogen bonds between the nitrogenous bases make the DNA molecule stable.

6. Each turn of the double helix is 34 Å° (3.4 nm). There are ten base pairs in a complete turn.

7. The nucleotides in a helix are joined together by phosphodiester bonds. -(3 marks)

31 Ethnobotany is the study of a region's plants and their practical uses through the traditional knowledge of the local culture of people.-(2 marks)

Importance of Ethnobotany

It provides traditional uses of plants.

It gives information about certain unknown and known useful plants.

The ethnomedicinal data will serve as a useful source of information for the chemists, pharmacologists and practitioners of herbal medicine.

Tribal communities utilize ethnomedicinal plant parts like bark, stem, roots, leaves, flower bud, flowers, fruits, seeds, oils, resins, dyes, gum for the treatment of diseases like diarrhoea, fever, headache, diabetes, jaundice, snakebites, leprosy, etc. (any two points 2x1=2 marks)

PART IV

(4)

IV ANSWER IN DETAIL (1x7=7)

35 (a) Functions of blood

- i) Transport of respiratory gases (Oxygen and CO₂).
- ii) Transport of digested food materials to the different body cells.
- iii) Transport of hormones.
- iv) Transport of nitrogenous excretory products like ammonia, urea and uric acid.
- v) It is involved in protection of the body and defense against diseases.
- vi) It acts as buffer and also helps in regulation of pH and body temperature.
- vii) It maintains proper water balance in the Body.-(7 points 7 marks)

(or)

(b)21.6 Rehabilitation Measures For Alcoholics

Education and counselling: Education and proper counselling will help the alcoholics to overcome their problems and stress, to accept failures in their life.(.-1 ½ marks)

Physical activity: Individuals undergoing rehabilitation should be channelized into healthy activities like reading, music, sports, yoga and Meditation.(.-1 ½ marks)

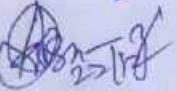
Seeking help from parents and peer groups:When a problematic situation occurs, the affected individuals should seek help and guidance from parents and peers. This would help them to share their feeling of anxiety, wrongdoing and get rid of the habit.(.-2marks)

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Medical assistance: Individual should seek help from psychologists and psychiatrists to get relieved from this condition and to lead a relaxed and peaceful life- (.2 marks)

SUBJECT TEACHER'S SIGN;

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