

PART - B

ZOOLOGY

(Maximum : 30 Scores)

Time : 1 Hour

I. Answer any 3 questions from 1 to 5. Each carries 1 score. (3 × 1 = 3)

1. Find the odd one out and state the reason.

Bone marrow, Spleen, Lymph nodes, Tonsils

2. Note the relationship between the first two words and find a suitable word for the fourth place.

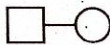
LNG - 20 : Hormone releasing IUD

Multiload 375 : _____

3. Symbols used in human pedigree analysis is given below. Identify these symbols used in pedigree chart.



A



B

4. The milk produced during the initial few days of lactation is called _____.

5. Expand HGP.

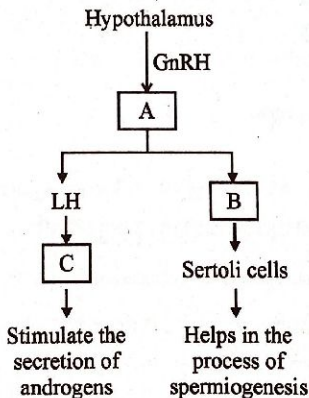
II. Answer any 9 questions from 6 to 16. Each carries 2 scores. (9 × 2 = 18)

6. Answer the following questions :

(a) All copulations do not lead to fertilization and pregnancy. Why ?

(b) After ovulation, the remaining part of the Graafian follicle transforms into a structure called _____.

7. What is amniocentesis ? Why is it banned in India ?
8. The amino acid sequences of the β (beta) globin chain of haemoglobin of two individuals are shown below :
- Val – His – Leu – Thr – Pro – Glu – Glu
 - Val – His – Leu – Thr – Pro – Val – Glu
- Which one belongs to the haemoglobin of a sickle cell anaemic patient ?
 - Give reason for your answer.
9. T.H. Morgan selected *Drosophila melanogaster* as his experimental material. Mention two reasons for selecting *Drosophila* as an experimental material.
10. (a) Complete the chart showing the hormonal control of spermatogenesis.



- (b) Which part of the sperm contains enzymes that help in the fertilization of ovum ?

11. Make pairs by matching the related items based on their source or relationship.

Cyclosporin A,

Monascus purpureus

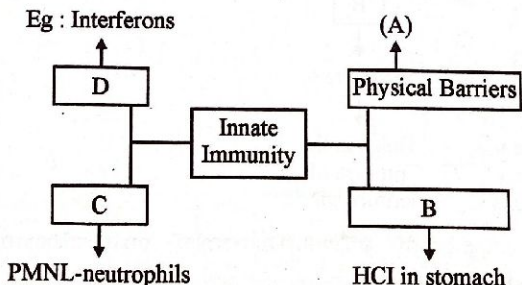
Statins

Trichoderma polysporum

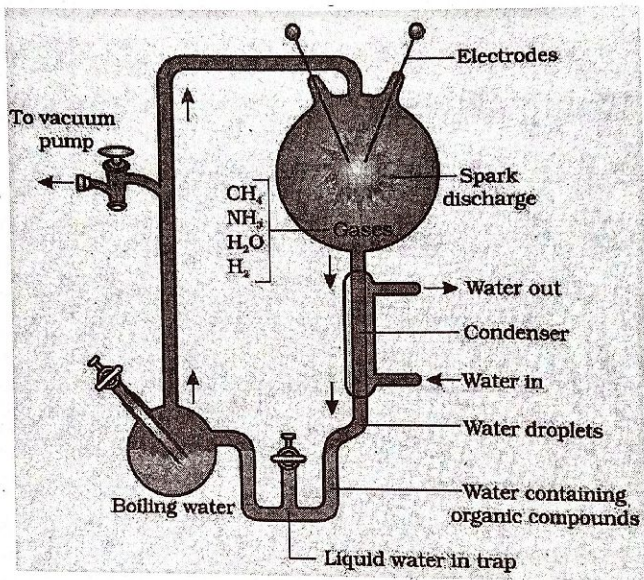
12. Match the following :

A	B
Alec Jeffreys	The ratios between Adenine and Thymine and Guanine and Cytosine are constant and equal one
James Watson and Francis Crick	Transforming Principle
Erwin Chargaff	DNA Fingerprinting
Frederic Griffith	Double Helix Model of DNA
	Chromosomal theory of inheritance

13. Complete the chart showing the different barriers of innate immunity.

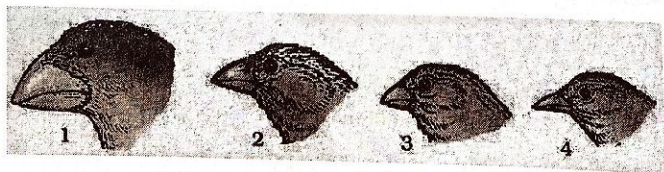


14. Diagrammatic representation of an experiment is given below.



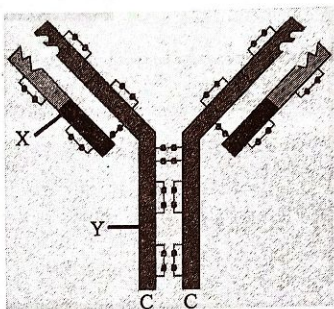
- (a) Who conducted this experiment ?
(b) What was the aim of this experiment ?

15. The pictures shown below are the beaks of certain birds found in an island during Darwin's journey.



- (a) Identify the birds and the island.
(b) Which evolutionary phenomenon is represented in the picture ?

16. (a) Identify the diagram given below.
 (b) Label the parts X and Y.



III. Answer any 3 questions from 17 to 20. Each carries 3 scores.

(3 × 3 = 9)

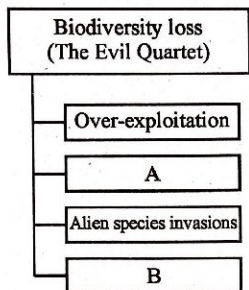
17. (a) Complete the table by filling A B & C

Karyotype	Genetic Disorders
45A + XY / XX	A
44A + XO	B
44A + XXY	C

- (b) Write one symptom for each genetic disorder.

18. Incidents of STIs are very high among the age group of 15-24 years.
- (a) What is meant by STI ?
 (b) Name any two STIs.
 (c) Suggest any two preventive measures.

19. Observe the following chart of the Evil Quartet of biodiversity loss :



- (a) Write A and B.
- (b) What are the two methods of biodiversity conservation ?
- (c) Give one example each.
20. Genetic code is the sequence of nitrogen bases (nucleotides) in an mRNA molecule that contains information for the synthesis of proteins.
- (a) Which is the start codon ? Which amino acid does it represent ?
- (b) Write any two stop codons.
- (c) Genetic code is degenerated. Why ?
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