

SETHU BHASKARA MATRIC HR. SEC. SCHOOL

COMMON QUARTERLY EXAMINATION - 2026

ZOOLOGY [LV] -

Class: XII

Marks: 70

Part - I

Answer all the questions:-

15 x 1 = 15

- | | |
|---|---------|
| 1, C - Sexual. | 1 Mark. |
| 2, C - Alecithal Non-cleidoic. | 1 Mark. |
| 3, B - Syphilis, Chlamydiasis and Gonorrhoea. | 1 Mark. |
| 4, C - Male Produces two types of gametes. | 1 Mark. |
| 5, D - Replication, Transcription, Translation | 1 Mark. |
| 6, C - Carbon dating | 1 Mark. |
| 7, B - I - 3, II - 5, III - 4, IV - 2 | 1 Mark. |
| 8, A - Amphetamines - Stimulant | 1 Mark. |
| 9, C - Plasma Cells. | 1 Mark. |
| 10, C - Statement 1 is Correct but Statement 2 is incorrect | 1 Mark. |
| 11, C - Cluster of Structural gene with related functions | 1 Mark. |
| 12, A - Saliva of ^{infected} female Anopheles Mosquito | 1 Mark. |
| 13, A - A and R are true, R is the Correct explanation of A. | 1 Mark. |
| 14, C - Measels - Rubella virus. | 1 Mark. |
| 15, A - Dysmenorrhoea. | 1 Mark. |

Part - II

Answer any six of the following: Q.No: 24 is Compulsory

(6 x 2 = 12)

- 16 (i) Development of egg into complete individual without fertilization is known as Parthenogenesis. 1 Mark
- (ii) (eg) Honey bee. 1 Mark
-
- 17, (i) Once fertilization is accomplished, Cortical granule from the Cytoplasm of ovum form a barrier called the Fertilization membrane around the ovum Preventing further Penetration of other Sperm. 2 Marks
-
- 18, A - Zygote Intra Uterine Transfer. 1 Mark
 B - Intra - Cytoplasmic Sperm Injection. 1 Mark
-
- 19, (i) - Severe Mental retardation, (ii) Flattened nose, (iii) - Malformed ears, (iv) Mouth is Constantly open. (v) tongue Protrudes, (vi) defective development of CNS 2 Marks
 (any four symptoms).
-
- | 20, Leading strand | Lagging strand |
|--|--|
| (i) one strand with Polarity 5' → 3' is continuously involved in replication | (i) Coding strand with Polarity 3' → 5' is discontinuously involved in replication. 2 Marks |
-
- 21, (i) Interferons are Physiological barrier of innate immunity induce the antiviral state in uninfected cells. 2 Marks

22, (i) Ammonia, (ii) water vapour, (iii) Methane
(iv) Hydrogen. } 2 marks

23, (i) The Process by which one species evolves into one (or) more different species is called speciation } 2 marks

24, (i) ELISA - Detect Presence of HIV antibodies 1 mark
(ii) Western blot - Detect Viral Core Protein. 1 mark

Part - III

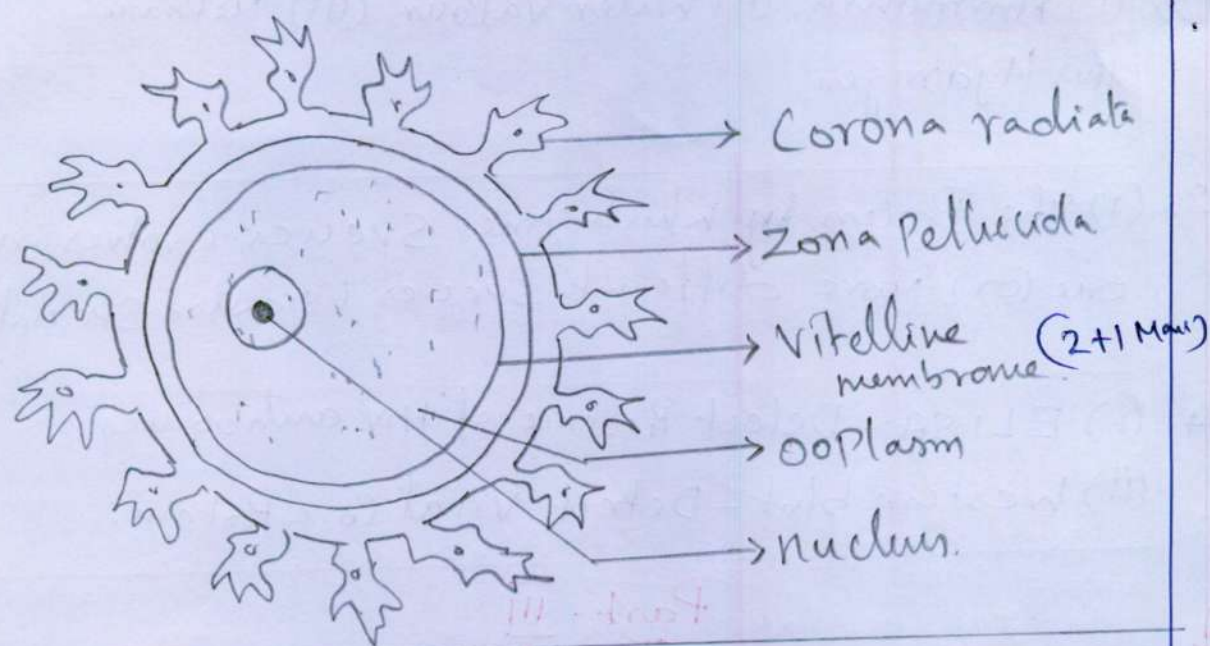
Answer any six of the following :- Q.No: 33 is Compulsory
(6 x 3 = 18)

25, (i) Identify all the genes.
(ii) Determine the Sequence of the three billion Chemical base Pair which make up human DNA.
(iii) To store the information in database.
(iv) Improve the tool for data analysis.
(v) Transfer related technologies to other Sector.
(vi) Address ELSI that may arise from Project
(any three) } 3 marks

26, (i) The Sex of the offspring is determined by number of sets of Chromosomes it receives. 1½ marks
(ii) Fertilized egg developed into female (Queen or worker) and unfertilized egg developed into male (drone) by Parthenogenesis. 1½ marks

27, (i) Normally STI is transferred from Person to Person during intimate Sexual Contact with infected Person. } 3 marks

28



29.

Binary fission

Multiple fission.

(i) Occurs during favourable Condition

occurs during unfavourable Condition.

(ii) Two daughter cells formed

Many daughter cells formed.

(iii) Cyst is not formed

Cyst is Produced.

3 marks.

(Any related Points)

30, (i) August Weismann.

(ii) He conducted experiment on mice for twenty generation by cutting their tails and breeding them.

All mice born with tail.

1 mark

2 marks

31, (i) Vaccine a biological Preparation that provide active acquired immunity to a Particular disease and resembles a disease causing microbes and is often made from weakened (or) attenuated microbes.

2 marks

(ii) (i) First generation vaccines.

(ii) Second generation vaccines.

(iii) Third generation vaccines.

1 mark

- 32, (i) loss of Self Confidence and Self esteem. 1 Mark
 (ii) Anxiety. 1 Mark
 (iii) Not being able to enjoy things that are usually Pleasurable or interesting. 1 Mark

33, Cancer Cell	Ordinary Cells.
(i) Large, variable shaped nuclei, relatively small cytoplasmic volume	(i) Small, uniformly shaped nuclei, relatively large cytoplasmic volume. (1 Mark)
(ii) Variation in Cell Size Shape. Disorganised arrangement of Cells.	(ii) Conformity in Cell size and Shape. Cells arranged into discrete tissues. (1 Mark)
(iii) Large number of dividing Cells. Poorly defined tumour boundaries	(iii) lower level of dividing cells. Cells, tissues clearly demarcated. (1 Mark)

IV Part - IV

Answer all the questions :

(5 × 5 = 25)

- 34 (a) (i) Regrowth in the injured region. 1 Mark
 (ii) Regeneration is of two types, morphallaxis, and epimorphosis. 1 Mark
 (iii) Morphallaxis - Whole body grow from small fragment. (e.g.) Hydra. 1 Mark
 (iv) Epimorphosis - Replacement of lost Part of the body. (e.g.) Wall lizard. 1 Mark
 (v) Two types of epimorphosis - reparative, restorative. 1 Mark

(OR)

(b)

(i) Menstrual Phase.

1 Mark

(ii) Follicular (or) Proliferative Phase

1 Mark

(iii) Ovulatory Phase.

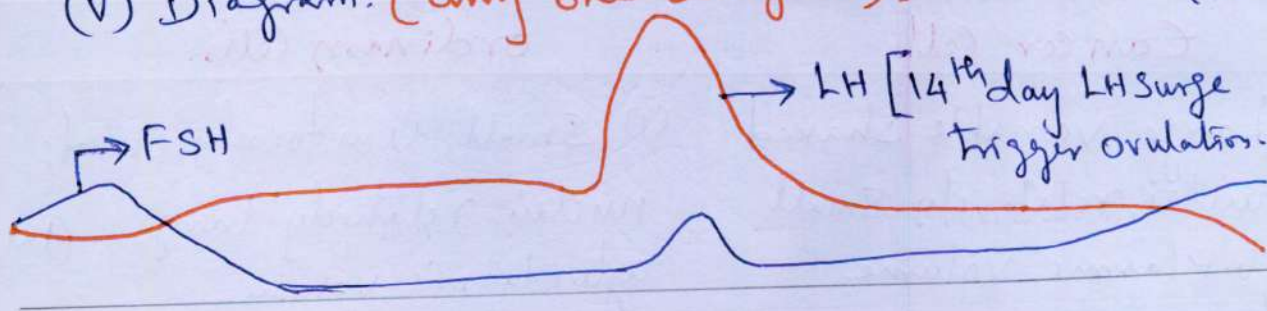
1 Mark

(iv) Luteal (or) Secretory Phase

1 Mark

(v) Diagram. (any one diagram).

1 Mark



- 35, (a) (i) Creating awareness and Providing Medical assistance to build healthy Society.
- (ii) Introducing Sex education in School.
- (iii) Educating Couples and those in the Marriageable age group about the available birth Control Method.
- (iv) Care for Pregnant women and Post natal care of Mother and Child - Creating awareness of breast feeding.
- (v) Encouraging and Support Governmental and non-governmental agencies to improve upon the existing Method of birth Control.
- (or)

5 Mark

- (b) (i) Help in gender identification.
- (ii) Used to detect Chromosomal aberrations.
- (iii) To identify the Chromosomal abnormality.
- (iv) Used in Preceding the evolutionary relationships between species.
- (v) To detect the genetic disease.

5 Mark

(a) (i) High RNA Content - to Perform variety of roles.

(ii) Act as genetic material in virus.

(iii) RNA world $\rightarrow$ RNA Catalyses all the necessary for Survival and replication.

(iv) Evidences Suggested that essential life Process evolved around RNA.

(v) RNA has the ability ^{to} act as both genetic material and Catalyst.

5 marks

(or)

(b) (i) Darwin failed to explain the mechanism of variation.

(ii) He explain the Survival of fittest but not arrival of fittest.

(iii) He focused on non inheritable variation.

(iv) He did not distinguish Somatic & germinal variation.

(v) He Could not explain Vestigial organ and overspecialization.

5 marks

37 (i) Wuchereria bancrofti.

2 marks

(a) (ii) Inflammation of lymphnode. Filariasis of lymph, Scrotum and Mammary gland.

2 marks

(iii) Culex Mosquito.

(or)

(b) (i) DNA finger Printing.

1 mark

(ii) Extraction of DNA, (iii) Polymerase Chain reaction.

(iv) Fragmenting DNA, (v) Separation of DNA by electrophoresis. (vi) Denaturation of DNA.

4 marks

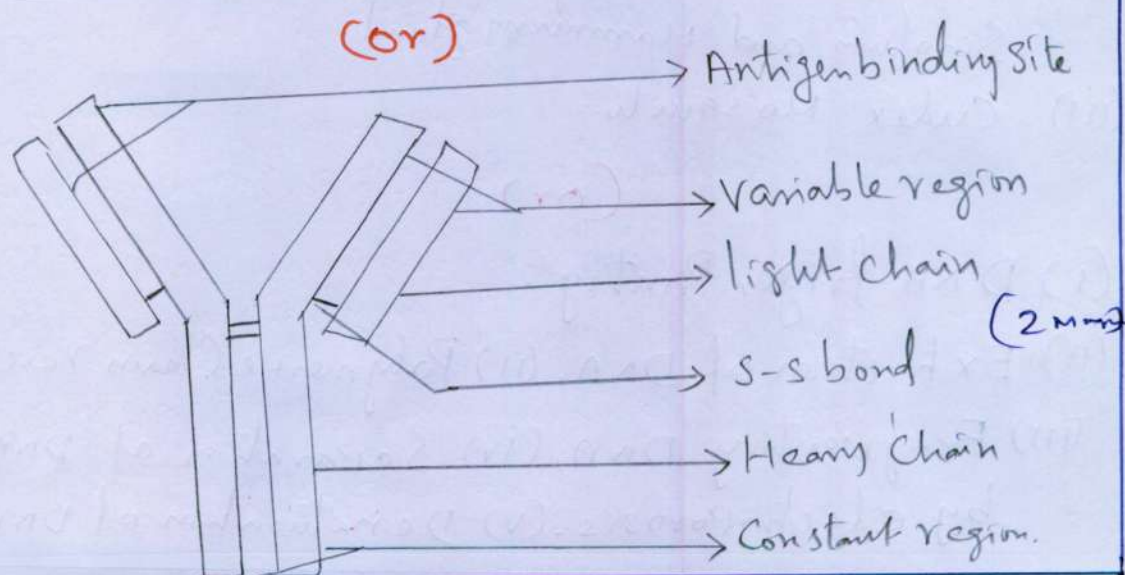
(vi) Blotting, (vii) Using Probes to identify specific DNA
 (viii) Hybridization with Probe, (ix) Exposures on films
 to make DNA (genetic) finger Printer

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a.

Active immunity	Passive immunity.
(i) Produced actively by host immune system	received Passively and host is not involved.
(ii) Produced due to Contact with Pathogen (or) by its antigen	Produced due to antibodies obtained from outside.
(iii) Durable & effective	transient & less effective.
(iv) Immunological memory is Present	memory is absent.
(v) Booster effect on Subsequent dose is Possible.	Subsequent dose is less effective
(vi) Immunity is effective only after short period.	immunity develops immediately.

b.



- (i) An antibody molecule is Y shaped structure.
- (ii) It consists of four polypeptide chains, two identical chains are called light chain with 25,000 Da, and other two identical chains are called heavy chain with molecular weight of 50,000 Da.
- (iii) The polypeptide chains are linked by S-S bond.
- (iv) Light chain is attached with heavy chain and two heavy chains are linked by S-S bond. Hence it is represented by H_2L_2 .
- (v) Each chain has two terminals, they are N-terminal and C-terminal.
- (vi) Both L and H chain in N-terminal forms antigen binding sites.

Signature of Subject handling teacher:-

- 1, M.T. Senthil Kumar - M.T. Senthil
- 2, D. Prithvi Raj - Dec 21/9/26

Signature of Head Master.

- 1, Mr. Nagarajan - 21/9/26