COMMON HALF YEARLY EXAMINATION – 2025

STANDARD – XII

ZOOLOGY – KEY ANSWER

VELLORE DISTRICT

PART – I

i) Answer all the questions

1. (b) Thelytoky
2. (a) Allantois
3. (b) Inhibiting release of FSH and LH
4. (a) 13-Trisomy
5. (b) Transcription
6. (a) Mesozoic era
7. (b) I – 3, II – 5, III – 4, IV – 2
8. (a) IgE
9. (d) Saccharomyces cerevisiae
10. (d) Cloning by nuclear transfer
11. (c) Catadromous
12. (b) IUCN
13. (b) Dobson Units
14. (a) Alexander Von Humbolt
15. (d) Penicillin

PART – II

16. Plasmotomy is the division of multinucleated parent into many multinucleate daughter individuals with the division of nuclei. – 2 marks

17. Let down reflex:

- Oxytocin causes the let-down reflex. – 1 mark
- That causes the actual ejection of milk from the alveoli of the mammary glands. – 1 mark

18. Haplodiploidy:

* The sex of the offspring is determined by the number of chromosomes – ½ mark
* Fertilized eggs develops into females which are diploid in number – ½ mark
* Unfertilized eggs develops into males which are haploid in number – ½ mark
* Hence the sex determination is called haplodiploidy – ½ mark

19. * The international human genome project was launched in the year 1990.
* It was a mega project and took 13 years – any two points to complete.
* The human genome is about 25 times larger than the genome of any organism. – 2 Mark
* Human genome is said to have approximately 3 x 10^8bp.

20. * The major gases to be found in the primitive earth.
* Ammonia, methane, hydrogen and water vapour. - 2 Mark

21. In immunoglobulin one light chain is attached to each heavy chain and heavy chains are attached to each other to form a Y shaped structure. Hence an antibody is represented by H_2L_2.

22. Van't Hoff proposed that with the increase of every 10^0C, the rate of metabolic activity doubles or the reaction rate is halved with the decrease. - 2 Mark

23.

- Rouwolfia vomitoria on medicinal plant growing in different ranges of the Himalayas – 1 mark
- Concentration of the active ingredient reseapinc due to genetic diversity - 1 mark

24.

* CFC - Chloro Fluoro Carbon - 1 mark
* AQI - Air Quality Index - 1 mark

Part – II 3 Mark questions

25.

* The Process of development of an egg into a complete individual without fertilization is known as partheno genesis - 2 marks
* Eg. Annelid and sea urchin eggs - 1 mark

26. Inhibin

* Sertoli cells of seminiferous tubule, secrete a hormone called inhibin -1.5mark

* It is involved in the negative feedback control of sperm Production. -1.5mark

27. Preventive measures of STD

*Avoid sex with unknown partner multiple partner -1 mark

* Use condoms - 1 mark

* In case of doubt, consult a doctor for diagnosis and get complete treatment - 1 mark

28. Applications of karyotyping - any 3 points - 3 marks

* It helps in gender identification
* Used to detect the chromosomal aberrations like deletion duplication translocation nondisjunction of chromosomes.
* Helps to identify the abnormalities of chromosomes like aneuploidy

* Used in predicting the evolutionary relationships between species/

* Genetic diseases in human beings can be detected by this technique.

29.

* The tRNA molecule of a cell acts as a vehicle that picks up the amino acids cattered through the cytoplasm -1.5 mark

* It reads specific codes of mRNA molecules. Hence it is called an adapter molecule. -1.5mark

30.Question is wrong asked similarities but different only given in text

Mere attempt - 3mark

31. - 3 mark

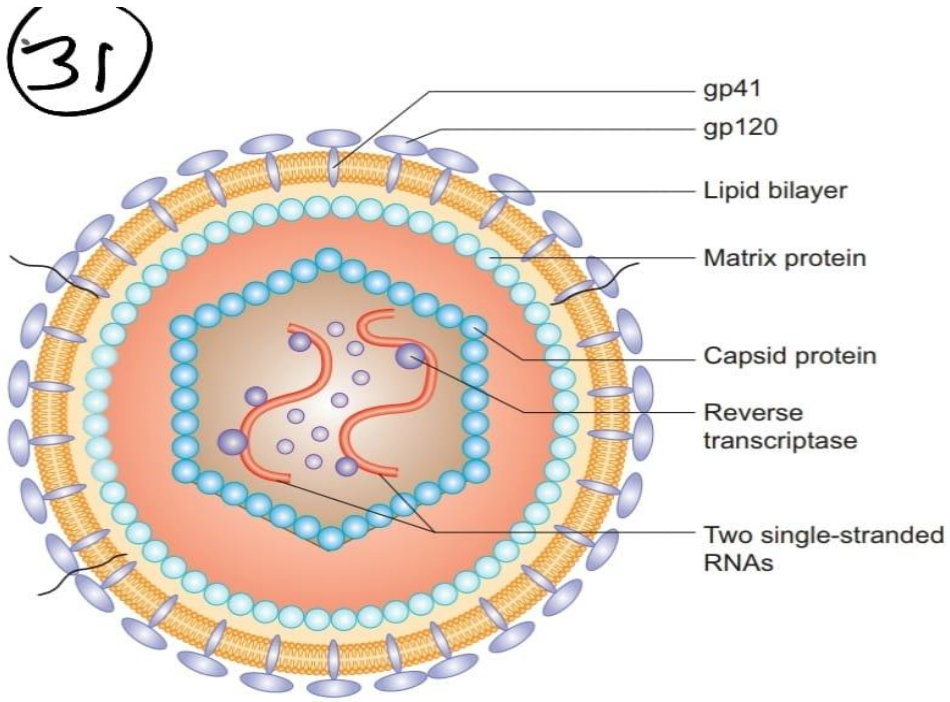

Fig. 8. 10 Structure of HIV

32. Bioremediation

*The use of naturally occurring or genetically engineered organisms - 1.5marks

To reduce or degrade pollutants -1.5marks

33.Natality and Mortality

*Natality: The production of new individuals in the population by birth -1.5marks

Hatching , germination or fisson.

OR

Birth rate number of organisms born per female per unit time

OR

Birth rate = member of Birth per unit time

$$\frac{\text{member of Birth per unit time}}{\text{Average population}}$$

Mortality : Mortality can be expressed as a loss of individuals in unit time or death rate

1 ½ mark

OR

The number of mem bers of an original population dying after the lapse of a given time.

OR

Death rate (d)= Number of Death per unit time

$$\frac{\text{Number of Death per unit time}}{\text{Average population}}$$

PART IV

34. (a) Infertility --Definition

Inability to conceive or produce children even after unprotected sexual -1 mark

Cohabitation is called infertility .

Causes (any 4 points) -4 marks

34.(b) Menstrual cycle – definition

The menstrual ovarian cycle occurs approximately once in every 28/29 days during the reproductive life of the female from menarche to menopause except during pregnancy
1 mark

Phases: 1. Menstrual phase explanation 1 mark

2. Ovulatory phase explanation 1 mark

3. Follicular phase explanation 1 mark

4. Luteal or secretory phase explanation 1 mark

35. a. Applications of DNA finger printing

(i) Forensic analysis 2 marks

(ii) Pedigree analysis 1 mark

(iii) Conservation of wild life 1 mark

(iv) Anthropological studies 1 mark

35 b. Urey- Miller's experiment

Diagram 2 mark

Explanation 3 mark

36 .(a) Protozoan diseases

(i) Amoebiasis: Causative agent- trophozoite-stage-vector-symptoms
1.5 mark

(ii) African sleeping sickness- Causative agent 1.5 mark
Vector (Tsetse fly)- symptoms
(no need to write types)

(iii) Kala – Azar – Causative agent – Vector – Symptoms 1 mark

(iv) Malaria – Caused by plasmodium sp – vector – symptoms 1 mark

36.(b) Difference between normal cell and cancer cell - 5 marks

S.no	Normal Cell	Cancer Cell
1	Small, uniformly shaped nucler Relatively large cytoplasmic voume	Large variable shaped nucler Relatively small cytoplasmic voume
2	Confornity in cell size and shape cells arranged into distrete tissues	Variation in cell size and shape Disorganizes arrangement of cells
3	May possess differentiated cell structures Normal presentation of cell surface markers	Loss of normal specialized features Elevated expression of certain cell markers
4	Lower levels of dividing cells cell tissues clearly demarcated	Large number of dividing cells Poorly defined tumours bounderes

37. (a) Advantages and disadvantages of cloing

* Advantages 3 point any - 3 marks

*Disadvantages 2 points any - 2 marks

(b) Difference between r Selected and K selected species any – 5 points - 5 marks

38.(a) The causes of bio-diversity loss any – 5 points - 5 marks

38.(b)

* Eutroplication – explanation - 2 marks

* Algal bloom – explanation – 3 Marks