HALF YEARLY EXAMINATION -2025

XII-BIO ZOOLOGY , KEY ANSWER

I. CHOOSE THE CORRECT ANSWER:

1. B) 21
2. C) A is true and R are fales
3. C) Cluster of structural genes with related function
4. A) A-II, B-iv, C- iii, D- i
5. A) Natural selection
6. D) (+,-)
7. B) IUCN
8. C) 550L

II. TWO MARKS:(any four)

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

10. Chorionic villus sampling is a prenatal test that involves taking a sample of the placental tissue to test for chromosomal abnormalities. 2 marks

11. Sex linked inhertited traits are more common in males than females because male are hemizygous and therefore express the traits when they inherit one mutant allele. 2 marks

12. I) saccharomyces cerevisiae called brewer's yeast 1 mark
    ii) It is used for fermenting malted cereals and fruit juices to produce various alcoholic beverages 1 mark

13. I) The foreign DNA that is introduced the animals that are produced by DNA Manipulation 1 mark
    ii) eg, mice, rat, rabbit ,pig, cow, goat, sheep (any two) 1 mark

14. Reserpine is the active chemical found in the medicinal plant Rauwolfia vomitoria. 1mark
    It belongs to genetic diversity. 1 mark

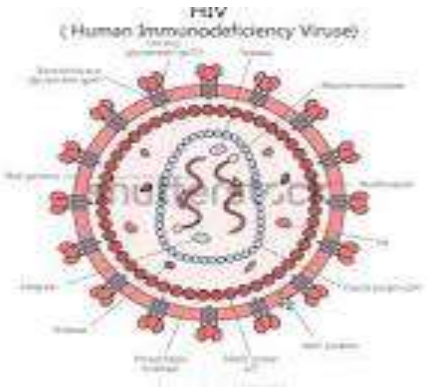
III. THREE MARKS : (any three)

15. I) The transfer RNA molecule of a cell acts as a vehicle that picks up aminoacids Scattered through the cytoplasm. 2 marks
    ii) It reads specific codes of mRNA molecules. Hence it is called adapter molecule. This term was postulated by Francis crick. 1 mark

16. i) They differ from the modern human in having semierect posture, flat cranium, sloping forhead, thin large orbits, heavy brow ridges, protruding jaws and no chin. 2 mark

    ii) They used animal hides to prfotect their bodies . 1mark

17. HIV diagram 3 marks
    lebelled 2 marks



18. I) Medium for plant growth.
    ii) modifier of earth's atmosphere.
    iii)means for water storage and purification (any three points) 3 marks
    iv)habitat for many organisms, which in turn modify the soil

19. Plastic are low molecular weight organic polymers that are non – degradable in the natural environment. plastic waste constitutes a major part of municipal soild waste. 2 marks
    Remedies :

    '4R' – Refuse, Reduce, Reuse and Recycle mantra is the best available
    Remedy for plastic waste pollution. 1 mark

IV. FIVE MARKS (any two)

20. a) gametogenesis – insemination – fertilization – cleavage – implantation – placentation – gastrulation – organogenesis – parturition. 2 marks
All events explain – 3 marks

b) i. decrease in biodiversity distribution, if we move from the tropics towards the poles- because during the cold seasons while very harsh conditions. 1 mark

ii. the number of species per unit area deelings as we move from tropic towards the poles. 1 mark

iii. the tundra, taiga, of northern Canada, Alaska, northern Europe, Russia possess less than 12 species of tree. 1 mark

iv.the temperate forests of the united states have 20-35 species of trees. 1 mark

v.while the tropical forests of panama have over 110 species of trees in a relatively small area. 1 mark

21. a) i. the genetic codon is a triplet code and 61, codons code for amino acids and 3 codons do not code fot any amino acid. (any five) 5 marks

ii. the genetic code is universal

iii. a degenerate code means that more than one triplet codon could code for a specific aminoacid. Eg, GUU,GUC, GUG AND GUG code for valine

iv. non – ambiguous code means that one codon will code for one aminoacids

v. the code is always read in a fixed direction , from 5'—3' direction called polarity

vi. AUG has dual functions.

vii. UAA, UAG, and UGA codons are designated as termination codons and also are known as '' non – sense'' codons.

b).i. trees are the best remedy for urban particulate and gaseous pollution

ii. forests act as carbon sinks and lungs of the planet. (any five) 5 marks

iii. catalytic converters in vehicles help to reduce polluting gases drastically.

iv. diesel exhaust filters in automobiles cuts particulates.

v. electrostatic precipitators reduce release of industrial pollutants.

vi. cost effective air pollution treatment systems like indoor plants and high performance biofilters can improve indoor air quality.