VCD/ 081022 SYBSc Zoology I SEM III 100 MARKS 3HRS

**Note:**

**All Questions are compulsory.**

**Figures to the right indicate full marks.**

**Q.1. a) Fill in the blanks.** **5 Marks**

1. _____ is the location of a particular gene on a chromosome. (Locus, Genome, DNA, Allele)
2. The cross of F1 hybrid to one of its parents is called _____. (Test cross, Back cross, Monohybrid cross, Dihybrid cross)
3. Humans have _____ pair of autosomes and 1 pair of sex chromosome. (44, 23, 22, 46)
4. According to the genic balance theory, X/A=1.5 will make the individual_____. (Male, Meta or Super female, Intersex, None of the above)
5. The process of protein synthesis is called as _____ (Replication, Translation, Transcription)

**b) Match the column** **5 Marks**

| | |
|---|---|
| 1. Normal unaffected female | a. Termination Codon |
| 2. Recessive epistasis | b. O |
| 3. Beard in men | c. Initiation Codon |
| 4. AUG | d. sex-limited character |
| 5. UAG | e. 9:3:4 |

**c) Write true or false** **5 Marks**

1. Rh antigen was present on the RBCs of Gorilla monkey.
2. Law of segregation of alleles can be proved using monohybrid cross.
3. Sex linked genetically inherited traits can appear in both males and females.
4. RII bacteria is capsulated bacteria.
5. DNA helicase enzyme involved in unwinding of DNA during replication.

**d) Write one sentence answer.** **5 Marks**

1. Who discovered human blood groups?
2. Which chromosome is present in both male and female?
3. What role does the environmental factors play in determination of sex in animals like crocodile?
4. Barr bodies are present in?
5. Which bacteria was selected by Griffith for the experiment?

**Q.2. Answer the following. (Any two)** **20 Marks**

1. Define genetics and explain its scope and importance.
2. Describe incomplete dominance with a suitable example.

3. What is epistasis? Give a detailed account of double dominant epistasis.
4. Explain the inheritance of multiple alleles with the help of a suitable example.

**Q.3. A) Answer the following (Any one).** **10 Marks**

1. Describe and classify the structure of chromosomes?
2. Difference between Autosome & Allosome

**B) Answer the following (Any one).** **10 Marks**

1. Explain the XX-XO mechanism of sex determination.
2. Explain sex limited genes with the help of an example.

**Q.4. Answer the following (Any two).** **20 Marks**

1. Describe the process of transcription in eukaryotes.
2. Write properties of Genetic code.
3. Explain- Structure of DNA
4. Explain Process of translation in eukaryotes.

**Q.5. Write short note. (Any four).** **20 Marks**

1. Classical concept of gene.
2. Intermediate lethal alleles
3. Test cross and backcross
4. Haplodiploidy
5. Barr bodies
6. Packaging of DNA
7. Structure of m RNA
8. Wobble Hypothesis