SSR DEGREE COLLEGE (Autonomous)

II SEMESTER INTERNAL ASSESSMENT-I EXAMINATIONS
MOLECULAR GENETICS & DEVELOPMENT BIOLOGY
QUESTION BANK

I. Multiple Choice Questions. **10x1/2=5**

1) DNA is made up of _____chemical components (B)

a) 2 b) 3 c) 4 d) 1

2) Nucleoside is made up of (B)

a) 2 sugars b) Nitrogen + Sugar c) Nitrogen + P d) Nitrogen + P + Sugar

3) Nucleotide is made up of (C)

a) 3 sugars b) 4 Nitrogens c) Nitrogen + S + P d) None

4) Purines are (A)

a) A,G b) C,T c) A,T d) G,C

5) Pyrimidines are (B)

a) G,C b) C,T c) AT d) AG

6) One of the following enzyme produces single – stranded nicks in DNA (C)

a)DNA ligase b)DNA polymerase c)DNase d) SI nuclease

7) Western blotting is the technique for the identification of `(D)

a)DNA b)RNA c)carbohydrates d)Proteins

8) The DNA markers used in the diagnosis of diseases and DNA fingerprinting (C)

a) Restriction fragment length polymorphisms b) Minisatellites and microsatellites

c)Single nucleotide polymorphisms d) Any one of above

9) The first pharmaceutical product of recombinant DNA technology approved for human use (A)

a) Insulin b) Growth c) Interferon d) Hypatitis B vaccine

10) Genetic immunization involves the administration of (C)

a) Antigens b) Antibodies c) DNA d) RNA

11) Mendel's Laws are (B)

a) 2 b) 3 c) 4 d) 5

12) Mendel selected only _____characters (B)

a) 6 b) 7 c) 8 d) 9

13) Supplementary renes (A)

a) 9:3:4 b) 4:1 c) 5:1 d) 3:3:1

14) mRNA caries the message in the form of (C)

a) 2 codes b) 1 codes c) Triplet code d) 4 codes

15) DNA Replication is _____types (B)

a) 2 b) 3 c) 4 d) 1

16) Which of the following is not one of mendal's law of inheritance (D)

a) Law of segregation b) Law of independent Assortment c)Law of Dominance d) Law of linkage

17) In a monohybrid cross, what is the expected phenotypic ratio in the F2 generation when complete dominance is observed (D)

a)1:2:1 b)3:3:1 c)3:1 d)1:1

18) What is the genotype of a plant that expresses a recessive trait (D)

a) RR b) Rr c) rr d) R

19) The number of chromosomes found in Humans (D)

a) 22 pairs b) 28 pairs c)26 pairs d)23 pairs

20) The number of chromosomes found in Drosophila (B)

a) 2 pairs b) 4 paris c)3 pairs d) 6 pairs

II. Fill in the Blanks. **10x1/2=5**

1) Molecular biology refers to the study **Structure & function of macromolecules**

2) DNA **Deoxyribonucleic acid**

3) DNA structure generalization are called **Base pairing rules or the double helix model**

4) Purines & Pyrimidines is brought about by **Nucleotide synthesis**

5) m-RNA **Messenger RNA**

6) The technique for generating amino acid coding changes in the DNA (gene) is regarded as **site – directed mutagenesis**

7) The trade name for insulin produced by rDNA technology **Humulin**

8) The first synthetic vaccine developed by rDNA technology **Hepatitis – B**

9) The most commonly used animal model in transgenesis to represent human **Mouse**

10) Name of the first ever mammal that has been cloned **Dolly the sheep**

11) The contribution of mendel to genetics is called **Mendelian inheritance**

12) Complementary genes **Are genes that work together to produce a particular trait**

13) PCR **Polymerase chain reaction**

14) The width of the DNA helix is **2nm**

15) RNA is anudeic acid containing **Ribose sugar, nucleotides & bases adenine, uracil, cytosine guanine**

16) The most commonly used prokaryotic host in r DNA technology is **E. Coli**

17) Northern blotting technique is used for the detection of **RNA**

18) Name the blotting technique in which nucleic acids (DNA or RNA) are directly blotted onto the filters without electrophoresis **Dotblot**

19) The bacterial source of the enzyme tag 1)NA polymerase, that is widely used in polymerase chain reaction **Thermus aquaticus**

20) The collection of DNA fragments from the genome of a particular species represents **Aenomic library**

III Answers the following questions

(1) Inborn errors of Metabollism
(2) Chromosome structure
(3) Crossing over
(4) Maxam and Gilbert methods
(5) Southern blot technique.