2014-15

S4BSC Biotechnology II
Sem III
Date - 23/3/15

VCD-24/03/15 BIOTECHNOLOGY-II S.Y.B.Sc. SEM III EXAM MARKS 75 2½ HRS (80)

- All questions are compulsory.
- Figures to right indicate marks.
- Draw diagram wherever necessary

Q.I (A) Explain any four of the following. (08)

1. Monohybrid cross
2. Heterozygous
3. Homologous chromosome
4. Autosome
5. Crisscross inheritance
6. Mating type
7. Heteroduplexes
8. Mutation

Q.I (B) Answer any two of the following. (12)

1. Explain Holliday model of recombination.
2. Diagrammatically explain Sex linked crisscross inheritance.
3. Describe Nondisjunction in Meiosis II.
4. Explain dosage competent mechanism in X linked gene in mammals.

Q.II (A) Explain any four of the following terms. (08)

1. Exonuclease activity
2. Replicator
3. Nucleotide
4. Leading strand
5. Telomerase
6. Base analogs
7. Replication fork
8. Semiconservative replication

Q.II (B) Give an account of any two of the following. (12)

1. Messelsons and Stahl experiment.
2. Rolling circle replication.
3. Recombinational repair.
4. Initiation of replication in prokaryotic cells.

Q.III (A) Explain any four of the following terms. (08)

1. Turner's syndrome
2. Pseudodominance
3. Inversion
4. Constitutive heterochromatin
5. Euchromatin
6. Aneuploidy
7. Trisomy
8. Non-reciprocal interchromosomal translocation

Contd/...2

Q.III (B) Explain any two of the following. (12)

1. Gene mutation in viruses.
2. Klinefelter syndrome.
3. Explain packing of nucleosome into a nucleus.
4. Normal human karyotype analysis.

Q.IV Write a short note on any three of the following. (15)

1. Genic sex determination.
2. Y linked inheritance.
3. DNA polymerases
4. SOS repair.
5. Gene mutations in humans.
6. Different types of chromosome bandings.

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