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SARDAR PATEL UNIVERSITY

B.Sc.- 5th Semester

BOTANY-US05CBOT05

(Cytology and Genetics)

Wednesday **Marks-70**

Date- 20/11/19 **Time:10.00 a.m.- 1.00 p.m.**

Q-1 Multiple Choice Questions. (10)

(i)Which one of the following regions is believed to be genetically and metabolically inert?
(a)heterochromatic (b)nucleolar (c)euchromatic (d)all of these

(ii)Nucleolus was first discovered by:
(a)Fontana (b)Robert Brown (c)Waldayer (d)Watson

(iii)The substance of centrosome is called:
(a)karyosome (b)karyolymph (c)kinoplasm (d)none of these

(iv)A large percentage of total cellular RNA is present in:
(a)Chromosome (b)Ribosome (c)E.R. (d)Mitochondria

(v)Microtubule is component of:
(a)cell-wall (b)mitochondria (c)centriole (d)chloroplast

(vi)F_1 particles are present in:
(a)nucleus (b)ribosome (c)mitochondrian (d)chloroplast

(vii)Hormonally controlled sex-determination mechanism was observed in:
(a)Drosophilla (b)Mirabilis (c)Salamender (d)Bonellia

(viii)Kappa-particles in Paramecium are an example of:
(a)sex-linked inheritance (b)Particulate inheritance
(c)cytoplasmic inheritance (d)nuclear inheritance

(ix)In human beings, the sex is controlled by:
(a)Y-chromosome (b)X-chromosome (c)Autosome (d)XY-chromosome

(x)Bar-eye in Drosophila is an example of:
(a)Duplication (b)Inversion (c)Deletion (d)Frame-shift mutation

Q-2Write in short (any ten). (20)

(i)The biogenesis of nuclear membrane.
(ii)Names of single membrane cellular organelles.
(iii)Functions of nucleolus.
(iv)Difference of 70s and 80s ribosomes.
(v)Smooth E.R.
(vi)Location and functions of granum.
(vii)Role of kappa-particle.
(viii)Salient features of sex-linked inheritance.
(ix)Heterogametic female.
(x)Translocation

(PTO)

(xi)Transcription.
(xii)Difference between paracentric and pericentric inversion.

Q-3Describe the ultra structure and functions of Nucleus. (10)

OR

Q-3Explain in detail about an overview of cell structure. (10)

Q-4Write about the functions of followings:

(a)Peroxisome (05)

(b)Centrosomes (05)

OR

Q-4Describe the ultra structure and functions of chloroplast. (10)

Q-5Write notes on:(a)Plastid inheritance in 4 o'clock plant. (05)

(b)Cytoplasmic influence in Snail. (05)

OR

Q-5Describe the chromosome theory of sex-determination . (10)

Q-6Write notes on: (a) Duplication. (05)

(b)Role of enzymes in DNA replication. (05)

OR

Q-6 Write a note on DNA. (10)

—X—