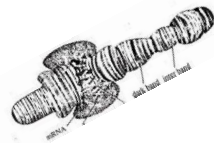


Q/Identify the followings?

(20 Mark)



a



b



c



d

Q/A/ Count the total ridge count?

T.R.C.=

(5 Mark)



R.C.=



R.C.=



R.C.=



R.C.=



R.C.=

Q/B/What are the rules for ridge count?

(10 Mark)

Q/Fill the following blanks with suitable word?

(20 Mark)

1. Secondary spermatocyte has chromosome.
2. Hitchhikers formed by
3. Interkinesis
4. The UV and visible light used in lab .
5. *Drosophila virirlis* differentiated by and with another species.
6. AFIS
7. Giant chromosome replicate by
8. Example of Non-lethal recessive mutation and

Q/Identify the frequency of a trait if: (10 Mark)

Total No. :20.

Trait No. : 5.

Q/How cell cycle regulate itself? (10 Mark)

Q/ Answer the followings briefly? (Only 5) (25 Mark)

1. Why the paper chromatography must handle with forceps?
2. Example for Sex linked Mutation?
3. Meiosis results in the formation of how many and what type of cells?
4. How cytokinesis occur in fungi and insect?
5. How brown color eye in fruit fly formed (pathway)?
6. Write the conformation of chromosome shape and stage in mitosis?

Q/ Why we dilute the stain with buffer in sex chromatin peripheral blood? Write the stain name? (10 Mark)

Q/Fill the following blanks with suitable word? (30 Mark)

1. Giant chromosome replicate by
2. Pigmented iris of eye formed by
3. PTC means
4. The site for gene expression in giant chromosome are
5. A.F.I.S.
6. The media for fruit fly larvae must be
7. The DNA recombination occur in stage of division.
8. Interkinesis
9. In *Drosophila* example for dominant mutation are And
10. Inactive X chromosome Is silenced by.....
11. Example of Non-lethal recessive mutation and
12. *Drosophila virirlis* differentiated by and with another species.

Q/ Write the conformation of chromosome shape and stage in mitosis? (10 Mark)

Q/ Answer the followings briefly? (Only 4) (20 Mark)

1. Meiosis results in the formation of how many and what type of cells?
2. Why the paper chromatography must handle with forcep?
3. Describe female Drosophila when you subjected to genetic experiment?
4. Explain condensation and decondensation at puffs? show an experiment?

Q/ Answer the followings briefly? (20 Mark)

1. Example for Sex linked Mutation?
2. Describe female Drosophila when you subjected to genetic experiment?
3. Explain condensation and decondensation at puffs? show an experiment?
4. How cytokinesis occur in fungi and insect?

Q/Mark true or false of the followings? (10 Mark)

1. In Lac operon when glucose is present the repressor bind with promotor and the gene become turned off.
2. In lac + the yellow color belong to reaction between ONPG with glucose and ONP become free.
3. In Catabolite repression hyaline circle is not found due to present of glucose.
4. When glucose is not present the cAMP become high and it bind with CRP binding site then the gene become turned off.
5. If the multi genes are controlled by only one promotor called operon like Lac operon.

Q/Fill the following blanks with suitable word? (20 Mark)

9. In Ames test a positive result (growing of bacteria on the medium) indicate a substance is
10. In Catabolite repression we used a bacteria which positive like
11. Some chemicals are not mutagen but they convert to mutagen by When Ames test become used.
12. In bacteria the mutation occur in two way like and

13. The Auxotroph of has two features and
14. The aim of the Ames test

Q/With a diagram explain Lac operon in the absence of glucose and lactose is present? (20 Mark)

Q/Why *Salmonella Typhimurium* enteric is favorite as test organisms in the Ames test? (20 Mark)

Q2/ Mark the sentences as True or False? (20 Mark)

- 1- In Lac operon when glucose is present the repressor binds with promoter and the gene becomes turned off.
- 2- In Lac + the yellow color belongs to the reaction between ONPG with glucose and ONP becomes free.
- 3- Constitutive enzyme produces only when substance is present.
- 4- When tryptophan is present the gene becomes turned off.
- 5- The colony of Autotroph *Salmonella* grows during exposure to non-mutagenic agent.
- 6- The Plasmid DNA replicates dependently with bacterial genome.
- 7- Frederick Griffith noticed that non-virulent pneumonia changed to virulent due to gene transfer (conjugation).
- 8- Only two nanograms of extracted DNA used for PCR before Genetic analyzer.
- 9- Minisatellite repeats 10- 100 while microsatellite 10-15 bp.
- 10- RFLP is a technique that is used for STR analysis.

Q/Fill in the following blanks with suitable word?

(20 Mark)

1- In normal case the total ridge count in human female _____ While in turner syndrome XO _____ .

2- The attractive tool for genotoxicity testing is _____ test due to detecting clastogenic effect .

3- In Ames test the Autotroph *Salmonella* has two feature _____

and _____ .

4- ONPG _____.

5- Example of Induction _____ while Repression _____.

6- The Autotroph bacteria that used in Ames test must be _____ .

7- The bacteria that grow in complete media While not grow in GMSA it means _____

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