INTERNATIONAL INDIAN SCHOOL BURAIDAH CLASS 11 BIOLOGY Revision ws ch cell division and cell cycle

Question 1

Q1. Meiosis in diploid organisms results in

(a) Production of gametes

(b) Reduction in the number of chromosomes

(c) Introduction of variation

(d) All of the above

Question 2

At which stage of meiosis does the genetic constitution of gametes is finally decided? –

(a) Metaphase-I (b) Anaphase-II (c) Metaphase-II (d) Anaphase-I

Question 3

Meiosis occurs in organisms during

(a) Sexual reproduction

(b) Vegetative reproduction

(c) Both sexual and vegetative reproduction

(d) None of these

Question 4

During anaphase-I of meiosis

(a) Homologous chromosomes separate

(b) Non-homologous chromosomes separate

(c) Sister chromatids chromosomes separate

(d) Non Sister chromatids chromosomes

Question 5

Mitosis is characterised by

(a) Reduction division

(b) Equal division

(c) Both reduction and equal division

(d) Pairing of homologous chromosomes

Question 6

A bivalent of meiosis-I consists of

(a) Two chromatids and one centromere

(b) Two chromatids and two centromeres

(c) Four chromatids and two centromeres

(d) Four chromatids and four centromeres

Question 7

Cells which are not dividing are likely to be at

(a) G, (b) G2 (C) G0 (d) S phase

Question 8

Which of the events listed below is not observed during mitosis?

(a) Chromatin condensation

(b) Movement of centrioles to opposite poles

(c) Appearance of chromosomes with two chromatids joined together at the centromere
(d) Crossing over

Question 9

Identify the wrong statement about meiosis.
(a) Pairing of homologous chromosomes
(b) Four haploid cells are formed
(c) At the end of meiosis number of chromosomes are reduced to half
(d) Two cycles of DNA replication occur.

Question 10

Select the correct statement about G1 phase.
(a) Cell is metabolically inactive
(b) DNA in the cell does not replicate
(c) It is not a phase of synthesis of macromolecules
(d) Cell stops growing.

Question 11

If a tissue has at a given time 1024 cells, how many cycles of mitosis had the original parental single cell undergone?

Answer :

Ans. $1024 = (2)^n$

n = No. of cycles

$1024 = 2^{10} = 2^n \Rightarrow n = 10$

Thus, 10 cycles of mitosis are there in the original parental single cell.

Question 12

An anther has 1200 pollen grains. How many pollen mother cells (pmc) must have been there to produce them?

Ans: 4 pollen grains are produced by 1 pmc

1200 pollen grains are produced by = 1200/4

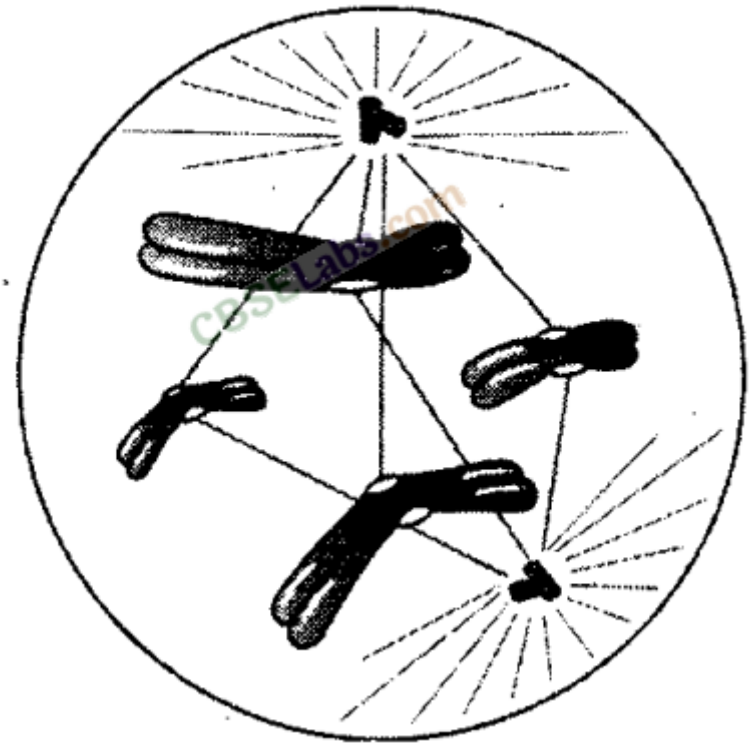
= 300 pmc

Question 13

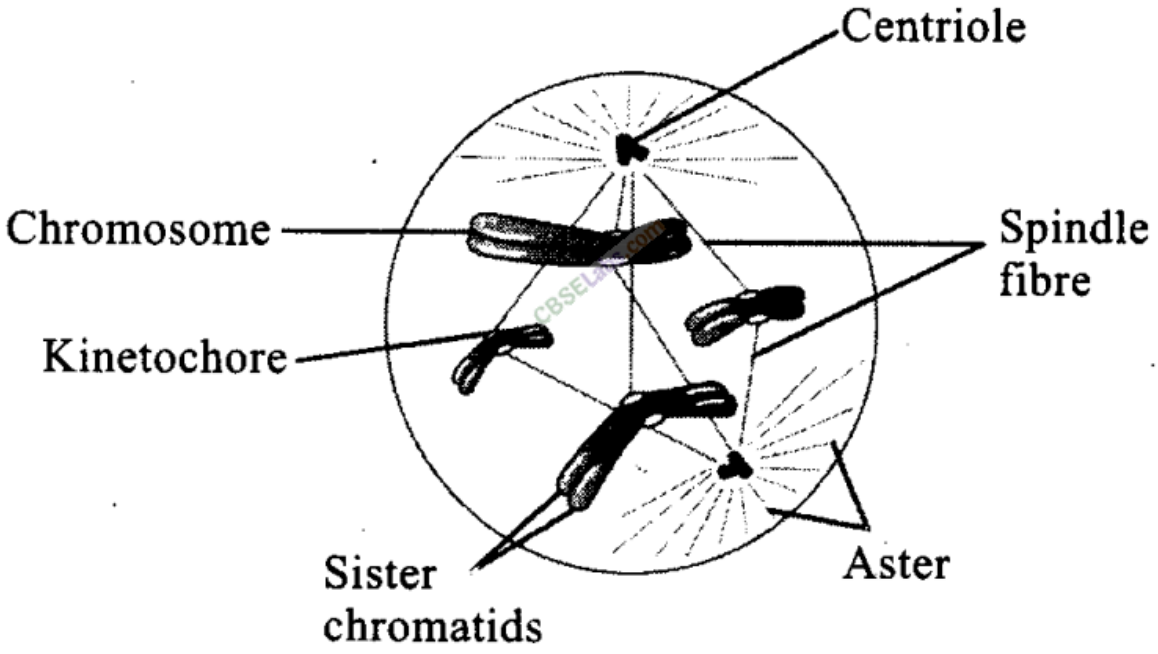
It is said that the one cycle of cell division in human cells (eukaryotic cells) takes 24 hours. Which phase of the cycle, do you think It takes more time and why?

Question 14

Label the diagram and also determine the stage at which this structure is visible.



Answer :


Centriole
Chromosome
Spindle fibre
Kinetochore
Sister chromatids
Aster