

14/A-5

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
B.Sc (IVth SEM) (CBCS) EXAMINATION-2019
US04EBIO01: Cell and Molecular Biology
Thursday, 11th April, 2019
10.00 am to 12.00 pm

TOTAL MARKS: 70

- Q-1 Multiple Choice Question (Each carry one mark) (10)**
- 1 Nuclear membrane and nucleolus reappears during ----- phase
A) Telophase C) Metaphase
B) Anaphase D) Prophase
 - 2 S phase is also known as
A) Pre-DNA synthesis phase C) Post-DNA synthesis phase
B) DNA synthesis phase D) RNA synthesis phase
 - 3 ----- is the resting phase
A) G1 C) G2
B) S D) M
 - 4 The chromosomal terminus is known as -----
A) Chromosome C) Telomere
B) Constriction D) Centromeric
 - 5 Submetacentric chromosomes are ----- shaped
A) J C) W
B) V D) N
 - 6 ----- centrifuge have maximum rotation speed
A) Ultracentrifuge C) Low speed
B) Desktop D) All the above
 - 7 In ----- chromatography technique columns can be reused
A) Paper C) Gas liquid
B) HPLC D) All the above
 - 8 The topological surface of microorganism can be determined by
A) SEM C) Compound microscope
B) TEM D) Fluorescence microscope
 - 9 Which of the following oil is used in oil immersion lens
A) Paraffin C) Sandal wood oil
B) Cedar wood oil D) None the above
 - 10 Which lens provides the highest magnification
A) Oil immersion lens C) high power lens
B) Low power lens D) eye lens

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(1)

(P.T.O.)

- Q-2 Attempt any TEN short questions (Each carry TWO mark) (20)**
- 1 Define Karyokinesis?
 - 2 What is Cell cycle?
 - 3 Explain and define various growth pattern
 - 4 Define acentric chromosome
 - 5 What are Sex chromosomes?
 - 6 Give the functions of chromosome
 - 7 Define partition coefficient
 - 8 Enlist types of column chromatography
 - 9 What are Rf values?
 - 10 Which stains are used in compound microscopy technique?
 - 11 Give the difference between SEM and TEM
 - 12 Define Numerical aperture
- Q-3 a) Explain the process of mitosis and give its significance (10)**
OR
 a) Give a detailed account on meiosis (10)
- Q-4 a) Explain the structure of chromosome with neat labeled diagram (05)**
 b) Discuss Lampbrush chromosome (05)
OR
 a) Give an account on Heterochromatin (05)
 b) Discuss the different types of chromosomes based on position of centromere (05)
- Q-5 a) Discuss the principle of Gas chromatography and give its significance (06)**
 b) Write a note on : differential centrifugation (04)
OR
 a) Discuss paper chromatography (06)
 b) Write a note on: Density gradient centrifuge (04)
- Q-6 a) Discuss the principle, construction and image formation of compound microscope (10)**
OR
 a) Explain the principle and working of Fluorescent microscopy (06)
 b) Write a short note on TEM (04)

— X —
 (2)