SCHEME FOR VALUATION

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86.

B.SC DEGREE EXAMINATION NOVEMBER

BRANCH VI ZOOLOGY

V SEMESTER

COURSE: MAJOR –CORE **SUB CODE:ZL/MC/CB54**

PAPER: CELL BIOLOGY **MAX MARKS: 100**

SECTION-A

ANSWER ALL QUESTIONS **(10x3=30)**

1. Nucleoid
2. a) True
   a) False
   b) False
3. Match the Following

a) Thylakoid	Mitochondria (3)
b) Glycosidation of lipids and proteins	Chloroplast (1)
c) Chemiosmotic hypothesis	Golgi complex (2)

4. a)Transport

   b) 'S'/ Synthetic

   c) introns

5. Bacterial mRNA has several start (AUG) and stop (UAG, UAA, UGA) codons in the same mRNA

   molecule as the life span of mRNA is only 2 min.

6. Membrane enclosed organelle containing enzymes for the metabolism of hydrogen peroxide.

   Abundant in liver and kidney.

7. Nucleotide : sugar+ phosphate+ nitrogenous base

   Nucleoside: sugar+ nitrogenous base

8. Repeating units of chromatin consisting of 200 base pairs of DNA coiled around a histone octamer

(two each of histone H2A, H2b, H3, H4) and are stabilized by H1.

9. Chromosomes with highly extended lateral loops of DNA, found in all animal oocytes at the

diplotene stage of meiosis.

10. Proteinaceous structure composed of two lateral arms and a medial element that forms

between pairing of homologous chromosomes during zygotene of meiosis.

Section- B

Answer any 5 of the following (**5x6=30)**

11. Ciliary apparatus-cilium,basal bodies/kinetosomes and ciliary rootlets
(2) marks

Flagella
(2) marks

Centriole
(1) mark

Diagram
(1) mark

12. Structure of endoplasmic reticulum
(1) mark

SER and RER differentiation
(2) marks

Functions of SER and RER
(2) marks

Diagram
(1) mark

13. RNA expand
(1) mark

mRNA structure and diagram
(1) marks

rRNA structure and diagram
(2) marks

tRNA structure and diagram
(2) marks

14. structure of chloroplast explanation
(3) marks

Diagram
(2) marks

Biogenesis
(1) mark

15. Genetic code definition
(1) mark

Characteristics of genetic code
(3) marks

Triplet codon chart
(2) marks

16. Cell cycle definition
(1) mark

Interphase G1, S, G2 phase
(3) marks

G0 phase
(1) mark

Diagram
(1) mark

17. Neat labeled diagram of Nucleus with the following parts:

Nuclear membrane, Nucleolus, chromatin, Nuclear pores, Nucleoplasm (6) marks

Part –C **(2x20=40)**

18. Mitiotic division definition
(1) mark

Phases - Prophase

Metaphse

Anaphase

Telophase
(5) marks

Diagram
(4) marks

Meiotic division definition
(1) mark

Meiotic division I Prophase I

Leptotene, Zygotene, Pachytene, Diplotene, Diakinesis.

Metaphase I, AnaphaseI ,Telophase I.

Meiotic Division II

Prophase II,Metaphase II,Anaphase II, Telophase II
(5) marks

Diagram
(4) marks

19. Ultrastructure of Mitochondria
(4) marks

Diagram
(4) marks

Functions of Mitochondria:

a) Kreb's cycle
(5) marks

b) Oxidative phosphorylation
(5) marks

C) β – Oxidation
(2) marks

20. Central Dogma of Protein Synthesis
(2) marks

Initiation factors
(4) marks

Diagram
(2) marks

Elongation factors
(4) marks

Diagram
(2) marks

Termination factors
(4) marks

Diagram
(2) marks

21. Structure of DNA
(4) marks

Diagram
(4) marks

Replication of DNA :

a) Semi conservative
(2) marks

b) Origin of Replication
(2) marks

c) Bidirectional
(2) marks

d) Okazaki fragments
(2) marks

e) Importance of enzymes
(4) marks

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