

Devi Ahilya V.

Department o.

Post Gradu.

As recommended and Ap

उच्च शिक्षा

स्नातकोत्तर कक्षाओं के लि

अध्ययन मण्डल देवी अहिल्या विश्वविद्या

Session (सत्र)

M. Sc. Botany (Semester System)

Third Semester

Course PG 303:

Cell and Molecular Biology

85+15

ya Indore (M.P.)

Govt. of M.P.

Syllabus

d of Studies D.A.V.V.

शासन

अनुसार पाठ्यक्रम

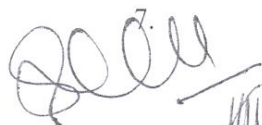
अनुशंसित तथा अनुमोदित

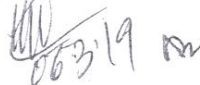
2020-21

- UNIT I: Cellular communication: Regulation of haematopoiesis, general principles of cell communication, cell adhesion and roles of different adhesion molecules, gap junctions, extra cellular matrix, integrins, neurotransmission and its regulation, cytodifferentiation and its types.
- UNIT II: DNA structures A, B and Z forms, DNA replication in prokaryotes and eukaryotes, plant promoters, structure of t-RNA, m-RNA and r-RNA. DNA damage and repair mechanism
- UNIT III: Fine structure of gene, Split gene, overlapping gene, jumping genes. Cis-trans test, Gene expression in prokaryotes and eukaryotes and gene regulation (Operon and repetitive DNA), Gene interaction, genetic code, central dogma.
- UNIT IV: Mechanisms of transcription, translation, initiation, elongation and termination in prokaryotes and eukaryotes and transcription factors. m-RNA splicing. Protein sorting and protein targeting, physical mapping-restriction mapping, sequenced tagged site (STS) mapping. Chromosome walking.
- UNIT V: Molecular techniques-basic concept, principles, technique and application, Gel electrophoresis. In situ hybridization, Southern blotting technique, Northern blotting technique, Western blotting technique and Dot blots technique; FISH, GISH.

#### Suggested readings-

1. Lewin, B. 2000, Genes VII Oxford University Press, New York.
2. Alberts, B., Bray, D., Lewis, J., Ratf, M., Roberts, K., and Watson, J.D. Molecular Biology of the Cell. Garland Publishing: Inc., New York.
3. Wolfe, S.L. 1993. Molecular and Cellular Biology, Wadsworth Publishing Co., California, USA
4. Rost, T. et: al. 1998. Plant Biology, Wadsworth Publishing Co., California, U.S.A
5. Krishanmurthy K V. 2000 Methods in Cell Wall Cytochemistry, CRC Press, Boca Raton, Florida U.S.A
6. Buchanan, B.B. Groissem, W. and Jones, RL. 2000. Biochemistry And Molecular Biology of Plants. American Society of Plant Physiologists, Maryland, USA
7. De, D.N. 2000: Plant Cell Vacuoles: An Introduction. CSIRO Publication, Collil18W~Australia.



  
06/3/19