

V.S.M. COLLEGE (AUTONOMOUS), RAMACHANDRAPURAM
 NAAC Re-accredited with 'B' Grade at 2.69 CGPA
 (Affiliated To Adikavi Nannaya University , Rajamahendravaram)

II B.Sc.(BZC), ZOOLOGY SYLLABUS FOR III SEMESTER

ZOOLOGY - PAPER – III, PAPER CODE - 1632603

CYTOLOGY, GENETICS AND EVOLUTION

<u>Total Hours 4/Week</u>		<u>Total Credits : 03</u>
Unit - I		
1. Cytology – I		10 Hours
1.1 Definition, history, prokaryotic and eukaryotic cells, virus, viroids, mycoplasma		
1.2 Electron microscopic structure of eukaryotic cell.		
1.3 Plasma membrane –Different models of plasma membrane.		
Unit – II		
2. Cell organelles		14 Hours
2.1 Structure and functions of Endoplasmic Reticulum		
2.2 Structure and functions of Golgi apparatus		
2.3 Structure and functions of Lysosomes		
2.4 Structure and functions of Ribosomes		
2.5 Structure and functions of Mitochondria		
2.6 Nucleus		
2.7. Chromatin - Structure and significance, Chromosomes - Structure, types, functions		
Unit - III		
3.1 Genetics – I		12 Hours
3.1.1 Mendel's work on transmission on traits		
3.1.2 Principles of inheritance		
3.1.3 Incomplete dominance and codominance		
3.1.4 Lethal alleles, Epistasis, Pleiotropy		
Unit - IV		
4.1 Genetics – II		12 Hours
4.1.1 Sex determination		
4.1.2 Sex linked inheritance		
4.1.3 Linkage and crossing over		
4.1.4 Extra chromosomal inheritance		
4.1.5 Human karyotyping		
Unit - V		
5.1 Evolution		12 Hours
5.1.1 Origin of life.		
5.1.2 Lamarckism, Darwinism, Neo – Darwinism, Hardy-Weinberg Equilibrium.		
5.1.3 Variations, isolating mechanisms, natural selection.		
5.1.4 Types of natural selection (directional, stabilizing, disruptive).		
5.1.5 Artificial selection and forces of evolution.		
5.1.6 Speciation (Allopatric and Sympatric).		
5.1.7 Macro evolutionary principles (Example: Darwin's finches).		