

ANNEXURE - 1

List of courses sanctioned in Aided Arts and Science Colleges during 2013-14

Name (2)	District (3)	University (4)	First course sanctioned (5)	Second course sanctioned (6)
All Saint's College, Thiruvananthapuram	Thiruvananthapuram	Kerala University	B.Com with Travel & Tourism.	Nil
Mannaniya College of Arts & Science, Pangode, Thiruvananthapuram	Thiruvananthapuram	Kerala University	M.Com	Nil
Loyola College of Social Sciences, Sreekaryam	Thiruvananthapuram	Kerala University	M.A in Counseling	Nil
HHMSPB N.S.S College for Women, Neeramankara, Thiruvananthapuram	Thiruvananthapuram	Kerala University	M.A English	Nil
Iqbal College, Peringamala, Thiruvananthapuram	Thiruvananthapuram	Kerala University	M.Sc Botany	Nil
Mar Ivanios College, Thiruvananthapuram	Thiruvananthapuram	Kerala University	M.A Malayalam	Nil
Christian College, Kattakada, Thiruvananthapuram	Thiruvananthapuram	Kerala University	B.Sc Zoology	Nil
S.N. College, Sivagiri, Varkala	Thiruvananthapuram	Kerala University	B.A English with Mass Communication and Journalism	Nil
S.N. College, Chempazhanchy	Thiruvananthapuram	Kerala University	M.A English	Nil
St. Xavier's College, Thumpa, Thiruvananthapuram	Thiruvananthapuram	Kerala University	M.Com	Nil

FMN College, Kollam	Kollam	Kerala University	M.A Psychology	B.A History
Devaswom Board College, Sasthamcottah	Kollam	Kerala University	B.A English	B.Sc Statistics
S.N College, Punalur	Kollam	Kerala University	M.Sc Physics	B.A Economics
TKM College of Arts & Science, Kollam	Kollam	Kerala University	M.Sc Biochemistry	B.Com with Computer Application
St. Gregorios College, Kottarakara	Kollam	Kerala University	M.Com Finance	B.Com with Computer Application
St. Stephen's College, Pathanapuram	Kollam	Kerala University	M.Sc Mathematics	B.A English
NSS College, Nilamel	Kollam	Kerala University	M.Com	No UG course recommended
Mannam Memorial NSS College, Kottiyam	Kollam	Kerala University	M.Sc Physics	B.A Economics
S.N College, Chathannur	Kollam	Kerala University	M.Sc Mathematics	B.A English with Mass Communication and Journalism
SN College for Women, Kollam	Kollam	Kerala University	B.A Video Production and Mass Communication	B.Sc Computer Science
St. John's College, Anchal	Kollam	Kerala University	M.Sc Chemistry	B.A Economics
S.N College, Kollam	Kollam	Kerala University	M.A Communicative English	B.A Video Production and Mass Communication
St. Cyrils' College, Adoor	Pathanamthitta	Kerala University	M.A English	Nil
Bishop Abaraham Memorial College, Thiruthicad	Pathanamthitta	Kerala University	M.A Economics	Nil
St. Thomas College, Ranni	Pathanamthitta	MG University	B.A English	Nil

**REVISED SYLLABUS FOR
MSC DEGREE PROGRAMME IN
BIO-CHEMISTRY**

w.e.f. 2013 Admission

**M.Sc BIOCHEMISTRY
SCHEME & SYLLABUS**

Semester	Paper No.	Title of the Paper	Instructional Hours/Week			Max. Marks		
			L	T	P	CA	ESA	Total
Semester I	BC 211	Tools & Techniques in Biochemistry	5	1	0	25	75	100
	BC 212	Principles of genetics	5	1	0	25	75	100
	BC 213	Cell Biology	5	1	0	25	75	100
	BC 214	Analytical Biochemistry : Practical	0	0	10	25	75	100
Semester II	BC 221	Microbial Biochemistry	5	1	0	25	75	100
	BC 222	Enzymes	5	1	0	25	75	100
	BC 223	Immuno Chemistry	5	1	0	25	75	100
	BC 224	Enzymology Practical	0	0	10	25	75	100
Semester III	BC 231	Molecular Endocrinology	5	1	0	25	75	100
	BC 232	Metabolism	5	1	0	25	75	100
	BC 232	Molecular Biology	5	1	0	25	75	100
	BC 234	Molecular & Cell Biology : Practical	0	0	10	25	75	100
Semester IV	BC 241	Nutritional and Clinical Biochemistry	5	1	0	25	75	100
	BC 242	Biotechnology and Genetic Engineering	5	1	0	25	75	100
	BC 243	Plant Biochemistry	5	1	0	25	75	100
	BC 244	Clinical Biochemistry - Practical	0	0	10	25	75	100
	BC 245	Dissertation Comprehensive Viva-Voce					100	100

Distribution of hours per semester

3 Theory papers 90 x 3	=	270 hrs
Practical	=	180 hrs
Test Papers Seminars	=	30 hrs

Distribution of Marks

Theory 100 x 12	=	1200
Practicals 100 x 4	=	400
Dissertation	=	100 (80 + 20)
Viva - Voce	=	100 (50 + 50)
Total		1800

Dissertation

Aim : (a) Application of knowledge to real life situation (b) to introduce research methodology. Topic of dissertation may be chosen from any area of biochemistry and may be laboratory based, field based or both or computational, with emphasis on originality of approach. It may be started during 2nd / 3rd semester and shall be completed by the end of the 4th semester. The Dissertation to be submitted should include (a) background information in the form of introduction (b) objectives of the study (c) materials and methods employed for the study (d) results and discussion thereon (e) summary and conclusions and (f) bibliography. Apart from these sections, importance of the results, originality and general presentation also may be taken into consideration for evaluation.

Pattern of question papers : Theory

Each question paper must have five units drawing questions from the respective unit of the syllabus. Each unit must have two questions of which one must be attempted. Each question must have subunits *a*, *b* and *c* each carrying 2, 5 and 8 marks respectively. The minimum marks for each paper shall be 75.

SCHEME FOR PRACTICALS

Semester I	BC 214	Analytical Biochemistry	100 marks
Semester II	BC 224	Enzymology	100 "
Semester III	BC 234	Molecular & Cell Biology	100 "
Semester IV	BC 244	Clinical Biochemistry	100 "

The Practical examinations are conducted at the end of Semester II and Semester IV. At the end of Semester II, examination for Practical BC 214 and BC 224 and at the end of Semester IV examination for Practical BC 234 and BC 244 will be conducted.

Distribution of marks for Practical Examination

			Duration	ESA	CA	Total marks
Semester II	BC 214	Practical I	6 hrs			
		Spot test		15		
		Qualitative Analysis		25		
		Quantitative Estimation		35	25	100
Semester II	BC 224	Practical II	6 hrs			
		Spot test		15		
		Enzyme Assay		60	25	100
Semester IV	BC 234	Practical III	6 hrs			
		Spot test		15		
		Identification		25		
		Quantitative Estimation		35	25	100
Semester IV	BC 244	Practical IV	6 hrs			
		Spot test		15		
		Blood group determination		20		
		Clinical Estimation		40	25	100

**M. Sc. DEGREE PROGRAMME IN
BIOCHEMISTRY**

w.e.f. 2017 Admission

M. Sc. BIOCHEMISTRY

SCHEME & SYLLABUS

Semester	Paper No	Title of the Paper	Instructional Hours/Weeks			Max. Marks		
			L	T	P	CA	ESA	Total
Semester I	BC 211	Techniques in Biochemistry	5	1	0	25	75	100
	BC 212	Cell Biology & Genetics	5	1	0	25	75	100
	BC 213	Plant & Microbial Biochemistry	5	1	0	25	75	100
	BC 214	Practical I - Biochemical & Microbial techniques	0	0	10	25	75	100
Semester II	BC 221	Enzymes	5	1	0	25	75	100
	BC 222	Metabolism	5	1	0	25	75	100
	BC 223	Clinical & Nutritional Biochemistry	5	1	0	25	75	100
	BC 224	Practical II - Enzymology & Clinical Biochemistry	0	0	10	25	75	100
Semester III	BC 231	Molecular Biology	4	1	0	25	75	100
	BC 232	Immunology	4	1	0	25	75	100
	BC 233	Pharmacology & Toxicology	4	1	0	25	75	100
	BC 234	Methods in Research	3	1	0	25	75	100
	BC235	Practical III - Immunotechniques & Phytochemical Analysis	0	0	10	25	75	100
Semester IV	BC 241	Molecular Endocrinology	5	1	0	25	75	100
	BC 242	Biotechnology & Genetic Engineering	5	1	0	25	75	100
	BC 243	Practical IV - Techniques in molecular Biology	0	0	10	25	75	100
	BC 244	Dissertation Comprehensive Viva-Voce	0	0	5	0	100	100