SIES

College of Arts, Science & Commerce

RISE WITH EDUCATION

Sion(West), Mumbai – 400022.

(Autonomous)

SELF-FINANCED PROGRAMS

Programs : BAMMC, BMS, BMS (CM), B.Sc(BT), B.Sc(CS), B.Sc(DS), B.Sc(IT)

PROGRAM OUTCOMES
AND
COURSE OUTCOMES

This is to certify that page nos 1 to 169 of this document are verified and found to be correct.

SIES COLLEGE OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS) MUMBAI 400 022

Principal
SIES College of Arts, Science & Commerce (Autonomous)
Sion (West), Mumbai - 400 022.

SIES College of Arts, Science and Commerce, Autonomous,
Sion west, Mumbai
Name of the Programme: BACHELOR OF MANAGEMENT STUDIES(BMS)
(Three years Integrated Degree Programme)

The BMS Programme Outcomes

SIES offers a three years degree programme in Management Studies with specialization in Marketing, Finance and Capital Markets. The Programme outcomes (POs) are skills and competencies that a learner is expected to accomplish on conclusion of the program. The BMS POs includes building reasoning ability & rational thinking, Commercial awareness, Research skills and Ethical values that prepare learners for progression to higher studies, employability and develop team player attitude.

The POs are well affiliated with the Institutional Vision and Mission. They are edged to ensure that the learning levels and academic standards of BMS programmes offered at our institute is at par with the Global Standards. The teaching methodologies focus on instruction delivery in a more practical way to fulfil the institutional learning objectives and thereby contributing to the holistic development of a learner.

Table1: Program Outcomes of the BMS Program On completion of the BMS Program, our graduate is expected to have attained following Skills, attitudes and competencies.
PO1. Solving Complex Problem with Critical Thinking Applying the knowledge of various course learned under a program with an ability to breakdown complex problems into simple components, by designing processes required for problem solving and making informed decisions that guide actions (at Institutional, Personal and Intellectual level).
PO2. Reasoning ability and Rational thinking Developing rational thinking on the basis of acquired contextual knowledge, assessing societal, public health and safety, cultural, legal, gender, ethnic and environmental issues, and performing with decisive responsibility.
PO3. Research skill Utilizing the contextual knowledge in an inter-disciplinary framework. Integrating research based knowledge and research methods involving problem definition, analysis and interpretation of data, synthesis of the information to provide valid conclusions. Exercising analytical skill, research ability, creativity, for employability and collaborating with industries
PO4. Effective Communication skill Facilitating to speak, read, write and listen effectively through both formal language and in one's own mother tongue, in order to make meaning of the world around. Enabling to comprehend and write effective reports and documentation, make successful presentations, give and receive clear instructions.
PO5. Proficiency with ICT Equipping to create, select, apply appropriate tools and techniques, resources through electronic media for the purpose of gathering, analyzing data and drawing inference with an understanding of its merits and demerits
PO6. Social Interactive Skills and team work

Eliciting networking with people, mediate disagreement and help reach conclusions in group settings. Functioning effectively as an individual, and as a member in diverse groups, and in multidisciplinary settings exhibiting adaptability, leadership quality and team-building
PO7. Ethical values Recognizing and respecting different value systems including one's own, to understand the moral dimensions of one's decisions, intention to help the society and feeling good about it, commitment to professional duties and responsibilities
PO8. Self-directed Learning Acquiring the ability to explore and gain knowledge in independent ways, keep evolving lifelong in the broad context of socio-technological changes.
PO9. Sensitization towards Sustainable Environment and Gender equality issues Understanding the need for sustainable development and concern for environmental issues, realizing the importance of co-habitation, co-evolution in our achievements of sustainable development goals. Demonstrating knowledge and understanding of gender equity-issues and gender justice.
PO10. Civic Values and Global Citizenship Expressing empathetic social concern while helping others when their rights are violated, no matter where in the world they live, to act with an informed awareness on issues, to participate in civic life by volunteering for social justice.

Structure of the BMS Programme:

A) BMS (Regular)

The BMS Program is structured in 6 semesters as mentioned below

For detailed Syllabus, please refer to Academics-Courses and Syllabus

FYBMS

SEMESTER 1- 7 compulsory courses

SEMESTER 2- 7 compulsory courses

SYBMS

SEMESTER 3- 5 compulsory courses with two elective courses in chosen specialization (Marketing & Finance)

SEMESTER 4- 5 compulsory courses with two elective courses in chosen specialization (Marketing & Finance)

TYBMS

SEMESTER 5- 2 compulsory courses with four elective courses in chosen specialization (Marketing & Finance)

SEMESTER 6- 1 compulsory course, 1 compulsory project work and four elective courses in chosen specialization (Marketing & Finance)

B) BMS (Capital Markets)

FYBMS (CM)

SEMESTER 1- 7 compulsory courses

SEMESTER 2- 7 compulsory courses

SYBMS (CM)
SEMESTER 3- 7 compulsory courses
SEMESTER 4- 7 compulsory courses

TYBMS (CM)
SEMESTER 5- 7 compulsory courses (including 1 course for Internship)
SEMESTER 6- 7 compulsory courses (including 1 course for project report)

Table 2: (A) Structure of the BMS(Regular) Programme		
First Year BMS **Semester 1 and 2**	**Second Year BMS** **Semester 3 and 4**	**Third Year BMS** **Semester 5 and 6**
Each Semester includes 7 compulsory courses consisting of 3 elective courses, 1 Ability Enhancement Course, 1 Skill Enhancement Course and 2 core courses	Each Semester includes 5 compulsory courses consisting of 1 Ability Enhancement Course, 1 Skill Enhancement Course and 3 core courses. Students have to choose one specialization from Marketing and Finance where they will be studying 2 courses in their chosen specialization.	Each Semester includes 2 compulsory courses consisting of 1 Ability Enhancement Course and 1 core course. The Ability Enhancement course for semester 6 includes a project work (Research/ Internship based) to be submitted by students. 4 Elective courses will be offered based on the specialization chosen in second year (Marketing and Finance)
(B) Structure of the BMS (Capital Markets) Programme		
FYBMS (CM) Semester 1 & 2	**SYBMS (CM) Semester 3 & 4**	**TYBMS (CM) Semester 5 &6**
Each Semester includes 7 compulsory courses consisting of 3 elective courses, 1 Ability Enhancement Course, 1 Skill Enhancement Course and 2 core courses	Each Semester includes 7 compulsory courses consisting of 3 elective courses, 1 Ability Enhancement Course, 1 Skill Enhancement Course and 2 core courses	Each Semester includes 7 compulsory courses consisting of 3 elective courses, 1 Ability Enhancement Course, 1 Skill Enhancement Course and 2 core courses

SIES College of Arts, Science and Commerce (Autonomous)
Sion West, Mumbai

Faculty: HUMANITIES
Name of the Programme: BACHELOR OF ARTS
(B.A. Three years Integrated Degree Programme)

B.A. Programme Outcomes

SIES College offers three years integrated degree programme in Humanities-B.A. with specialization in various domains. Bachelor of Arts Under Graduate Programmes fulfill its institutional objectives in a learner-centric environment.
The Programme outcomes (POs) are skills and competencies that a learner is expected to attain on completion of the program. The POs are well aligned with the Institutional Vision and Mission.
It includes domain-dependent skills on subject knowledge and domain-independent global skills and competencies that prepare learners for progression to higher studies, groom them for employability and inculcate social responsibility. The teaching-learning methodology focuses on curriculum delivery and nurtures a well-integrated personality in its learners. The POs are framed to ensure that the learning levels and academic standards of B.A. programmes are synchronous with the higher education institutes in the country as well as in the world.

Table 1: B.A. Programmes Outcomes
On completion of Graduation in B.A. the learners shall be able to demonstrate and attain the following graduate attributes at Cognitive, Skill and Attitude levels for the award of the qualifying degree.

	POs	PO Statements
	COGNITIVE LEVEL	
Domain Dependent (POs 1-5)	***PO1 Solving Complex Problem***	Apply the knowledge to break down complex questions into simple components by designing processes required for problem solving.
	PO2 Critical Thinking	Evaluate the accuracy and validity of assumptions with an ability to reflect essentially from different perspectives and ideas.
	PO3 Reasoning ability and Rational thinking	Think rationally and analyze socio-cultural-legal issues with decisive responsibility that promote community welfare.
	SKILL LEVEL	
	PO4 Research skill	Integrate the contextual knowledge in an inter-disciplinary framework by exercising the analytical skill, research ability, creativity, for employability and collaborating with industries.
	PO5 Effective Communication skill	Facilitate the ability to speak, read, write, listen effectively in Indian languages, other medium of instructions and enhance the use of digital communication tools.
Domain Independent (POs 6-11)	***PO6 Social Interactive Skills and team work***	Stimulate constructive social interactions in multidisciplinary settings by exhibiting, adapting leadership and team-building skills.
	ATTITUDE LEVEL	
	PO7 Ethical values	Recognize and respect different value systems with a commitment to fulfil one's own professional duties and responsibilities.
	PO8 Self-directed Learning	Demonstrate the ability to keep evolving in life-long learning and upgrade with the changing global and technological advancements.
	PO9 Sensitization towards Environment and Sustainability	Create an ecological consciousness to develop a sustainable culture for a sustainable future.
	PO10 Gender Sensitization	Analyze coherent understanding of human rights from multi-disciplinary perspectives.
	PO11 Civic Engagement	Express empathetic social concern in pro-active ways to engage with civic and governance issues.

Structure of the B.A. Programmes:
The B.A. Programmes are structured in Six Semesters and is offered with the following specializations.
For detailed Syllabus, please refer to Academics-Courses and Syllabus.

A) B.A. – Single Major (Aided Programmes)
Group I Course (6 Units)
1. Economics
2. English Literature
3. Hindi Literature
4. History
5. Philosophy
6. Politics
7. Psychology **(Up to First and Second Years)**

B) B.A. – Double Major (Aided Programmes)
Group II Course (3+3 Units)
1. Economics and Politics
2. History and Philosophy
3. History and Politics
4. History and Economics
5. History and Hindi Literature

C) B.A. - Applied Component (Aided Programmes)
Group III Elective Course (Any one)
1. Comparative Study of Religions
2. Demography
3. Elementary Quantitative Techniques
4. General Introduction to Law
5. Travel and Tourism

D) T.Y.B.A. – Single Major Course (Self-Financed Programme)
Group IV Course (6 Units)
1. Psychology

Table 2: Structure of the B.A. Programme

Programme	First Year B.A. Semester I and II	Second Year B.A. Semester III and IV	Third Year B.A. Semester V and VI
B.A. Single Major Aided	6 Theory courses in each semester (Any 3 subjects of choice from the courses listed above in Group I) and 3 compulsory courses – Foundation Course, First Language-Communication Skills in English, Second Language – (Electives) Hindi/Marathi/French)	8 Theory Courses in each semester (Any 3 subjects of choice from the courses listed above in Group I continue with two papers in each subject) and 2 compulsory courses – Foundation Course, Applied Component (Any 1 elective course as listed above in Group III)	6 Theory courses (6 Units) any 1 subject of choice from the courses listed above in Group I and only from the 3 subject choice fulfilled in First Year and Second Year
B.A. Double Major Aided	6 Theory courses in each semester (Any 3 subjects of choice from the courses listed above in Group I) and 3 compulsory courses – Foundation Course, First Language-Communication Skills in English, Second Language – (Electives) Hindi/Marathi/French)	8 Theory Courses in each semester (Any 3 subjects of choice from the courses listed above in Group I continue with two papers in each subject) and 2 compulsory courses – Foundation Course, Applied Component (Any 1 elective course as listed above in Group III)	6 Theory courses (3 + 3 units) any 1 subject of choice from the courses listed above in Group II and only from the 3 subject choice fulfilled in First Year and Second Year
B.A. Self-Financed	6 Theory courses in each semester (Any 3 subjects of choice from the courses listed above in Group I) and 3 compulsory courses – Foundation Course, First Language-Communication Skills in English, Second Language – (Electives) Hindi/Marathi/French)	8 Theory Courses in each semester (Any 3 subjects of choice from the courses listed above in Group I continue with two papers in each subject) and 2 compulsory courses – Foundation Course, Applied Component (Any 1 elective course as listed above in Group III)	6 Theory courses (6 Units) as listed in Group IV and only if successfully fulfilled Psychology course in First Year and Second Year

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SIES College of Arts, Science and Commerce, Autonomous,
Sion west, Mumbai

Name of the Programme: BACHELOR OF SCIENCE (B.Sc.)
(Three years Integrated Degree Programme)

The B.Sc. Programme Outcomes

SIES offers a three years integrated degree programme in Science-B.Sc. with specialization in various domains.

The Programme outcomes (POs) are skills and competencies that a learner is expected to attain on completion of the program. The B.Sc. POs include domain-dependent skills, subject knowledge and global skills and competencies that prepare learners for progression to higher studies, employability and citizenship. A student of the B.Sc. programme should be able to demonstrate the attainment of these skills for the award of the qualifying degree.

The POs are well aligned with the Institutional Vision and Mission. They are framed to ensure that the learning levels and academic standards of B.Sc. programmes are comparable with that of the other higher education institutes across the nation and globe. The teaching methodologies focus on instruction delivery in a learner-centric environment to fulfil the institutional learning objectives and groom a well-integrated personality in its learners.

Table1: Program Outcomes of the B.Sc. Program On completion of the B.Sc. Program, our graduate is expected to have attained following skills, attitudes and competencies.
PO1. Solving Complex Problems Apply the knowledge gained in breaking down complex problems into simple components; and to design processes required for problem solving.
PO2.Critical Thinking and reasoning ability Cultivate critical thinking based on rationale to identify assumptions, verify the accuracy and validity of assumptions, and make decisions based on reasoning.
PO3. Reasoning ability and Rational thinking Instill the ability of logical reasoning to question the rationale behind concepts, ideas, and perspectives to draw logical conclusions.
PO4. Research Aptitude Utilize and integrate research-based knowledge in an interdisciplinary framework; apply research tools for analysis and interpretation of data; understand and comply with research ethics.
PO5. Effective Communication skill: Demonstrate the ability to listen and to clearly express ideas verbally. Equip to write reports and make presentations effectively.
PO6. Information and Digital Literacy: Equip to use appropriate tools and techniques inclusive of internet and electronic media for acquiring, assessing and analysing data from diverse resources.
PO7. Social Interactive Skills and team work: Exhibit networking and social interactive skills; function effectively as an individual and as a member in diverse groups; demonstrate leadership quality useful for employability.

PO8. Self-directed and Lifelong Learning: Ability to explore and gain knowledge in independent and self-reliant ways. Demonstrate ability to adapt and upgrade with the global , social and technological changes.
PO9. Awareness towards Environment and Sustainable Development: Exhibit awareness and a concern for environmental issues; understand and realize the significance of cohabitation and co-evolution in attaining the needs of sustainable development.
PO10. Gender Sensitization and Civic Engagement Respect gender sensitivity, gender equity and gender justice; encourage mutual understanding and express empathetic social concern towards different value systems and different strata of society with respect to civic duties.

Structure of the B.Sc. Programme:

The B.Sc. Program is structured in 6 semesters and is offered with the following specializations.
For detailed Syllabus, please refer to Academics-Courses and Syllabus.

A) B.Sc. - Single Major (Aided Programs)

Group 1

1. B.Sc. Botany
2. B.Sc. Microbiology
3. B.Sc. Zoology
4. B.Sc. Chemistry

Group 2

5. B.Sc. Mathematics
6. B.Sc. Physics
7. B.Sc. Statistics

B) B.Sc. - Double Major

1. B.Sc. Biochemistry and Botany
2. B.Sc. Biochemistry and Zoology
3. B.Sc. Biochemistry and Microbiology
4. B.Sc. Biochemistry and Chemistry

C) B.Sc. – Self-Financed Programs

1. B.Sc. Biotechnology
2. B.Sc. Computer Science
3. B.Sc. Information Technology

Table 2: Structure of the B.Sc. Programme

Program	First Year B.Sc. Semester1 and 2	Second Year B.Sc. Semester3 and 4	Third Year B.Sc. Semester5 and 6
B.Sc. Single	7 theory courses and 3 practical courses in each	7 theory courses and 2 practical courses in each	5 theory courses and 3 practical courses in each

Major **Aided**	semester. (Any 3 subjects of choice from the 7 subjects listed in A) above and One compulsory subject - Foundation Course.)	semester. (Any two subjects of choice from subjects studied in First Year and One compulsory subject - Foundation Course)	semester. (Any one subject of choice from subjects studied in Second Year, and One course in Applied component)
B.Sc. Double Major **Aided**	7 theory courses and 3 practical courses in each semester. (Any 3 subjects of choice from the 7 subjects listed in A) above including at least one subject from Group1 and one compulsory subject - Foundation Course)	7 theory courses and 2 practical courses in each semester. (Any two subjects of choice from subjects studied in First Year, including at least one subject from Group1 and One compulsory subject - Foundation Course)	5 theory courses and 3 practical courses in each semester. (Subject1: Biochemistry, Subject2: Any one subject from the Group 1 that was studied in Second Year, and One course in Applied component)
BSc. **Self-Financed**	**BT and CS** 7 theory courses and 3 practical courses as mentioned in the syllabus in each semester. **IT** 5 theory courses and practical courses as mentioned in the syllabus in each semester.	**BT and CS** 7 theory courses and 3 practical courses as mentioned in the syllabus in each semester. **IT** 5 theory courses and practical courses as mentioned in the syllabus in each semester.	**BT and CS** 5 theory courses and 3 practical courses as mentioned in the syllabus in each semester. **IT** 5 theory courses and practical courses as mentioned in the syllabus in each semester.

Principal

SIES

College of Arts, Science & Commerce

RISE WITH EDUCATION

Sion (West), Mumbai – 400022.

(Autonomous)

Faculty: Humanities
Programme: B.A.M.M.C.
B.A. in Multimedia and Mass Communication

Academic Year: 2021-2022

F.Y.B.A.M.M.C.

Choice Based Credit System

Proposed and Approved by Board of Studies in B.A.M.M.C with effect from 1st June, 2021

SIES COLLEGE of Arts, Science and Commerce
(Autonomous) Sion West
Department of Mass Media
SIUABMM: Programme: B.A.M.M.M.C
Bachelor of Arts in Multimedia and Mass Communication
(A three-year integrated undergraduate degree programme under Humanities)
Programme Outcomes and Programme Specific Outcomes
Academic session: June, 2021 - May, 2022

SECTION A - SIES Vision and Mission

Vision:
The Institution aims at all round development of its learners in a favourable environment to nurture their intellectual, cultural, social, physical and recreational skills by imparting the education to attain global competencies.

Mission:
With a spirit of sincerity, we:

- Foster an integrated character in the learners
- Mould the facilitators to be role models for the learners
- Prepare the learners with technological knowledge, communication skills, social awareness, critical thinking and problem-solving ability
- Develop inquisitive minds to inculcate a culture of research and innovation
- Equip the learners with leadership skills to become the agents of social change
- Initiate sensitivity towards environmental, gender and ethnic diversity
- Promote values of responsible citizenship

SECTION B - Our Institutional POs

B. A. a three-year integrated under graduate degree Programme under Humanities: Programme Outcomes

Bachelor of Arts Programme fulfils its institutional objectives in a learner-centric environment. B.A. Programme focuses at course delivery and groom a well-integrated personality in its learners through the teaching-learning methodology.

On the completion of B.A., the learners will be able to accomplish the following Programme outcomes at different levels: knowledge, skills and attitudes.

A. PROGRAMME OUTCOMES

POs	**PO Statements**
COGNITIVE LEVEL	
PO1 ***Solving Complex Problem***	Apply the knowledge to break down complex questions into simple components by designing processes required for problem solving.
PO2 ***Critical Thinking***	Evaluate the accuracy and validity of assumptions with an ability to reflect essentially from different perspectives and ideas.
PO3 ***Reasoning ability and Rational thinking***	Think rationally and analyze socio-cultural-legal issues with decisive responsibility that promote community welfare.
SKILL LEVEL	
PO4 ***Research skill***	Integrate the contextual knowledge in an inter-disciplinary framework by exercising the analytical skill, research ability, creativity, for employability and collaborating with industries.
PO5 ***Effective Communication skill***	Facilitate the ability to speak, read, write, listen effectively in Indian languages, other medium of instructions and enhance the use of digital communication tools.
PO6 ***Social Interactive Skills and team work***	Stimulate constructive social interactions in multidisciplinary settings by exhibiting, adapting leadership and team-building skills.
ATTITUDE LEVEL	
PO7 ***Ethical values***	Recognize and respect different value systems with a commitment to fulfil one's own professional duties and responsibilities.
PO8 ***Self-directed Learning***	Demonstrate the ability to keep evolving in life-long learning and upgrade with the changing global and technological advancements.
PO9 ***Sensitization towards Environment and Sustainability***	Create an ecological consciousness to develop a sustainable culture for a sustainable future.
PO10 ***Gender Sensitization***	Analyze coherent understanding of human rights from multi-disciplinary perspectives.
PO11 ***Civic Engagement***	Express empathetic social concern in pro-active ways to engage with civic and governance issues.

SECTION C. B.A.M.M.C: Programme Specific Outcomes:

PSOs	PSO Statements
PSO 1	Demonstrate the understanding of the concepts, nature and the models of communication, journalism, advertising, marketing, print, electronic, digital media, research and new media organisations.
PSO 2	Analyse the contemporary media environment in association with the history of media, gender, culture, films, laws, marketing communications, consumer behaviour, account planning and entertainment in socio-political areas in India and abroad.
PSO 3	Evaluate the application of theories in the field of mass communication, media studies, public relations, business journalism, retail, brand management, marketing research and media organisations within the society, nationally and globally.
PSO 4	Propose skill based activities in content production and development, use of software applications in print, broadcast, web-based areas which includes ad campaign, reporting, editing, branding and news media management.

List of Course Names & Alias with Codes and Credit Points

First Year B.A.M.M.C. Semester I for 2021-22

Course Code	Name Of The Course & Alias	No. Of Credits
SIUBAMMC11	Effective Communication-I (EC-I)	02
SIUBAMMC12	Foundation Course-I (FC-I)	02
SIUBAMMC13	Visual Communication (VC)	04
SIUBAMMC14	Fundamentals Of Mass Communication (FMC)	04
SIUBAMMC15	Current Affairs (CA)	04
SIUBAMMC16	History Of Media (HOM)	04

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC11	Effective Communication–I	48/3	2	40+60=100

Learning Course Outcomes -
Effective Communication-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Recall and illustrate the process, importance, barriers, and measures to overcome the barriers to communication in technical and general communication in media.	**R,U,Ap**	1,2,5,6	1,2
CO2	Indicate the advantage and significance of verbal, non-verbal and written communication in media and demonstrate oral communication from anchoring, interview, public speaking, plays to debates related platform in media.	**U,Ap**	1,2,4.5.6	1,2
CO3	Explain the process, types, purpose of listening with barriers and measures to improve them and listening as an important skill in workplace.	**U, Ap, An**	1,2,5,6	1,2
CO4	Demonstrate skimming and scanning reading under newspaper, magazine, radio bulletin, TV, features and documentary, ad copy, press release in English, Hindi or Marathi.	**U, Ap**	4,5,6,7,8	3,4
CO5	Recognizing aspects of language, usage of grammatical structure, spellings, voice, idioms, phrases, figures of speech, homophones, homonyms, tense and clauses and media vocabulary.	**R, Ap**	4,5,6	3,4
CO6	Examine the types of thinking, errors in thinking with steps in making and delivering a presentation.	**R, Ap**	1,2,5,6	1,2
CO7	Explain the concept, need, importance, challenges, in translation and the translator's role, qualities with the difference between the interpretation and translation	**U, Ap, An**	1,2,4,5,6	1,3

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC12	Foundation Course-I	48/3	2	100

Learning Course Outcomes -
Foundation Course-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Enumerate the multi-cultural diversity of Indian society through its demographic composition and concept of linguistic diversity in the Indian situation.	**R**	2,3,11	2
CO2	Explain the concept of disparity as arising out of stratification and inequality of gender portrayal of women in media, issues of people with disabilities.	**U, Ap**	1,3,10,11	2
CO3	Examine the inequalities due to caste system, intergroup conflicts, regionalism and linguistic differences.	**R, Ap**	2,3,7,10,11	3
CO4	Explain the philosophy of Indian Constitution with structure, preamble, schedules, duties, values, features in strengthening the social fabric of Indian society and Judicial Activism.	**R**	3,7,9	1,2
CO5	Classify the party system in Indian politics, local self-government, amendments, implications for inclusive politics with the role and significance of women in politics.	**U, An**	2,3,11	2
CO6	Illustrate the growing social problems, challenges and implications on youth, elders, child labour, abuse and trafficking of women.	**U, Ap**	3,7,10,11	2,3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC13	Visual Communication	48/3	4	100

Learning Course Outcomes -
Visual Communication Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Discuss the developmental history, need, and importance, process-visible and invisible concepts of Visual Communication.	**U**	1,2	1
CO2	Examine the sensual and perceptual theories of visual communication.	**R, Ap**	1,2	1,2
CO3	Infer the psychological implication of colours, theories of design, and types of layout under fundamentals of design.	**U, An**	1,2,5,6	1,2
CO4	Illustrate the visual art medium namely painting, photography, film, television, digital art, comics, animation, dtp, printmaking, folk, performing arts, theatre, sculpture, architecture, video games and web design technologies.	**U, Ap, An**	3,5,6,8	2,3,4
CO5	Classify internet, print, interactive media and devices used in communication design.	**U, An**	5,6,8	2,3
CO6	Analysing the impact of language, ethics, culture, non-verbal signs, behaviour, citizen journalism going viral in the age of social media	**U, Ap, An**	3,5,7,10,11	2,3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC14	Fundamentals Of Mass Communication	48/3	4	100

Learning Course Outcomes -
Fundamentals of Mass Communication Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Examine the meaning, importance, forms, and models of mass communication.	**U, Ap**	1,2,5	1,3
CO2	Observe the history of mass communication from oral to traditional communication, electric to electronic to digital communication till the contemporary scene in Indian communication and landscape.	**R, U**	2,3,4	1,2
CO3	Illustrate amongst the traditional folk media, print media, broadcast media, films, PR and internet as major forms of mass media as a social institution.	**U, Ap, An**	1,5,6,8	2,4
CO4	Classify the social, political, economic, developmental impact of mass media on society, education, children, women, youth, and culture developmental sections.	**U, An**	3,9,10,11	2,3
CO5	Summarize and trace the elements, features technologies and challenges used in new media with future prospects.	**U, E**	2,6,8	3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC15	Current Affairs	48/3	4	100

Learning Course Outcomes -
Current Affairs Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe political stories, political stories, political leaders' profile, dominating economic, political, environmental, current news - positive, negative, crisis, stories of national importance.	**R**	1,2,3	1,2
CO2	Observe the portfolios of projects, government bodies, and ministries of Government of India and policies of Central Government with issues in various sectors.	**R, U**	1,2,3,11	2
CO3	Illustrate latest communal tensions and update on the current situation with the background and the players.	**U, Ap, An**	3,10,11	1,2
CO4	Discuss the structure, role, issues engaged in Security Council, UNO and conflicts or issues of international importance in war, terrorism and diplomacy.	**U**	2,3,10,11	2,3
CO5	Evaluate the political leaders and parties reach, challenges with the news related to calamities, burning issues, projects, political dynamics of Maharashtra and Centre.	**An, E**	2,3,11	2,3
CO6	Examine the changing patterns in business, and technology namely mobile applications, artificial intelligence, virtual reality, augmented reality and content automation tools in digital gaming industry in India.	**R, Ap**	2,5,8	2,3

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	I	SIUBAMMC16	History of Media	48/3	4	100

Learning Course Outcomes -
History of Media Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe the rise of newspaper and role of media and press in freedom struggle and emergency period of India.	**R,U**	1,2,3,11	1, 2
CO2	Discuss the rise of Hindi language newspaper, regional press and its popularity in various regions with Vernacular Press Act, 1876.	**R, U**	1,2,3,11	1
CO3	Explain the history, role, genesis of short films, documentaries, Hindi cinema from origin till today with YouTube and WhatsApp applications.	**U, Ap**	1,3,5,8	2,3
CO4	Infer the history of Radio and Television Broadcasting from satellite to Privatisation and advertising in India to Internet Protocol Television.	**U, An**	2,5,8	2,3
CO5	Evaluate the role of media icons in the history of Indian Media from Raja Ram Mohan Roy to Maulana Azad.	**An, E**	2,3	2,3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

List of Course Names & Alias with Codes and Credit Points

First Year B.A.M.M.C. Semester II for 2021-22

Course Code	Name of the Course	No. of Credits
SIUBAMMC21	Effective Communication–II (EC-II)	02
SIUBAMMC22	Foundation Course–II (FC-II)	02
SIUBAMMC23	Content Writing (CW)	04
SIUBAMMC24	Introduction To Advertising (ITA)	04
SIUBAMMC25	Introduction To Journalism (ITJ)	04
SIUBAMMC26	Media, Gender & Culture (MGC)	04

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC21	Effective Communication–II	48/3	2	100

Learning Course Outcomes -

Effective Communication-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Write general reports, types of news report, press release, letters to editors and consumer grievance letters.	**Ap, C**	1,4,5,11	2,3,4
CO2	Review email, letters, circulars for internal and stakeholders' communication under organisational writing.	**U**	1,2,5	2,3
CO3	Compose publicity material for print and radio in English, Hindi or Marathi from Headline to Spot.	**Ap, C**	4,5	3,4
CO4	Illustrate newspaper and magazine editing and write synopsis, abstracts and precis writing.	**U, Ap, An**	1,2,5	3,4
CO5	Evaluate the use of paraphrasing in plagiarism, translation in communication and summarisation of content.	**An, E**	1,2,5	3,4
CO6	Infer graphs, maps, and charts related content based on the technical data.	**U, An, C**	1,2,5	3,4

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC22	Foundation Course-II	48/3	2	100

Learning Course Outcomes -

Foundation Course-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Explain the concept of Liberalisation, Privatisation and Globalisation, and its impact on everyday life and industry.	**U, Ap, An**	1,2,8,11	1,2
CO2	State the concept of human rights, UDHR and fundamental rights stated in the constitution.	**R**	2,3,7,10,11	1,2
CO3	Infer the importance of environment, ecology, its degradation, and sustainable development under environmental studies.	**U, Ap, An**	2,3,7,9,11	2,3
CO4	Examine the cause of stress, conflict in individuals and society and significance of values and ethics in society.	**R ,Ap**	1,2,6,7,8	2,3
CO5	Illustrate the coping mechanisms and strategies for managing stress and conflicts for peace and harmony in contemporary society.	**U, Ap, An**	2,6,8,11	2,3
CO6	Evaluate the contemporary societal problems namely urbanisation, lifestyle, agrarian distress and youth related challenges.	**An, E**	2,3,8,9,10,11	1,2

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC23	Content Writing	48/3	4	100

Learning Course Outcomes -

Content Writing Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Restate the grammar, vocabulary, common errors, creative phrases in English usage and writing structure.	**U**	1,2,5	1,2
CO2	Illustrate editing skills through editing redundant words, captions, headlines and copy in writing.	**U, Ap, An**	1,2,5	3,4
CO3	Rewrite the use of writing for news tickers, social media post, briefs, snippets, captions and headlines.	**Ap, C**	1,2,5,6	2,3,4
CO4	Evaluate the use of power point presentation, advance search techniques and conduct plagiarism checks.	**An, E**	1,2,5,6,8	2,3
CO5	Explain the importance of content, writing for print and social media with reference to usage of SEOs and Ad campaigns.	**R, U, Ap**	1,2,5,6,8	1,2,3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC24	Introduction To Advertising	48/3	4	100

Learning Course Outcomes -
Introduction to Advertising Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Explain the fundamentals of marketing, scope, environment, forms, marketing mix and product life cycle.	**R,U, Ap, An**	1,2,3	1,2,
CO2	Illustrate the evolution, important types, ethics and impact of advertising with the theories under introduction to advertising.	**U, Ap, An**	1,7,8,10,11	1,2,3
CO3	Explain the role, communication process of integrated marketing communication and different tools namely print, broadcast, PR and sales promotion with direct marketing.	**U, Ap, An**	1,2,4,5,6	2,3
CO4	Explain the use of creativity in advertising from process, strategy, appeals to the elements of copy in creating a storyboard.	**U, Ap, An**	1,2,4,5,6,8	1,3
CO5	Examine the types of advertising agency and various departments in an agency with latest trends namely rural to mobile advertising.	**R, Ap**	2,4,5,6,8	1,3

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC25	Introduction To Journalism	48/3	4	100

Learning Course Outcomes -

Introduction to Journalism Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe the changing face of journalism from publications post-independence to post liberalisation.	**R**	1,2,11	1
CO2	Relate with the technology and new media with the rise in the citizen journalism.	**U, Ap**	1,2,5,8,10 ,11	1,2
CO3	Explain the news process and the anatomy of a good news story with the help of types of beats.	**U, Ap, An**	3,5,11	2,3
CO4	Examine the principles and criteria for news worthiness and compare the difference in the roles with the news formats.	**R, Ap**	1,2,7,8	1,3
CO5	Discuss and classify the careers from reporter to journalist under the fields of journalism.	**U, An**	1,2,4,5,6, 7,10,11	2,3
CO6	Conduct a research on an event, capture pictures, and write headlines, captions and leads for a news story.	**U, Ap, C**	4,5,6,11	3,4

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
FYBAMMC	II	SIUBAMMC26	Media, Gender & Culture	48/3	4	100

Learning Course Outcomes -

Media, Gender & Culture Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe the evolution, features, need, concept and theories under cultural studies and their relevance in media.	**R**	1,2,3	1,2
CO2	Explain the construction of the culture, media commodification, impact of media on the societal culture with the trends in cultural consumption.	**U, Ap, An**	1,2,3,,10,11	1,2
CO3	Infer the influence and role of media in the social construction of gender issues for women empowerment: as movements of change in gender equality.	**U, An**	2,3,6,7,10	2,3
CO4	Examine the issues involved in local, consumer and media culture and imperialism in the era of globalisation.	**R, U, Ap**	1,2,3,8,10, 11	2,3
CO5	Classify trends and challenges in digital media culture, global culture from global to local.	**U, Ap**	2,3,8,10,11	2,3

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; Ap-Applying; An-Analysing; E-Evaluating; C-Creating**

List of Course Names & Alias with Codes and Credit Points

Second Year B.A.M.M.C. Semester III for 2021-22

Course Code	Name Of The Course & Alias	No. Of Credits
SIUBAMMC311	Electronic Media-I (EM-I)	02
SIUBAMMC32	Corporate Communication And Public Relations (CCPR)	04
SIUBAMMC33	Media Studies (MS)	04
SIUBAMMC34	Introduction To Photography (ITP)	04
SIUBAMMC35	Film Communication- I (FCO-I)	04
SIUBAMMC36	Computers And Multimedia-I (CAM-I)	02

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC311	Electronic Media-I (EM-I)	48	2	100

Learning Course Outcomes -
Electronic Media-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Enumerate and discuss the history of Radio and Television and other Convergence trends with the roles and contribution of community radio, AIR, DTC.	**R, U**	1, 8, 11	1, 2
CO2	Classify the types of sound recording, visuals, shots, lightings and compare studio and on location shoots.	**U**	1, 2	1, 4
CO3	Illustrate fiction and non-fiction radio formats of news, shows, documentary, drama, interviews and sports broadcasting.	**U, AP**	3, 4, 5, 6	2, 4
CO4	Categorize the television formats ranging from documentary, serials, web series, sports, reality and animation.	**U, AN**	3, 4, 5, 6	2, 4
CO5	Compose and role-play script, sequence, sounds, under pre-production, production, and post-production process with the electronic news gathering with camera and crew.	**C**	4, 5, 6	4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC32	Corporate Communication And Public Relations (CCPR)	48	4	100

Learning Course Outcomes -

Corporate Communication And Public Relations Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe key concepts in corporate communication, mass media laws and ethics on defamation, invasion of privacy, copyright Act, cyber-crime, RTI.	**R**	1, 3, 11	1, 2
CO2	Illustrate the growth of PR and identifying reasons for emerging IPR, new media tools.	**U, AP**	1, 2, 5, 9	1, 3
CO3	Examine the advantages and disadvantages of PR with the role of PR in healthcare to service industry.	**R, AP**	4, 7	3
CO4	Infer theories, tools and the functions of PR.	**U, AN**	2, 4, 5, 6	3
CO5	Assess media relations, employee and crisis communication.	**E**	2, 3, 10	3, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC33	Media Studies (MS)	48	4	100

Learning Course Outcomes -
Media Studies Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Recognize the mass society culture, normative theories and other media theories.	**R**	3, 7, 10	1, 2
CO2	Articulate media theories, school of thoughts with cultural perspective, media and identity.	**AP**	2, 3	2, 3
CO3	Evaluate the media effects and behaviour through the media theories and studies.	**E**	2, 10	1, 2, 3
CO4	Identify and indicate politics and media studies: media bias, media decency, media consolidation.	**R, U**	4, 7, 8	2, 3
CO5	Illustrate new media perspectives in the age of the internet.	**U, AN**	2, 5, 8	3, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC34	Introduction To Photography (ITP)	48	4	100

Learning Course Outcomes -
Introduction To Photography Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Explain and demonstrate the camera, aperture, shutter, image sensor and viewfinder.	**R, U**	1, 4	1, 2
CO2	Examine and illustrate the lens, focal length, image size, coverage angle.	**R, AP**	4, 5	1, 2
CO3	Classify and estimate the parameters of lights with intensity and exposure, quality, ambience, colour and measure.	**U, AN**	2, 6	2, 3
CO4	Determine the composition: art of portraying with frames, indicator and application.	**AP**	2, 4	2, 4
CO5	Infer and estimate the digital imaging, mega pixel, resolution, and file formats.	**AN, E**	4, 5, 8	2, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC35	Film Communication- I (FCO-I)	48	4	100

Learning Course Outcomes -
Film Communication- I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Observe and describe the history, language of cinema from documentary to feature film.	**R, U**	1, 2	1, 2
CO2	Examine grammar, technology, art, cinematography, editing and components of sound.	**R, AP**	1, 2	1, 2
CO3	Review the early years, sound era, silent era and developmental stage of world and Indian Cinema.	**U**	2, 3, 4, 5	2, 3
CO4	Assess the impact of cinema movements and their film makers of Hollywood, Italian, Japanese, Irani Cinema in particular.	**E**	5, 6, 8	2, 3
CO5	Differentiate between art v/s commercial and expressing Indian meaningful cinema from the work of Golden Era, Indian new wave cinema to Parallel Cinema for thoughtful reflection.	**U, AN**	2, 11	2, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC36	Computers And Multimedia-I (CAM-I)	48	2	100

Learning Course Outcomes -
Computers And Multimedia-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Relate and compare bitmaps v/s vector and the use of tools, controls, bars in workspace	**U, AP**	1, 2	1, 2, 4
CO2	Explain the Corel draw interface and exploring tools and applying effects in software.	**U, AP, AN**	4, 5	1, 2, 4
CO3	Estimate the menus, benefits, text edits in Quark express layout software and the use palettes, colour correction and exporting files.	**U, E**	1, 2	3, 4
CO4	Illustrate the process of editing, formats, colour grading, exporting and rendering techniques under video editing software Premiere Pro.	**U, AP, AN**	4, 5, 6	2, 4
CO5	Analyse the digital audio, Dolby digital, advanced sound processing and recording.	**AN**	4, 5, 8	2, 4

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

List of Course Names & Alias with Codes and Credit Points

Second Year B.A.M.M.C. Semester IV for 2021-22

Course Code	Name of the Course	No. of Credits
SIUBAMMC41	Electronic Media-II (EM-II)	02
SIUBAMMC42	Writing And Editing For Media (WEM)	04
SIUBAMMC43	Media Laws And Ethics (MLE)	04
SIUBAMMC44	Mass Media Research (MMR)	04
SIUBAMMC45	Film Communication-II (FCO-II)	04
SIUBAMMC46	Computers And Multimedia-II (CAM-II)	02

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC411	Electronic Media-II (EM-II)	48	2	100

Learning Course Outcomes -

Electronic Media-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Recognize the evolution of Satellite Radio and Television Network, AIR, Community Radio to Private channels on Internet with the rise of regional channels and trends in regional radio and T.V. channels.	**R**	1, 3	1, 2
CO2	Prepare and dramatize panel discussions, interviews, anchoring, Radio Jockey in Radio and Television.	**AP, C**	4, 5, 6	3, 4
CO3	Infer scripts, storyboard and censorship, code of conduct and fact checking in broadcast media	**U, AN**	3, 7, 11	3, 4
CO4	Produce ideas for scripting in interviews, documentary, feature, drama, skits on Radio and T.V.	**AP, C**	4, 5, 6	4
CO5	Justify the use of Facebook, Twitter handles, mobile technology, and digital storytelling and 24/7 news broadcast media.	**AP, E**	2, 3, 5, 8, 11	2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC42	Writing And Editing For Media (WEM)	48	4	100

Learning Course Outcomes -

Writing And Editing For Media Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Identify editorials, features and review for newspaper, magazines and corporate writing.	**R**	1, 2	1, 2
CO2	Plan and compose writing for Radio and Television programs for interviews, news, storyboarding for TV commercials.	**C, AN**	4, 5, 6	4
CO3	Compare the difference between newspaper writing and writing on the web with the web specific style guides and develop converge of text and video on digital.	**U, AN**	1, 2	1, 2, 3
CO4	Write blogs, advertisements, emails, SMS other media platforms.	**AP, C**	4, 5, 7	4
CO5	Assess and editorialize the content, rewrite leads, check copies and online editing requirements and identify fake news in real time and deal with breaking news.	**AP, E**	1, 2, 3, 4	3, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC43	Media Laws And Ethics (MLE)	48	4	100

Learning Course Outcomes -

Media Laws And Ethics Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Observe the core values, freedom of expression, judicial infrastructures and social responsibility of the media with the role and working of PCI, TRAI, IBF, ASCI and NBA regulatory bodies.	**R, U**	1, 2, 3, 10	2
CO2	Explain the media laws in the field of copyright defamation, IT Act, Contempt, DMRA through case studies.	**U, AP**	3, 10, 11	1, 2, 3
CO3	Examine Right to Privacy, Indecent Representation of Women's Act, Unfair Trade Practices, Official Secret Act and RTI through case studies.	**R, AP**	2, 3, 10, 11	2, 3
CO4	Articulate media ethics, code of conduct for journalist, challenges of fighting fake news and stereotyping minorities.	**AP**	3, 7, 10, 11	2
CO5	Appraise the techniques of fact verification and violation of ethical norms by advertisers through case studies.	**AN, E**	2, 3, 4, 11	3, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC44	Mass Media Research (MMR)	48	4	100

Learning Course Outcomes -

Mass Media Research Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Identify the relevance, scope and role of mass media research.	**R**	1, 2	1, 2, 3
CO2	Explain the steps involved in the research process, types and uses of research design.	**U, AP, AN**	2, 4, 5	2, 3
CO3	Determine the data collection methodology and data tabulation with research report formats.	**AP**	2, 4, 5, 6	2, 3
CO4	Design questionnaires and infer the measurement techniques.	**AP, AN, C**	4, 5, 6	3, 4
CO5	Classify the steps in content analysis with limitations and codes in semiotics and the application of research in Mass Media.	**U, AN**	1, 2, 4	1, 2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC45	Film Communication-II (FCO-II)	48	4	100

Learning Course Outcomes -

Film Communication-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Summarize and recommend Marathi, Bengali, Malayalam, Tamil, Telugu regional films of Shantaram, Satyajit Ray, Balachandra, etc. film makers.	**U, E**	1, 2, 5	2
CO2	Classify the economic contribution of popular Hindi commercial films, Bollywood with genre in Romcom, Thriller, Biographic, Action and Musical.	**U, AN**	2, 3, 7	2
CO3	Compare the contemporary era, celluloid to digital (1990-1999), digital explosion (2000 onwards), media convergence and film viewing culture.	**U, AN**	4, 5, 6	2, 3
CO4	Produce, sketch and practice aspects of production system from pre-production, actual production and post-production and censorship system based on distribution, promotion, marketing in film making.	**AP, C**	4, 5, 6	2, 4
CO5	Examine the role of FTI, NFAI, FD, IFFI, CBFC, IFTDA, SGI and WICA with the types of Film Awards in India and Abroad.	**R, AP**	1, 2, 3	2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC46	Computers And Multimedia-II (CAM-II)	48	2	100

Learning Course Outcomes -

Computers And Multimedia-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Illustrate mixing, editing, linking of layers, blending and using tools under Photoshop.	**U, AP, AN**	4, 5, 6	1, 4
CO2	Modify in the Illustrator interface, formatting text and embedding objects; create designs, power clips, exporting for other software.	**AP, C**	4, 5, 6	4
CO3	Analyse the InDesign layout software for format, text edits, palettes for types of publication, paragraph styles in newspaper and magazines.	**AN**	4, 5, 6	4
CO4	Apply Premiere Pro: Audio-Visuals, Advanced application for editing in different file formats in films/ads/news and perform checks in editing using transitions with colour grading and exporting with rendering techniques.	**AP**	4, 5, 6	4
CO5	Explain Dreamweaver web designing software, creating DW template, page layout and CSS layout and the use of Adobe Dreamweaver to link pages, cell padding to making image links and changing font typeface to hyperlink.	**U, AP, AN**	4, 5, 6	1, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

List of Course Names & Alias with Codes and Credit Points

Second Year B.A.M.M.C. Semester III for 2021-22

Course Code	Name Of The Course & Alias	No. Of Credits
SIUBAMMC311	Electronic Media-I (EM-I)	02
SIUBAMMC32	Corporate Communication And Public Relations (CCPR)	04
SIUBAMMC33	Media Studies (MS)	04
SIUBAMMC34	Introduction To Photography (ITP)	04
SIUBAMMC35	Film Communication- I (FCO-I)	04
SIUBAMMC36	Computers And Multimedia-I (CAM-I)	02

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC311	Electronic Media-I (EM-I)	48	2	100

Learning Course Outcomes -
Electronic Media-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Enumerate and discuss the history of Radio and Television and other Convergence trends with the roles and contribution of community radio, AIR, DTC.	**R, U**	1, 8, 11	1, 2
CO2	Classify the types of sound recording, visuals, shots, lightings and compare studio and on location shoots.	**U**	1, 2	1, 4
CO3	Illustrate fiction and non-fiction radio formats of news, shows, documentary, drama, interviews and sports broadcasting.	**U, AP**	3, 4, 5, 6	2, 4
CO4	Categorize the television formats ranging from documentary, serials, web series, sports, reality and animation.	**U, AN**	3, 4, 5, 6	2, 4
CO5	Compose and role-play script, sequence, sounds, under pre-production, production, and post-production process with the electronic news gathering with camera and crew.	**C**	4, 5, 6	4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC32	Corporate Communication And Public Relations (CCPR)	48	4	100

Learning Course Outcomes -

Corporate Communication And Public Relations Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Describe key concepts in corporate communication, mass media laws and ethics on defamation, invasion of privacy, copyright Act, cyber-crime, RTI.	**R**	1, 3, 11	1, 2
CO2	Illustrate the growth of PR and identifying reasons for emerging IPR, new media tools.	**U, AP**	1, 2, 5, 9	1, 3
CO3	Examine the advantages and disadvantages of PR with the role of PR in healthcare to service industry.	**R, AP**	4, 7	3
CO4	Infer theories, tools and the functions of PR.	**U, AN**	2, 4, 5, 6	3
CO5	Assess media relations, employee and crisis communication.	**E**	2, 3, 10	3, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC33	Media Studies (MS)	48	4	100

Learning Course Outcomes -
Media Studies Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Recognize the mass society culture, normative theories and other media theories.	**R**	3, 7, 10	1, 2
CO2	Articulate media theories, school of thoughts with cultural perspective, media and identity.	**AP**	2, 3	2, 3
CO3	Evaluate the media effects and behaviour through the media theories and studies.	**E**	2, 10	1, 2, 3
CO4	Identify and indicate politics and media studies: media bias, media decency, media consolidation.	**R, U**	4, 7, 8	2, 3
CO5	Illustrate new media perspectives in the age of the internet.	**U, AN**	2, 5, 8	3, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC34	Introduction To Photography (ITP)	48	4	100

Learning Course Outcomes -

Introduction To Photography Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Explain and demonstrate the camera, aperture, shutter, image sensor and viewfinder.	**R, U**	1, 4	1, 2
CO2	Examine and illustrate the lens, focal length, image size, coverage angle.	**R, AP**	4, 5	1, 2
CO3	Classify and estimate the parameters of lights with intensity and exposure, quality, ambience, colour and measure.	**U, AN**	2, 6	2, 3
CO4	Determine the composition: art of portraying with frames, indicator and application.	**AP**	2, 4	2, 4
CO5	Infer and estimate the digital imaging, mega pixel, resolution, and file formats.	**AN, E**	4, 5, 8	2, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC35	Film Communication- I (FCO-I)	48	4	100

Learning Course Outcomes -
Film Communication- I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Observe and describe the history, language of cinema from documentary to feature film.	**R, U**	1, 2	1, 2
CO2	Examine grammar, technology, art, cinematography, editing and components of sound.	**R, AP**	1, 2	1, 2
CO3	Review the early years, sound era, silent era and developmental stage of world and Indian Cinema.	**U**	2, 3, 4, 5	2, 3
CO4	Assess the impact of cinema movements and their film makers of Hollywood, Italian, Japanese, Irani Cinema in particular.	**E**	5, 6, 8	2, 3
CO5	Differentiate between art v/s commercial and expressing Indian meaningful cinema from the work of Golden Era, Indian new wave cinema to Parallel Cinema for thoughtful reflection.	**U, AN**	2, 11	2, 4

PO - **Programme Outcome,** *PSO* -**Programme Specific outcome;** *CO* -**Course Outcome;**
Cognitive Levels: **R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	III	SIUBAMMC36	Computers And Multimedia-I (CAM-I)	48	2	100

Learning Course Outcomes -
Computers And Multimedia-I Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Relate and compare bitmaps v/s vector and the use of tools, controls, bars in workspace	**U, AP**	1, 2	1, 2, 4
CO2	Explain the Corel draw interface and exploring tools and applying effects in software.	**U, AP, AN**	4, 5	1, 2, 4
CO3	Estimate the menus, benefits, text edits in Quark express layout software and the use palettes, colour correction and exporting files.	**U, E**	1, 2	3, 4
CO4	Illustrate the process of editing, formats, colour grading, exporting and rendering techniques under video editing software Premiere Pro.	**U, AP, AN**	4, 5, 6	2, 4
CO5	Analyse the digital audio, Dolby digital, advanced sound processing and recording.	**AN**	4, 5, 8	2, 4

PO **- Programme Outcome,** *PSO* **-Programme Specific outcome;** *CO* **-Course Outcome;**
*Cognitive Levels***: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating**

List of Course Names & Alias with Codes and Credit Points

Second Year B.A.M.M.C. Semester IV for 2021-22

Course Code	Name of the Course	No. of Credits
SIUBAMMC41	Electronic Media-II (EM-II)	02
SIUBAMMC42	Writing And Editing For Media (WEM)	04
SIUBAMMC43	Media Laws And Ethics (MLE)	04
SIUBAMMC44	Mass Media Research (MMR)	04
SIUBAMMC45	Film Communication-II (FCO-II)	04
SIUBAMMC46	Computers And Multimedia-II (CAM-II)	02

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC411	Electronic Media-II (EM-II)	48	2	100

Learning Course Outcomes -

Electronic Media-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Recognize the evolution of Satellite Radio and Television Network, AIR, Community Radio to Private channels on Internet with the rise of regional channels and trends in regional radio and T.V. channels.	**R**	1, 3	1, 2
CO2	Prepare and dramatize panel discussions, interviews, anchoring, Radio Jockey in Radio and Television.	**AP, C**	4, 5, 6	3, 4
CO3	Infer scripts, storyboard and censorship, code of conduct and fact checking in broadcast media	**U, AN**	3, 7, 11	3, 4
CO4	Produce ideas for scripting in interviews, documentary, feature, drama, skits on Radio and T.V.	**AP, C**	4, 5, 6	4
CO5	Justify the use of Facebook, Twitter handles, mobile technology, and digital storytelling and 24/7 news broadcast media.	**AP, E**	2, 3, 5, 8, 11	2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC42	Writing And Editing For Media (WEM)	48	4	100

Learning Course Outcomes -

Writing And Editing For Media Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	**Affinity with**	
			PO nos.	**PSO nos.**
CO1	Identify editorials, features and review for newspaper, magazines and corporate writing.	**R**	1, 2	1, 2
CO2	Plan and compose writing for Radio and Television programs for interviews, news, storyboarding for TV commercials.	**C, AN**	4, 5, 6	4
CO3	Compare the difference between newspaper writing and writing on the web with the web specific style guides and develop converge of text and video on digital.	**U, AN**	1, 2	1, 2, 3
CO4	Write blogs, advertisements, emails, SMS other media platforms.	**AP, C**	4, 5, 7	4
CO5	Assess and editorialize the content, rewrite leads, check copies and online editing requirements and identify fake news in real time and deal with breaking news.	**AP, E**	1, 2, 3, 4	3, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC43	Media Laws And Ethics (MLE)	48	4	100

Learning Course Outcomes -

Media Laws And Ethics Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Observe the core values, freedom of expression, judicial infrastructures and social responsibility of the media with the role and working of PCI, TRAI, IBF, ASCI and NBA regulatory bodies.	**R, U**	1, 2, 3, 10	2
CO2	Explain the media laws in the field of copyright defamation, IT Act, Contempt, DMRA through case studies.	**U, AP**	3, 10, 11	1, 2, 3
CO3	Examine Right to Privacy, Indecent Representation of Women's Act, Unfair Trade Practices, Official Secret Act and RTI through case studies.	**R, AP**	2, 3, 10, 11	2, 3
CO4	Articulate media ethics, code of conduct for journalist, challenges of fighting fake news and stereotyping minorities.	**AP**	3, 7, 10, 11	2
CO5	Appraise the techniques of fact verification and violation of ethical norms by advertisers through case studies.	**AN, E**	2, 3, 4, 11	3, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC44	Mass Media Research (MMR)	48	4	100

Learning Course Outcomes -

Mass Media Research Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Identify the relevance, scope and role of mass media research.	**R**	1, 2	1, 2, 3
CO2	Explain the steps involved in the research process, types and uses of research design.	**U, AP, AN**	2, 4, 5	2, 3
CO3	Determine the data collection methodology and data tabulation with research report formats.	**AP**	2, 4, 5, 6	2, 3
CO4	Design questionnaires and infer the measurement techniques.	**AP, AN, C**	4, 5, 6	3, 4
CO5	Classify the steps in content analysis with limitations and codes in semiotics and the application of research in Mass Media.	**U, AN**	1, 2, 4	1, 2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC45	Film Communication-II (FCO-II)	48	4	100

Learning Course Outcomes -

Film Communication-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Summarize and recommend Marathi, Bengali, Malayalam, Tamil, Telugu regional films of Shantaram, Satyajit Ray, Balachandra, etc. film makers.	**U, E**	1, 2, 5	2
CO2	Classify the economic contribution of popular Hindi commercial films, Bollywood with genre in Romcom, Thriller, Biographic, Action and Musical.	**U, AN**	2, 3, 7	2
CO3	Compare the contemporary era, celluloid to digital (1990-1999), digital explosion (2000 onwards), media convergence and film viewing culture.	**U, AN**	4, 5, 6	2, 3
CO4	Produce, sketch and practice aspects of production system from pre-production, actual production and post-production and censorship system based on distribution, promotion, marketing in film making.	**AP, C**	4, 5, 6	2, 4
CO5	Examine the role of FTI, NFAI, FD, IFFI, CBFC, IFTDA, SGI and WICA with the types of Film Awards in India and Abroad.	**R, AP**	1, 2, 3	2, 3

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Affinity Table

Name of the Programme	Bachelor of Arts in Multimedia and Mass Communication		**Programme Code**	SIUABMM	**Name of the Department**	Department of Mass Media
Class	Semester	Course Code	Course Name	No. of Lectures/PER WEEK	Credits	Marks
SYBAMMC	IV	SIUBAMMC46	Computers And Multimedia-II (CAM-II)	48	2	100

Learning Course Outcomes -

Computers And Multimedia-II Course aims at enhancing the cognitive, skill and attitude-based programme outcomes while mapping them with knowledge competencies as listed below:

COs	**Statements**	**Cognitive Levels**	Affinity with	
			PO nos.	**PSO nos.**
CO1	Illustrate mixing, editing, linking of layers, blending and using tools under Photoshop.	**U, AP, AN**	4, 5, 6	1, 4
CO2	Modify in the Illustrator interface, formatting text and embedding objects; create designs, power clips, exporting for other software.	**AP, C**	4, 5, 6	4
CO3	Analyse the InDesign layout software for format, text edits, palettes for types of publication, paragraph styles in newspaper and magazines.	**AN**	4, 5, 6	4
CO4	Apply Premiere Pro: Audio-Visuals, Advanced application for editing in different file formats in films/ads/news and perform checks in editing using transitions with colour grading and exporting with rendering techniques.	**AP**	4, 5, 6	4
CO5	Explain Dreamweaver web designing software, creating DW template, page layout and CSS layout and the use of Adobe Dreamweaver to link pages, cell padding to making image links and changing font typeface to hyperlink.	**U, AP, AN**	4, 5, 6	1, 4

PO - Programme Outcome, *PSO* -Programme Specific outcome; *CO* -Course Outcome;

Cognitive Levels: R-Remembering; U-Understanding; AP-Applying; AN-Analysing; E-Evaluating; C-Creating

Program: BMS and BMS CM

Class: FYBMS, SYBMS and FYBMS-CM, SYBMS-CM

Program Outcomes

Program Specific Outcomes

Course Outcomes

PROGRAM NAME: BACHELOR OF MANAGEMENT STUDIES (3-year Degree Program)	
Program Outcomes BMS	
SIES offers a three-years integrated degree programme in BMS Programme is designed to give the learners a strong foundation in management studies and basic business-related competencies to prepare them for progression to higher studies, employability and global citizenship. On successful completion of the BMS programme, the learner will be enriched with the following attributes:	
Sr. No	**Details**
PO 1	Knowledge and problem solving: Ability to express and apply the knowledge gained to solve problems related to specific business situations and transactions
PO 2	Critical thinking and Reasoning: Critically approach and analyse various problems in the light of relevant theories, standards and policies in a rational way to draw logical conclusions and make informed decisions.
PO 3	Effective communication and social interaction: Equipped to write reports and make presentations using work-place jargon, ability to listen and to clearly express ideas orally, facilitate exchange of ideas with varied groups as a team member and/or a leader in diverse business domains.
PO 4	Information and Digital Literacy: Demonstrate the use of appropriate tools, techniques and softwares, inclusive of internet and electronic media for acquiring, assessing and analysing data relevant to business decisions.
PO 5	Orientation to Research: An attitude of inquiry towards dynamic aspects of business environment by gathering secondary data and applying the knowledge and tools of mathematics and statistics to analyse the same.
PO 6	Sensitization towards environment: Awareness of the importance of environment and developing concern for environmental protection and sustainable practices, growth and development
PO 7	Ethical and civic values: Sensitized to various stakeholders in society and appreciating the need to apply ethical values in a business domain, with an understanding of basic legal framework. Empathy towards gender issues and problems of social groups from different strata of the society.
PO 8	Self-directed and Lifelong Learning: Ability to explore and gain knowledge in independent and self-reliant ways. Demonstrate ability to adapt and upgrade with the global, social and technological changes

COURSE OUTCOMES FYBMS
Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below
PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create
SEMESTER – I

Course Code	Credits	Lectures / week	Course Name
SIUBMS11	3	4	Introduction to Financial Accounts
CO No.	**Course Outcome of SIUBMS11 Upon completion of this course, students will be able to**		
CO1	The learners are introduced to the various accounting standards and their scope		
CO2	It enables the students to understand information contained in the published financial statements of companies and other organisations		
CO3	The paper gives a practical knowledge of Preparation and presentation of Final Accounts		

Course Code	Credits	Lectures / week	Course Name
SIUBMS12	3	3	BUSINESS LAW
CO No	**Course Outcome of SIUBMS12 Upon completion of this course, students will be able to**		
CO1	Ability to identify and discriminate legal concepts and provide concrete learning in the field of basic Contracts and E Contracts.		
CO2	Capacity to demonstrate a good understanding of Corporate law and Consumer Protection Laws with their latest amendments in the professional field to solve current issues.		
CO3	The student is able to analyse and develop critical thinking skills for new areas in Intellectual Property such as Patent, Trade mark ,Copyright and Designs in the digital world		

Course Code	Credits	Lectures / week	Course Name
SIUBMS13	3	3	BUSINESS MATHEMATICS
CO No	**Course Outcome of SIUBMS13 Upon completion of this course, students will be able to**		
CO1	Students were able to solve the problems of matrices, determinants and derivatives		

CO2	Students were able to understand the concept of interest and annuity
CO3	It gave an in depth knowledge of interpolation to the students

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS14	**3**	**3**	**BUSINESS COMMUNICATION-I**
CO No	**Course Outcome of SIUBMS14 Upon completion of this course, students will be able to**		
CO1	The learner understands the importance of communication in building and maintaining healthy and effective relationships		
CO2	Students are well equipped with the use of different technologies available for communicating effectively in various settings		
CO3	It inculcates professional and ethical behavior in the students		
CO4	The participants are familiarized with various barriers they could face while communicating and some of the common ways to overcome them		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS15	**2**	**3**	**FOUNDATION COURSE I**
CO No	**Course Outcome of SIUBMS15 Upon completion of this course, students will be able to**		
CO1	With the multicultural diversity concept, learners understand the “Unity in Diversity” in true sense.		
CO2	Students are sensitized towards various alarming issues in our society like Female Foeticide, violence against women etc.		
CO3	It creates awareness of the Indian Constitution and its basic features		
CO4	It enables the examination of inequalities due to caste system and intergroup conflicts arising out of communalism		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS16	**3**	**3**	**FOUNDATION OF HUMAN SKILLS**
CO No	**Course Outcome of SIUBMS16 Upon completion of this course, students will be able**		
CO1	It helps learners to identify human nature by knowing individual behaviour, personality and attitude which will enhance thinking, learning and perceptions		
CO2	It allows learners to relate group behaviour, organisational conflicts and resolutions in organisation		

CO3	Able to recognise organisational culture and application of motivational theories at workplace
CO4	Learners will develop capability to adopt to organisational change brings creativity, which will enhance organisational development and identify ways to overcome work stress.

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS17	**3**	**3**	**BUSINESS ECONOMICS I**
CO No	**Course Outcome of SIUBMS17 Upon completion of this course, students will be able**		
CO1	The learner gets introduced to supply and demand and the basic forces that determine equilibrium in a market economy		
CO2	It helps analyse operations of markets under varying competitive conditions		
CO3	Students understand how different pricing methods are used in business world		

SEMESTER – II			
Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS21	**3**	**3**	**INTRODUCTION TO COST ACCOUNTING -I**
CO NO	**Course Outcome of SIUBMS21 Upon completion of this course, students will be able**		
CO1	It enables the students to understand the principles and procedure of cost accounting and its application in different practical situations		
CO2	Students get introduced to various emerging cost concepts		
CO3	The learner gains practical knowledge into Stock level calculations, Cost sheet, Reconciliation of Financial accounts and cost accounts		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS22	**3**	**3**	**INDUSTRIAL LAW**
CO NO	**Course Outcome of SIUBMS22 Upon completion of this course, students will be able**		
CO1	Acquisition of knowledge and basic understanding of Industrial disputes, Employee's compensation and other social welfare Legislations		

CO2	The student has the ability to evaluate, integrate and apply the information obtained from various laws to create persuasive arguments
CO3	To enhance cognitive and managerial skills which are vital for improving negotiation skills for both Employer and Employee.

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS23	**3**	**3**	**BUSINESS STATISTICS**
CO NO	**Course Outcome of SIUBMS23 Upon completion of this course, students will be able**		
CO1	Students were able to understand the use of averages and measures of dispersion.		
CO2	They could manage using various techniques for correlation and regression		
CO3	Students managed to use index numbers along with time series analysis		
CO4	It was possible for the students to use the methods for decision making and learn probability as well		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS24	**3**	**3**	**BUSINESS COMMUICATION II**
CO NO	**Course Outcome of SIUBMS24 Upon completion of this course, students will be able**		
CO1	The paper develops critical and creative thinking abilities necessary for effective communication in today‘s business world		
CO2	It enables demonstration of clarity, precision, conciseness and coherence in use of language.		
CO3	Effective presentation skills are instilled in learners		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS25	**2**	**3**	**FOUNDATION COURSE II**
CO NO	**Course Outcome of SIUBMS25 Upon completion of this course, students will be able**		
CO1	. This paper creates awareness of various Human Rights according to our Constitution and thus the need to respect these rights		

CO2	An alarming issue- Environmental degradation is introduced, as an eye opener for today's generation, making them aware of their contribution needed for its betterment
CO3	It helps youth to overcome stress due to the competitive pressures
CO4	The students learn various ways to resolve their conflicts thus creating harmonious and peaceful society

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS26	**3**	**3**	**PRINCIPLES OF MARKETING**
CO NO	**Course Outcome of SIUBMS26 Upon completion of this course, students will be able**		
CO1	It helps learners to define various concepts of Marketing		
CO2	Learners can evaluate the aspects of marketing environment, use of market research and factors affect consumer behaviour.		
CO3	This will help to create marketing strategy with Marketing Mix		
CO4	The learner will be able to use Segmentation, Targeting and Positioning along with latest trends in marketing		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS27	**3**	**3**	**PRINCIPLES OF MANAGEMENT**
CO NO	**Course Outcome of SIUBMS27 Upon completion of this course, students will be able**		
CO1	It will enable learners to define concepts of management.		
CO2	It helps learners to evaluate the global context for taking managerial actions of planning, organizing and controlling		
CO3	Learners can specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances.		
CO4	It helps to determine the most effective action to take in specific situations		

COURSE OUTCOMES SYBMS
Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below
PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create
SEMESTER – III

Course Code	**Credits**	**Lectures / week**	**Course Name**

SIUBMS31M	**3**	**3**	**CONSUMER BEHAVIOR**
CO NO	**Course Outcome of SIUBMS31 Upon completion of this course, students will be able**		
CO1	The subject creates an overall understanding of consumer behavior and its importance in marketing.		
CO2	It creates awareness of various factors detrimental in consumer behavior		
CO3	It enhances student's skills to construct organizational strategies revolving around consumer behavior		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS32M	**3**	**3**	**ADVERTISING**
CO NO	**Course Outcome of SIUBMS32M Upon completion of this course, students will be able**		
CO1	Learners can describe various concepts in advertising, ethics, laws and its theories associated with it.		
CO2	It helps to frame strategy and it's planning process with respect to advertising.		
CO3	It will help learners to invent advertising using various tools of creativity in it.		
CO4	It helps to prepare advertising budget and evaluate its effectiveness.		
CO5	It highlights the current trends and careers in advertising		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS31F	**3**	**3**	**EQUITY AND DEBT MARKET**
CO No	**Course Outcome of SIUBMS31F Upon completion of this course, students will be able to**		
CO1	Learner gain in depth knowledge of the evolution of various aspects of financial markets.		
CO2	It develops skills required in valuation of financial instruments		
CO3	This paper gives an opportunity to understand the dynamics of players involved in equity and debt market		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS32F	**3**	**3**	**CORPORATE FINANCE**

CO No	Course Outcome of SIUBMS32F Upon completion of this course, students will be able to
CO1	It acquaints the participants with the tools and techniques of financial management required in the financial decision making process.
CO2	The course imparts knowledge regarding various sources of finance available for a business.
CO3	It helps to understand the optimum capital structure required for business and its components

Course Code	Credits	Lectures / week	Course Name
SIUBMS33	3	3	INFORMATION TECHNOLOGY IN BUSINESS MANAGEMENT I
CO NO	Course Outcome of SIUBMS33 Upon completion of this course, students will be able		
CO1	It helps learner with basic concepts of Information Technology and its role in Management		
CO2	Module II gives practical hands on training required for office automation.		
CO3	The students understand basic concepts of Email, Internet and websites, domains and internet security.		
CO4	It helps recognize security aspects of IT in business, highlighting electronic transactions, threats, prevention and advanced security features		

Course Code	Credits	Lectures / week	Course Name
SIUBMS34	2	3	FOUNDATION COURSE III
CO No	Course Outcome of SIUBMS34 Upon completion of this course, students will be able to		
CO1	Learners are sensitized towards different environmental issues and their serious impact on the citizens		
CO2	Awareness in regards to the legal obligations from the organizational point of view is created		
CO3	Exposure to innovative models developed by many business houses encourages a multi dimensional approach at individual level as well		

Course Code	Credits	Lectures / week	Course Name
SIUBMS35	3	3	BUSINESS PLANNING AND ENTREPRENEURIAL MANAGEMENT

CO No	Course Outcome of SIUBMS35 Upon completion of this course, students will be able to
CO1	This paper makes the student familiar with the pros and cons associated with the entrepreneurial world.
CO2	Enhances entrepreneurial skill sets required for business planning and venture development
CO3	Students get to know various funding options and institutions available supporting entrepreneurship development

Course Code	Credits	Lectures / week	Course Name
SIUBMS36	3	3	ACCOUNTING FOR MANAGERIAL DECISIONS
CO No	Course Outcome of SIUBMS36 Upon completion of this course, students will be able to		
CO1	The course clears the basic accounting concepts required in any business transaction		
CO2	It gives students practical knowledge of accounting transactions		
CO3	It develops accounting and financial skills and states its importance in managing business.		

Course Code	Credits	Lectures / week	Course Name
SIUBMS37	3	3	STRATEGIC MANAGEMENT
CO NO	Course Outcome of SIUBMS37 Upon completion of this course, students will be able		
CO1	Learners will define various concepts in strategic management		
CO2	It will enable them to frame strategy for organisation by analysing environment		
CO3	Learners will be able to implement the strategy using various models at each level.		
CO4	It helps to evaluate and control and about change management		

SEMESTER – IV			
Course Code	Credits	Lectures / week	Course Name
SIUBMS41M	3	3	INTEGRATED MARKETING COMMUNICATION
CO NO	Course Outcome of SIUBMS41M Upon completion of this course, students will be able		
CO1	Learners get equipped with IMC planning procedure required to develop a strong hold in market		

CO2	Creates comprehensive understanding of various options like advertising, sales promotion, direct marketing etc. available to a Marketer.
CO3	Students understand the relation between ethics and marketing communication enforcing an ethical behavior into them

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS42M	**3**	**3**	**RURAL MARKETING**
CO No	**Course Outcome of SIUBMS42M Upon completion of this course, students will be able to**		
CO1	This paper gives an all embracing insight into the underestimated and untapped rural market.		
CO2	Students understand the 4P's of marketing from rural perspective.		
CO3	Helps to understand how rural consumer is different from urban consumer and thus helps to create rural market specific marketing model		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS41F	**3**	**3**	**STRATEGIC COST MANAGEMENT**
CO No	**Course Outcome of SIUBMS41F Upon completion of this course, students will be able to**		
CO1	Learners develop skills of analysis, evaluation and synthesis in cost and management accounting.		
CO2	It gives practical knowledge in variance analysis and responsibility accounting		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS42F	**3**	**3**	**AUDITING**
CO No	**Course Outcome of SIUBMS42F Upon completion of this course, students will be able to**		
CO1	The learner gets acquaint with the various concepts of auditing.		
CO2	Students gain in depth understanding and practical knowledge of the various techniques of auditing required for managing their finances		
CO3	The course explains the importance of auditing planning and documentation into every organization		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBMS43	**3**	**3**	**INFORMATION TECHNOLOGY IN BUSINESS MANAGEMENT**

CO No	Course Outcome of SIUBMS43F Upon completion of this course, students will be able to
CO1	It helps learner develop managerial decision-making skills and perceptive of major functional area of MIS
CO2	The students are introduced to new concepts like Enterprise Resource Planning, Supply Chain Management, and Customer Relationship Management
CO3	Understands relationship between database management and data warehouse approaches

Course Code	Credits	Lectures / week	Course Name
SIUBMS44	2	3	FOUNDATION COURSE IV
CO No	Course Outcome of SIUBMS44 Upon completion of this course, students will be able to		
CO1	It makes the learner conscious in regards to the significance of ethical business practices which are indispensable for the progress of country		
CO2	This paper helps to understand the implications of Ethics in three different areas viz. Marketing, Finance and Human Resource Management		
CO3	It helps to understand the social obligations of corporate organization towards their stakeholders		

Course Code	Credits	Lectures / week	Course Name
SIUBMS45	3	3	BUSINESS ECONOMICS -II
CO No	Course Outcome of SIUBMS45 Upon completion of this course, students will be able to		
CO1	It creates awareness regarding objectives of government macroeconomic policy and how they can be pursued		
CO2	Learner interprets macroeconomic issues such as money, foreign exchange, inflation, unemployment, economic growth		
CO3	Students understand the importance of international trade in today's dynamic business environment		

Course Code	Credits	Lectures / week	Course Name

SIUBMS46	3	3	BUSINESS RESEARCH METHODS
CO No	**Course Outcome of SIUBMS46 Upon completion of this course, students will be able to**		
CO1	It creates awareness regarding objectives of government macroeconomic policy and how they can be pursued		
CO2	Learner interprets macroeconomic issues such as money, foreign exchange, inflation, unemployment, economic growth		
CO3	Students understand the importance of international trade in today's dynamic business environment		

Course Code	Credits	Lectures / week	Course Name
SIUBMS47	**3**	**3**	**PRODUCTION AND TQM**
CO No	**Course Outcome of SIUBMS44 Upon completion of this course, students will be able to**		
CO1	Students are able to evaluate the principles of quality management and understand how these principles can be applied within quality management systems.		
CO2	It helps Identify the key aspects of the quality improvement cycle and to select and use appropriate tools and techniques for controlling, improving and measuring quality.		
CO3	The paper enables critical analysis of the strategic issues in quality management, including current issues and developments, and to devise and evaluate quality implementation plan		

PROGRAM NAME: BACHELOR OF MANAGEMENT STUDIES (3-year Degree Program)	
Program Outcomes **BMS**	
SIES offers a three-years integrated degree programme in BMS Programme is designed to give the learners a strong foundation in management studies and basic business-related competencies to prepare them for progression to higher studies, employability and global citizenship. On successful completion of the BMS programme, the learner will be enriched with the following attributes:	
Sr. No	**Details**
PO 1	Knowledge and problem solving: Ability to express and apply the knowledge gained to solve problems related to specific business situations and transactions
PO 2	Critical thinking and Reasoning: Critically approach and analyse various problems in the light of relevant theories, standards and policies in a rational way to draw logical conclusions and make informed decisions.
PO 3	Effective communication and social interaction: Equipped to write reports and make presentations using work-place jargon, ability to listen and to clearly express ideas orally, facilitate exchange of ideas with varied groups as a team member and/or a leader in diverse business domains.
PO 4	Information and Digital Literacy: Demonstrate the use of appropriate tools, techniques and softwares, inclusive of internet and electronic media for acquiring, assessing and analysing data relevant to business decisions.
PO 5	Orientation to Research: An attitude of inquiry towards dynamic aspects of business environment by gathering secondary data and applying the knowledge and tools of mathematics and statistics to analyse the same.
	Sensitization towards environment:

PO 6	Awareness of the importance of environment and developing concern for environmental protection and sustainable practices, growth and development

PO 7	Ethical and civic values: Sensitized to various stakeholders in society and appreciating the need to apply ethical values in a business domain, with an understanding of basic legal framework. Empathy towards gender issues and problems of social groups from different strata of the society.
PO 8	Self-directed and Lifelong Learning: Ability to explore and gain knowledge in independent and self-reliant ways. Demonstrate ability to adapt and upgrade with the global, social and technological changes

COURSE OUTCOMES FYBMS CAPITAL MARKET
Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below
PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create
SEMESTER – I

Course Code	Credits	Lectures / week	Course Name
SIUBCM11	**3**	**4**	Financial Accounting
CO No.	**Course Outcome of SIUBCM11 Upon completion of this course, students will be able to**		
CO1	The learners are introduced to the various accounting standards and their scope		
CO2	It enables the students to understand information contained in the published financial statements of companies and other organisations.		
CO3	The paper gives a practical knowledge of Preparation and presentation of Final Accounts		

Course Code	Credits	Lectures / week	Course Name
SIUBCM12	**3**	**3**	BUSINESS LAW
CO No.	**Course Outcome of SIUBCM12 Upon completion of this course, students will be able to**		
CO1	Ability to identify and discriminate legal concepts and provide concrete learning in the field of basic Contracts and E Contracts.		
CO2	Capacity to demonstrate a good understanding of corporate law and Consumer Protection Laws with their latest amendments in the professional field to solve current issues.		
CO3	The student is able to analyse and develop critical thinking skills for new areas in Intellectual Property such as Patent, Trademark, Copyright and Designs in the digital world		
CO4	The student is able to analyse and develop critical thinking skills for new areas in Intellectual Property such as Patent, Trademark		

Course Code	Credits	Lectures / week	Course Name
SIUBCM13	**3**	**3**	**Introduction to Financial Market**
CO No.	**Course Outcome of SIUBCM13 Upon completion of this course, students will be able to**		
CO1	Understand the role and importance of the Indian financial market.		

CO2	Apply and analyse the Concepts relevant to Indian financial markets and financial institutions.
CO3	Understand and analyse the mechanics and regulation of financial instruments and determine how the value of stocks, bonds, and securities are calculated

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM14	**3**	**4**	Business Communication
CO No.	**Course Outcome of SIUBCM14 Upon completion of this course, students will be able to**		
CO1	The learner understands the importance of communication in building and maintaining healthy and effective relationships		
CO2	Students are well equipped with the use of different technologies available for communicating effectively in various settings		
CO3	It inculcates professional and ethical behavior in the students		

CO4	The participants are familiarized with various barriers they could face while communicating and some of the common ways to overcome them

Course Code	Credits	Lectures / week	Course Name

SIUBCM15	**3**	**3**	Banking Operations and Products – I
CO No.	**Course Outcome of SIUBCM15 Upon completion of this course, students will be able to**		
CO1	Students get well versed with the basic concept and framework of banking in India.		
CO2	Learners understood various aspects of retail banking and its working		

Course Code	**Credits**	**Lectures / week**	**Course Name**

SIUBCM16	**3**	**3**	Marketing and Sales of Financial Product
CO No.	**Course Outcome of SIUBCM16 Upon completion of this course, students will be able to**		
CO1	It helps learners to define various concepts of Marketing.		
CO2	Learners can evaluate the aspects of marketing environment, use of market research and factors affect consumer behaviour.		
CO3	This will help to create marketing strategy with Marketing Mix		

CO4	The learner will be able to marketing of services in an efficient manner

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM17	**3**	**3**	Business Economics – I (Microeconomics
CO No.	**Course Outcome of SIUBCM17 Upon completion of this course, students will be able to**		
CO1	The learner gets introduced to supply and demand and the basic forces that determine equilibrium in a market economy		
CO2	It helps analyse operations of markets under varying competitive conditions		
CO3	Students understand how different pricing methods are used in business world		

SEMESTER II

Course Code	Credits	Lectures / week	Course Name
SIUBCM21	3	3	Mutual Fund Management
CO No.	**Course Outcome of SIUBCM21 Upon completion of this course, students will be able to**		
CO1	The learner understands the organization and management of mutual funds in India		
CO2	Students gain the knowledge of risk and rewards of investing in Mutual funds and its practical working for a better market understanding.		

Course Code	Credits	Lectures / week	Course Name
SIUBCM22	3	3	Corporate Finance
CO No.	**Course Outcome of SIUBCM22 Upon completion of this course, students will be able to**		
CO1	The learner will be able to identify the key themes in corporate finance		

CO2	The course will explain the role of finance in an organization
CO3	It will also explain and analyse the interrelationship between finance and governance
CO4	The learner will be able to analyse the relationship between strategic decision making and corporate financing decision

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM23	**3**	**3**	Ethical and Professional Standards
CO No.	**Course Outcome of SIUBCM23 Upon completion of this course, students will be able to**		
CO1	Students get well versed with the basic concept Ethics in Business.		
CO2	Learners will understand various aspects of Professional Standards as per CFA.		
CO3	Learners will be able to relate importance of each Ethical Standards and Sub-Standards in Professional Industry		
CO4	Learners will understand GIPS – Principles and Guidelines		

Course Code	**Credits**	**Lectures / week**	**Course Name**

SIUBCM24	**3**	**3**	Business Communication
CO No.	**Course Outcome of SIUBCM24 Upon completion of this course, students will be able to**		
CO1	The paper develops critical and creative thinking abilities necessary for effective communication in today ‘s business world		
CO2	It enables demonstration of clarity, precision, conciseness and coherence in use of language		
CO3	Effective presentation skills are instilled in learner		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM25	**3**	**3**	Banking Operations and Products – II
CO No.	**Course Outcome of SIUBCM25 Upon completion of this course, students will be able to**		

CO1	The students appreciate the relationship between banks and corporates in financial management and gain knowledge on its working in reality
CO2	Students understands how banks manage their own funds and also get introduced to the challenges faced by banks.

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM26	**3**	**3**	Business Environment
CO No.	**Course Outcome of SIUBCM26 Upon completion of this course, students will be able to**		
CO1	Students understands the complexities of working various business environment factors and their effect on the business world.		
CO2	Students were familiarized with the concepts like Social Auditing and Social Accounting, which helped them to understand the extent of accountability of a businessman towards the society		

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM27	**3**	**3**	Business Economics – I (Macro Economics)

CO No.	Course Outcome of SIUBCM27 Upon completion of this course, students will be able to
CO1	It creates awareness regarding objectives of government macroeconomic policy and how they can be pursued
CO2	Learner interprets macroeconomic issues such as money, foreign exchange, inflation, unemployment, economic growth
CO3	Students understand the importance of international trade in today's dynamic business environment

COURSE OUTCOMES SYBMS CAPITAL MARKET			
Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below			
PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create			
SEMESTER – III			
Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM31	**3**	**3**	Securities Law
CO No.	**Course Outcome of SIUBCM31 Upon completion of this course, students will be able to**		
CO1	This course will help to understand about Law related to the company		
CO2	This course will help to learn guidelines issued by SEBI		
CO3	The course will help students to understand the role of NSDL and CDSL in India		

Course Code	Credits	Lectures / week	Course Name
SIUBCM32	3	3	Fixed Income Securities
CO No.	**Course Outcome of SIUBCM32 Upon completion of this course, students will be able to**		
CO1	Learners will be in a position to understand the risks associated with fixed income securities and analyze the impact of fixed income securities on the economy.		
CO2	Learners will be able to identify trading and funding requirements of fixed income securities with respect to companies		
CO3	Learners will be able to establish relationship between changes in repo rates and cashflows of fixed income securities.		
CO4	Students will learn to analyze yield to maturity of bonds and impact of various types of risks on the market valuations of fixed income securities.		

Course Code	Credits	Lectures / week	Course Name
SIUBCM33	**3**	**3**	IT in Business Management - I
CO No.	**Course Outcome of SIUBCM33 Upon completion of this course, students will be able to**		
CO1	It helps learner with basic concepts of Information Technology and its role in Management.		
CO2	Module II gives practical hands on training required for office automation.		
CO3	The students understand basic concepts of Email, Internet and websites, domains and internet security.		
CO4	It helps recognize security aspects of IT in business, highlighting electronic transactions, threats, prevention and advanced security features.		

Course Code	Credits	Lectures / week	Course Name
SIUBCM34	**3**	**3**	Mergers and Acquisition
CO No.	**Course Outcome of SIUBCM34 Upon completion of this course, students will be able to**		
CO1	Learners will be able to differentiate between the merger motives and different types of mergers.		
CO2	Students will be better placed to study and analyse the social, financial and functional impact of mergers & acquisitions done using different methods of corporate restructuring.		
CO3	Learners will be able to comprehend the synergy effects of mergers & acquisitions on the resultant company's operations.		

CO4	Learners will be equipped with different methods of accounting for amalgamation and tools to understand and read amalgamated financial statements.

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM35	**3**	**3**	Foreign Exchange
CO No.	**Course Outcome of SIUBCM35 Upon completion of this course, students will be able to**		
CO1	It gives a comprehensive overview of International Finance as a separate area in International Business		
CO2	It introduces the basic concepts, functions, process, and techniques and create an awareness of the role, functions and functioning of International Finance in this Globalised Market		

Course Code	Credits	Lectures / week	Course Name
SIUBCM36	**3**	**3**	Accounting for Managerial Decisions
CO No.	**Course Outcome of SIUBCM36 Upon completion of this course, students will be able to**		
CO1	The course clears the basic accounting concepts required in any business transaction.		
CO2	It gives students practical knowledge of accounting transactions.		
CO3	It develops accounting and financial skills and states its importance in managing business.		

Course Code	Credits	Lectures / week	Course Name
SIUBCM37	**3**	**3**	Investment Banking
CO No.	**Course Outcome of SIUBCM37 Upon completion of this course, students will be able to**		

CO1	The learner will be equipped with banking concepts and will gain knowledge related to practical aspects of banking.
CO2	The students will acquire various skills required to be an Investment Banking professional.
CO3	They will learn the techniques to analyze the financial statement and help the organization to understand their financial position.

SEMESTER IV

Course Code	Credits	Lectures / week	Course Name
SIUBCM41	**3**	**3**	Technical Analysis
CO No.	**Course Outcome of SIUBCM41 Upon completion of this course, students will be able to**		
CO1	It will develop various skills required to be a professional trader.		
CO2	The student will understand various risks associated with trading and strategies to avoid it.		
CO3	The learner will be equipped with various modern trends in the trade market.		
CO4	A disciplined attitude will be developed by learner to play various roles required for trading.		

Course Code	Credits	Lectures / week	Course Name
SIUBCM42	**3**	**3**	Principles of Management
CO No.	**Course Outcome of SIUBCM42 Upon completion of this course, students will be able to**		

CO1	It will enable learners to define concepts of management.
CO2	It helps learners to evaluate the global context for taking managerial actions of planning, organizing and controlling.
CO3	Learners can specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances.
CO4	It helps to determine the most effective action to take in specific situations.

Course Code	**Credits**	**Lectures / week**	**Course Name**
SIUBCM43	**3**	**3**	IT in Business Management - II
CO No.	**Course Outcome of SIUBCM43 Upon completion of this course, students will be able to**		
CO1	1. It helps learner develop managerial decision-making skills and perceptive of major functional area of MIS		
CO2	1. The students are introduced to new concepts like Enterprise Resource Planning, Supply Chain Management, and Customer Relationship Management		
CO3	Understands relationship between database management and data warehouse approaches		

Course Code	Credits	Lectures / week	Course Name
SIUBCM44	**3**	**3**	Business Research
CO No.	**Course Outcome of SIUBCM44 Upon completion of this course, students will be able to**		
CO1	Learners can describe kinds of research, objectives of doing research, research process, research designs and sampling.		
CO2	It will enable learners to use various methods of data collection for research purpose.		
CO3	It enhances the skills to analyse data and interpret the same.		
CO4	It will develop advanced techniques in report writing and comply with anti-plagiarism		

Course Code	Credits	Lectures / week	Course Name
SIUBCM45	**3**	**3**	Financial Spreadsheet
	Course Outcome of SIUBCM45 Upon completion of this course, students will		

CO No.	be able to
CO1	The student will learn to analyze the organization's financial data efficiently using Microsoft Excel, making the data management and analysis easier for the organization
CO2	It will help to understand the use of spreadsheet software to manage financial data.
CO3	It will equip the learner to use charts, graphs, spreadsheets, and various advanced techniques which will expediate the workflow.

Course Code	Credits	Lectures / week	Course Name
SIUBCM46	**3**	**3**	Business Statistics
CO No.	**Course Outcome of SIUBCM46 Upon completion of this course, students will be able to**		
CO1	Students were able to understand the use of averages and measures of dispersion.		
CO2	They could manage using various techniques for correlation and regression.		
CO3	Students managed to use index numbers along with time series analysis.		
CO4	It was possible for the students to use the methods for decision making and learn probability as well		

Course Code	Credits	Lectures / week	Course Name
SIUBCM47	**3**	**3**	Markets and Regulators
CO No.	**Course Outcome of SIUBCM47 Upon completion of this course, students will be able to**		
CO1	Learners will be able to differentiate between various components and functions of Indian Financial System		
CO2	Learners will be able to decipher the role of respective regulators and other governance and regulatory bodies in guiding, diverting and controlling the flow of funds in different financial sectors of the economy.		
CO3	Students will learn about different laws, regulations and provisions as laid down by the regulators for protection of investors and smooth functioning of financial markets.		
CO4	Students will be able to analyze different routes and methods of raising funds from foreign markets.		

Program: BSc Biotechnology

Class: FYBSc and SYBSc

Program Outcomes

Program Specific Outcomes

Course Outcomes

Program Name: B.Sc. Biotechnology

Program Outcomes and Program Specific Outcomes
B.Sc. Biotechnology

Upon completion of this undergraduate degree program, a student will be able to accomplish the following program outcomes.

SR. NO.	Details
PO1.	**Solving Complex Problems:** Applying the knowledge of various courses learned under a program with an ability to break down complex problems into simple components, by designing processes required for problem solving. *Cognitive Levels: An, Ap*
PO2.	**Critical Thinking and reasoning ability:** Exhibits ability to understand abstract concepts, analyse, and apply them in problem solving. Ability to formulate and develop logical arguments. Developing the ability to think with different perspectives and ideas. (Skills necessary for progression to higher education and research.) *Cognitive Levels: U, An*
PO3.	**Research Aptitude:** Acquiring the ability to explore and gain knowledge in independent ways through reading assignments, problem solving assignments, projects, seminars, presentations. *Cognitive Levels: Ap, An, E, C*
PO4.	**Proficiency with ICT**: Equip to select, apply appropriate tools and techniques, resources through electronic media for the purpose of visualizing mathematical objects, geometrical interpretations, coding, and analysing data. *Cognitive Levels: U, Ap*
PSO1.	**Basic Concepts** Understand and describe the nature of the basic concepts of Cell biology, Microbiology Chemistry and Biochemistry with an interdisciplinary perspective about other branches ofLife Sciences. *Cognitive Levels: U, Ap*
PSO2.	**Practical Applications:** Perform practical as per laboratory standards in Chemistry, Biochemistry, Microbiology andMolecular Biology – Understand and analyze the results. *Cognitive Levels: Ap, An*

Course Outcomes: F.Y.B.Sc.

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester 1

Course Code	Credits	Lectures/week	Course Name
SIUSBT11	2	3	Basic Chemistry I

Unit I-Nomenclature and Classification
Unit II-Chemical Bonds
Unit III Stereochemistry

CO. No.	Course Outcome of SIUSBT11 On successful completion of the course, the student will	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the basic concepts of chemistry like nomenclature, chemical bonds, and stereochemistry	U	PSO1
CO2	Be skilled inproblem solving, critical thinking and analytical reasoning as applied to scientific problems	Ap, An	PO1,PO2, PSO2,

Course Code	Credits	Lectures/week	Course Name
SIUSBT12	2	3	Bioorganic Chemistry

Unit I- Biomolecules- Carbohydrates
Unit II-Biomolecules- Amino acids and proteins
Unit III- Lipids and Nucleic Acids

CO. No.	Course Outcome of SIUBT12 On successful completion of the course, the student will.	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the basic concepts of bioorganic molecules, their structure, classification, and physicochemical characteristics.	U	PO1,PSO1
CO2	They will describe and define the structure, function, classification and properties of carbohydrates, lipids, proteins and nucleic acids	U	PO1,PSO2 ,

Course Code	Credits	Lectures/week	Course Name
SIUSBTP18	2	2	Practicals in Basic chemistry

CO. No.	Course Outcome of BTTP1 On successful completion of the course, the student will	Cognitive Level	Affinity with PO/ PSO

CO1	Report the presence of various functional groups present in the organic compounds,	E	PO1, PSO2
CO2	Use colorimeter to determine the absorption maxima of various compounds and estimate the concentration of various compounds..	Ap	PO1, PSO2

	Course Code	Credits	Lectures/week	Course Name
	SIUSBT13	**2**	**3**	**Basic Life Science I- Biodiversity and Cell Biology**

	Unit I-Origin of Life and Biodiversity (Plant, Animal & Microorganisms) Unit II- Bacteria and Viruses Unit III- Ultrastructure of Eukaryotic Cell		
CO. No.	**Course Outcome of SIUSBT13** On successful completion of the course, student will be able to:	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	State and explain the diversity of life evolved over time via evolutionary mechanisms.	R, U	PO1,PSO1,
CO2	Describe and distinguish the structure and other salient characteristics of bacteria andviruses; cell organelles of eukaryotic cell and their functions	U, An	PO1, PO2, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT14	**2**	**3**	**Basic Life Sciences II- Microbial Techniques**

	Unit I- Basic Techniques in Microbiology Unit II- Stains Unit III- Nutrition and Cultivation of Microorganisms		
CO. No.	**Course Outcome of SIUBT14** On successful completion of the course, students will:	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Examine, identify the parts, and use different microscopes for the study of microorganisms which are among the basic skills expected from a practicing microbiologist.	Ap, An	PO1, PSO1
CO2	Understand and explain the basic skills such as culturing microbes, maintaining microbes, good microbiological practices.	Ap, U	PO1, PO2, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBTP19	**2**	**2**	**Practicals in Basic Life Sciences**

CO. No.	**Course Outcome of SIUSBTP19** On successful completion of the course, the student will	**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Able to infer the importance of the routine laboratory equipment; would be skilled in performing routine microbiological experiments like staining, media preparation & sterilization.	E,Ap	PO1, PSO2
CO2	Able to cultivate, isolate & characterize microorganisms.	Ap	PO1,PSO 2

Course Code	**Credits**	**Lectures/week**	**Course Name**	
SIUSBT15	**2**	**2**	**Biotechnology I - Introduction to Biotechnology**	
Unit I- Introduction and applications of Biotechnology Unit II- Food Biotechnology Unit III- Fermentation technology				
CO. No.	**Course Outcome of SIUSBT15** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Define biotechnology, provide examples of biotechnology products, and give examples of job responsibilities associated with different branches in biotechnology.	E,Ap	PO1, PSO1
CO2	Understand the role of microorganisms in the production of food, its spoilage, including food packaging and identify the different types of reactors or fermenters which are used for laboratory, pilot and industrial scale fermentations	R,Ap	PO1, PSO1

Course Code	**Credits**	**Lectures/week**	**Course Name**	
SIUSBTP16	**2**	**2**	**Biotechnology II -Molecular biology and Genetics**	
	Unit I- Replication Unit II- Mutation and DNA repair Unit III- Microbial Genetics			
CO. No.	**Course Outcome of SIUSBT16** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Describe the process of semi-conservative DNA replication in eukaryotic cells and compare this method with DNA synthesis in prokaryotes. .	E, Ap	PO1, PSO1
CO2	Understand and identify the three well known mechanisms by which genetic material is transferred among the microorganisms namely transformation, transduction, and conjugation.	R, U	PO1,PSO 1

Course Code	**Credits**	**Lectures/week**	**Course Name**	
SIUSBTP20	**2**	**2**	**Practicals in Biotechnology**	
CO. No.	**Course Outcome of SIUSBTP20** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Analyze the bacteriological quality of milk, determine and extract milk protein.	E,An	PO1, PSO2
CO2	Able to extract & assess the quality of DNA isolated from plant source	An,E	PO1,PSO 2

Course Code	Credits	Lectures/week	Course Name
SIUSBT17	**2**	**2**	**Ability enhancement course I (FC): Societal Awareness**

	Unit I- Overview of Indian Society Unit II- Concept of Disparity Unit III- The Indian Constitution and Significance Aspects of Political Processes		
CO. No.	**Course Outcome of SIUSBT17** On successful completion of the course, the student will	**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Understand and explain the concept of the Indian constitution	U,R	PO1, PSO1
CO2	Identify with the diversity, disparity, as well as the problems in society	U, An	PO1,PSO 1

Semester II

Course Code	Credits	Lectures/week	Course Name	
SIUSBT21	**2**	**2**	**Basic Chemistry II**	
	Unit I- Water and buffers Unit II- Titrimetry and Gravimetry Unit III- Analytical Techniques			
CO. No.	**Course Outcome of SIUSBT21** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Prepare buffers and learn the handling of basic analytical techniques like chromatography and colorimetry. .	E,An	PO1, PSO1
CO2	Describe the fundamentals of acid/base equilibria, buffer behavior, acid/base titrations	R,U	PO1,PSO 1

Course Code	Credits	Lectures/week	Course Name	
SIUSBT22	**2**	**2**	**Physical chemistry**	
	Unit I- Thermodynamics Unit II- Chemical Kinetics Unit III- Oxidation and Reduction Reactions			
CO. No.	**Course Outcome of SIUSBT22** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Explain the thermodynamic and kinetic forces involved in chemical reactions which determine how much and how soon products are formed	R,U	PO1, PSO1
CO2	Understand the fundamentals of acid/base reactions, redox reactions and precipitation reactions	R,U	PO1,PSO 1

Course Code	Credits	Lectures/week	Course Name	
SIUSBT23	**2**	**2**	**Life Sciences I- Physiology and Ecology**	
	Unit I- Plant Physiology Unit II- Animal Physiology Unit III- Ecosystems and interactions			
CO. No.	**Course Outcome of SIUSBT23** On successful completion of the course, the student will understand		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Photosynthesis and the fundamental reactions	R, U	PO1, PSO1
CO2	Presence and role of different types of environments and habitats where microorganisms grow such as the microbiomes of the human gut and animal gut	R, U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT24	**2**	**2**	**Life Sciences II -Genetics and r DNA technology**

	Unit I- Fundamentals of Genetics Unit II-Population Genetics Unit III- Genetic Engineering		
CO. No.	**Course Outcome of SIUSBT24** On successful completion of the course, the student will define and describe	**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Laws of inheritance, genetic basis of loci and alleles and deviation from Mendelian principles	R,U	PO1, PSO1
CO2	Hardy-Weinberg law and explain the assumptions.	R,U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT25	**2**	**2**	**Biotechnology I- Microbial Techniques and Tissue culture**

	Unit I-Sterilization Techniques Unit II- Growth and Enumeration of Microorganisms Unit III-Plant and animal tissue culture		
CO. No.	**Course Outcome of SIUSBT25** On successful completion of the course, the student will	**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Identify nutritional requirements of bacteria for growth; methods to preserve bacteria in the laboratory; calculate generation time of growing bacteria	R, U	PO1, PSO1
CO2	Explain the basics of animal and plant tissue culture	R,U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name	
SIUSBT26	**2**	**2**	**Biotechnology- Enzymology, Immunology**	
	Unit I-Enzymes Unit II- Immunology Unit III- Applications of Enzymology and Immunology			
CO. No.	**Course Outcome of SIUSBT26** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Conceptualize and explain the protective role of the immune system of the host and developed an understanding of the basic components as well as the mechanisms underlying the immune system and its response to pathogenic microorganisms.	E,An	PO1, PSO1
CO2	Correlate & deduce the applications of enzymes and antibodies.	An,Ap	PO1,PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT27	**2**	**2**	**Ability enhancement course 2 (FC): Globalization, ecology and sustainable development**

	Unit I- Globalization and Indian Society and Human Rights Unit II- Ecology and Sustainable Development Unit III- Understanding and Managing Stress and Conflict in Contemporary Society		
CO. No.	**Course Outcome of SIUSBT27** On successful completion of the course, the student will	**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Identify with the concepts of globalization, ecology and environment as well the problems in society.	R,U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBTP28	**2**	**2**	**Practicals in Chemistry**

CO. No.	Course Outcome of SIUSBTP28 On successful completion of the course, the student will	Cognitive Level	Affinity with PO/ PSO

CO1	prepare standard solutions, evaluate the strength & quantify various compounds.	Ap	PO1, PSO2
CO2	examine & separate amino acid mixtures using a basic chromatographic separation method	An,E	PO1,PSO 2

Course Code	Credits	Lectures/week	Course Name	
SIUSBTP29	**2**	**2**	**Practicals in Life Sciences**	
CO. No.	**Course Outcome of SIUSBTP29** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Demonstrate Hill's reaction and colorimetrically analyze various photosynthetic pigments.	E,An	PO1, PSO2
CO2	Perform blood cell count, estimate hemoglobin levels and mitosis.	An,E	PO1,PSO 2

Course Code	**Credits**	**Lectures/week**	**Course Name**	
SIUSBTP30	**2**	**2**	**Practicals in Biotechnology**	
CO. No.	**Course Outcome of SIUSBTP20** On successful completion of the course, the student will		**Cognitive Level**	**Affinity with PO/ PSO**

CO1	Prepare various stock solutions for plant tissue culture experiments and use to cultivate callus.	E,An	PO1, PSO2
CO2	Calculate the growth rate of bacteria, perform various enumeration techniques to count animal & bacterial cells as well as deduce the effect of various factors on enzymes	An,E	PO1,PSO 2

Course Outcomes: S.Y.B.Sc.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester III

Course Code	Credits	Lectures/week	Course Name
SIUSBT31	2	3	Biophysics

Unit I- Optics and Electromagnetic Radiations
Unit II -Heat, Sound, Magnetism and Fluid Dynamics
Unit III- Electrophoresis

CO. No.	Course Outcome of SIUSBT31 Upon completion of this course, the learner will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	discuss electromagnetic radiations and lasers, their uses, types and applications of spectrophotometer and microscopy, describe the types of electrophoresis and specific requirements, investigate the parameters affecting electrophoresis and its applications	R,U	PO1, PSO1
CO2	apply the concepts of heat, sound, magnetism and fluid dynamics,	Ap	PO1, PSO1
CO3	describe the types of electrophoresis and specific requirements, investigate the parameters affecting electrophoresis and its applications.	R, U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT32	2	3	Applied Chemistry-I

Unit I-Organic Chemistry
Unit II- Synthesis of Organic Compounds
Unit III- Green Chemistry and Synthesis

CO. No.	Course Outcome of SIUSBT32 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO
CO1	outline the organic reactions and metal coordination in biological systems, .	R, U	PO1, PSO1
CO2	discuss the various synthesis routes for organic compounds and understand the importance and relevance of green chemistry	R, U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT33	2	3	Immunology

Unit I- Effectors of Immune Response

Unit II- Cell Receptors

Unit III- Immunotechniques

CO. No.	Course Outcome of SIUSBT33 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO
CO1	Describe the role and significance complement system, MHC classes and pathways & immune cell receptors involved in immune system,	R, U	PO1, PSO1
CO2	Enlist the various immunotechniques & applications with respect to antigen-antibody interaction	Ap, An	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT34	3	6	Cell Biology and Cytogenetics

Unit I Cytoskeleton

Unit II- Cell Membrane

Unit III- Cytogenetics

CO. No.	Course Outcome of SIUSBTP34 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO
CO1	discuss the types of cytoskeleton, their assembly and functions in a cell,	R, U	PO1, PSO1
CO2	describe cell membrane, various membrane transport mechanisms and cell junctions,	R, U	PO1, PSO1
CO3	Analyze the structure of chromosome, understand the dosage compensation, and determine the map distance via linkage analysis	E, Cr	PO1,PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT35	2	3	Molecular Biology

Unit-I- Gene Expression - Transcription

Unit-II- Gene Expression-Translation

Unit-III- Gene Regulation

CO. No.	Course Outcome of SIUSBT35 On successful completion of the course the learner will be able to remember and understand:	Cognitive Level	Affinity with PO/ PSO
1	transcription process in prokaryotes and eukaryotes,	R, U	PO1, PSO1
2	translation and post-translational modifications,.	R, U	PO1, PSO1

3	regulatory mechanism of gene expression in prokaryotes and eukaryotes.			R,U	PO1, PSO1
	Course Code	**Credits**	**Lectures/week**	**Course Name**	
	SIUSBT36	**2**	**3**	**Bioprocess Technology**	
	Unit I-Microorganisms in Industrial Processes Unit II- Fermentors, Unit III -Fermentation Processes				
CO. No.	**Course Outcome of SIUSBT36** On successful completion of the course the learner will be able to:			**Cognitive Level**	**Affinity with PO/ PSO**
1	Perform the screening of strains to develop inoculum			U, Ap	PO1, PSO1
2	outline the basic fermenter design, media and sterilization process,			U,Ap,	PO1, PSO1
3	discuss the various industrial fermentation processes and their assays.			R, U	PO1, PSO1
	Course Code	**Credits**	**Lectures/week**	**Course Name**	
	SIUSBT37	**2**	**3**	**Research Methodology**	
	UnitI- Introduction to Research Methodology and Research Problem Unit II-Research Design and Data Collection Unit III- Scientific Communication and Report Writing				
CO. No.	**Course Outcome of SIUSBT37** On successful completion of the course the learner will be able to demonstrate the understanding of:			**Cognitive Level**	**Affinity with PO/ PSO**
1	research methodology, its criteria and significance of a research problem.			R, U	PO3, PO2
2	merits and demerits of experimental design and means of data collection.			R, U	PO2, PO3
3	significance of scientific communication and overall contents of report writing .			R, U	PO2,PO3
	Course Code	**Credits**	**Lectures/week**	**Course Name**	
	SIUSBTP38	**3**	**6**	**Practicals based on SIUSBT31 & 32**	
CO. No.	**Course Outcome of SIUSBTP38** On successful completion of the course, the leaner will be able to.			**Cognitive Level**	**Affinity with PO/ PSO**
1	Use Electrophoretic techniques to separate protein & DNA. They will be able to elucidate the effect of protein denaturation on viscosity as well as perform various organic estimations			Ap	PO1, PO2
2	elucidate the effect of protein denaturation on viscosity as well as perform various organic estimations.			Ap	PO1, PO2

	Course Code	**Credits**	**Lectures/week**	**Course Name**

	SIUSBTP39	3	6	Practicals based on SIUSBT33 & 34

CO. No.	Course Outcome of SIUSBTP39 On successful completion of the course, the learner will be able to	Cognitive Level	Affinity with PO/ PSO
1	Correlate and perform various antigen-antibody interactions to determine their amount or to identify a diseased condition.	Ap	PO1, PO2
2	To map the genes and analyze pedigree.	Ap	PO1, PSO2

	Course Code	Credits	Lectures/week	Course Name
	SIUSBTP40	3	6	Practicals based on SIUSBT35 & 36

CO. No.	Course Outcome of SIUSBTP40 On successful completion of the course, the learner will be able to	Cognitive Level	Affinity with PO/ PSO
1	Screen soil sample for potential antibiotic producers as well as estimate a common antibiotic chemically and biologically	Ap	PO1, PO2
2	Produce ethanol at laboratory scale and estimate its amount. identify and cultivate filamentous bacteria,.	Ap	PO1, PO2
3	Select industrially important bacterial strains on the basis of their growth rate	Ap	PSO2

Semester IV

Course Code	Credits	Lectures/week	Course Name
SIUSBT41	2	3	Biochemistry

Unit I-Carbohydrate Metabolism, ETS and Energy Rich Compounds

Unit II- Amino Acid and Nucleotide Metabolism

Unit III-Lipid Metabolism

CO. No.	Course Outcome of SIUSBT41 On successful completion of the course the learner will be able to remember and understand:	Cognitive Level	Affinity with PO/ PSO
CO1	Reactions, regulation and disorders associated with carbohydrate catabolism, pathways and electron transport chain, .	R, U	PO1, PSO1
CO2	Amino acid and nucleic acid metabolism & associated metabolic disorders,	R, U	PO1, PSO1
CO3	Fatty acids oxidation reactions and lipid storage disease.	R, U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT42	2	3	Applied Chemistry II

Unit I-Sampling and Separation Techniques

Unit II-Chromatographic Techniques

Unit III-Polymers and Nanomaterials

CO. No.	Course Outcome of SIUSBT42 On successful completion of the course the learner will be able to understand and remember:	Cognitive Level	Affinity with PO/ PSO
CO1	Principle and types of sampling and separation techniques like solvent extraction and centrifugation, .	R, U	PO1, PSO1
CO2	classify various natural and synthetic polymers and investigate their uses,	R, U	PO1, PSO1
CO3	Principle and applications of column chromatography,	R, U	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT43	2	3	Medical Microbiology

Unit I -Infectious Diseases

Unit II-Causative Organisms I

Unit III-Causative Organisms II

CO. No.	Course Outcome of SIUSBT43 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO
CO1	Describe the host-parasite interactions and epidemiology of infectious diseases	R, U	PO1, PSO1
CO2	Discuss the transmission, pathogenesis and diagnosis of skin, respiratory and urinary tract infections,	R, U	PO1, PSO1
CO3	Outline the pathogenesis, diagnosis and treatment of sexually transmitted diseases GI infections	R, U	PO1,PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT44	3	6	Environmental Biotechnology

Unit I-Water Microbiology & Pollution

Unit II-Air Microbiology, Pollution and Monitoring

Unit III-Soil Erosion and Bioremediation

CO. No.	Course Outcome of SIUSBTP44 On successful completion of the course the learner will be able to understand and evaluate the:	Cognitive Level	Affinity with PO/ PSO
CO1	Causes, types and control methods of water and soil pollution	U,E	PO1, PSO1
CO2	Causes, types and control methods of air pollution,	U,E	PO1, PSO1
CO3	significance of bioremediation in control of environmental pollution appropriate examples	U,E	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT45	2	3	Biostatistics and Bioinformatics

Unit I- Introduction to Computers and Biological Databases

Unit II- BLAST and Sequence Alignment

Unit III-Biostatistics

CO. No.	Course Outcome of SIUSBT46 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO

CO1	Demonstrate the understanding of biological databases, protein classification on the basis of its structure and protein visualization software .	U, Ap	PO1, PSO1
CO2	Comprehend and identify various alignment matrices, decipher homology using BLAST and deduce phylogeny using multiple alignment of sequences	U, Ap	PO1, PSO1
CO3	Implement various statistical tools for analysis of biological data	U,Ap	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT46	**2**	**3**	**Medical Diagnostics**

Unit I-Basics of Molecular Diagnostics

Unit II-Nucleic acid amplification methods

Unit III- Molecular Biology based Diagnostics.

CO. No.	Course Outcome of SIUSBT46 On successful completion of the course the learner will be able to:	Cognitive Level	Affinity with PO/ PSO
CO1	discuss the importance of molecular diagnostics, personalized medicine and hybridization techniques,	U, Ap	PO1, PSO1
CO2	describe the principle and types of PCR & primer designing,	U, Ap	PO1, PSO1
CO3	understand and evaluate the different molecular diagnostic techniques based on molecular identification	U,Ap	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBT47	2	3	Entrepreneurship development

Unit I-Introduction to Entrepreneurship Development and IPR

Unit II-Setting-up of an Enterprise and Planning

Unit III-Marketing, Sales, Advertising & International Market Research

CO. No.	On successful completion of the course the learner will be able to:		
CO1	compare the types of IPR,	R, U	PO1, PSO1
CO2	outline the planning, requirements and setting-up of an enterprise,	R, U	PO1, PSO1
CO3	assess the strategies of sales, market research and advertisement	An, E	PO1, PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSBTP48	3	6	Practical based on SIUSBT41 & 42

CO. No.	Course Outcome of SIUSBTP48 On successful completion of the course, the student will be able to .	Cognitive Level	Affinity with PO/ PSO
CO1	estimate cholesterol levels, assess liver function as well as detect gout using different methods.	Ap, E	PO1, PSO2
CO2	separate components from a mixture using various column chromatographic techniques	Ap	PO4
CO3	synthesize nanoparticles chemically & biologically as well as characterize them	E, Ap	PO1, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSBTP49	3	6	Practical based on SIUSBT43 & 44

CO. No.	Course Outcome of SIUSBTP49 On successful completion of the course, the learner will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Identify causative agents of various infections.	Ap	PO1, PO2
CO2	Determine the potability of water	Ap,E	PO4 PSO2
CO3	Determine the concentration of organic matter as an index to assess the effect discharged wastewater on the receiving environment	Ap, E	PO3 PSO2

Course Code	Credits	Lectures/week	Course Name

SIUSBTP50	3	6	Practical based on SIUSBT45 & 46	
CO. No.	**Course Outcome of SIUSBTP50** On successful completion of the course, the learner will be able to		**Cognitive Level**	**Affinity with PO/ PSO**
CO1	apply various basic computational tools like EXCEL for data analysis as well as graph generation use various biological database and implement pairwise alignment tools like BLAST to decipher homology as well as carry out multiple alignment of sequences to identify consensus region as well as construct phylogenetic tree		Ap	PO1, PO2
CO2	isolate DNA from microbial source and quantify nucleic acid		Ap	PO4

Program: BSc Computer Science

Class: FYBSc and SYBSc

Program Outcomes

Program Specific Outcomes

Course Outcomes

Program Name: B.Sc. Computer Science

(3-year Integrated Degree Program)

Program Outcomes and Program Specific Outcomes

B.Sc. Computer Science

Upon completion of this undergraduate degree program, a student will be able to accomplish the following program outcomes.

SR. NO	Details
PO 1	Recall and explain acquired scientific knowledge in a comprehensive manner and apply the skills acquired in their chosen discipline. Interpret scientific ideas and relate its interconnectedness to various fields in science.
PO 2	Evaluate scientific ideas critically, analyze problems, explore options for practical demonstrations, illustrate work plans and execute them, organize data and draw inferences.
PO 3	Explore and evaluate digital information and use it for knowledge upgradation. Apply relevant information so gathered for analysis and communication using appropriate digital tools.
PO 4	Ask relevant questions, understand scientific relevance, hypothesize a scientific problem, construct and execute a project plan and analyze results.
PO 5	Take complex challenges; work responsibly and independently, as well as in cohesion with a team for completion of a task. Communicate effectively, convincingly and in an articulate manner.
PO 6	Apply scientific information with sensitivity to values of different cultural groups. Disseminate scientific knowledge effectively for upliftment of the society.
PO 7	Follow ethical practices at workplace and be unbiased and critical in interpretation of scientific data. Understand the environmental issues and explore sustainable solutions for it.
PO 8	Keep abreast with current scientific developments in the specific discipline and adapt to technological advancements for better application of scientific knowledge as a lifelong learner

SR. No	Details
PSO 1	Apply knowledge of computational mathematics, statistics and programming acquired in the field of Computer Science.
PSO 2	Identify, analyze complex problems in the real world and formulate innovative solutions to those problems.
PSO 3	Compare and apply hardware and software technologies for implementing reliable optimized solutions catering to need and available resources.
PSO 4	Apply domain expertise to pursue higher education and Research in computer science discipline.
PSO 5	Apply software development, managerial, Professional, and soft skills in industry
PSO 6	Understand the global needs and prepare themselves for the changing needs worldwide adapting an ability to engage in life- long learning.
PSO 7	Become a responsible, ethical citizen and explore environmental issues to develop sustainable solutions for it.
PSO 8	Use the techniques, skills and modern computing tools to emerge as a freelancer and entrepreneur in the field.

Course Outcomes: F.Y.B.Sc. Computer Science

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester I

Course Code	Credits	Lectures/week	Course Name
SIUSCS11	**2**	**3**	**Computer Organization and Design**

	Unit1: Computer Abstraction and technology, Number systems, logic circuits and functions **Unit2: Instruction set architectures.** **Unit3: Basic Processor Unit and Basic I/O**		
CO. No.	**Course Outcome of SIUSCS11** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Learn about how computer systems work and underlying principles, understand the basics of digital electronics needed for computers	R, U	PSO1, PSO2
CO2	understand the basics of instruction set architecture for reduced and complex instruction sets	Ap, An	PO1, PO2, PSO2
CO3	understand the basics of processor structure and operation, understand how data is transferred between the processor and I/O devices	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCS12	**2**	**3**	**Programming with Python I**

	Unit1: Basic programming Principles, Introduction to IDLE interpreter **Unit2: Functions, conditions dictionaries** **Unit3: Anonymous functions**		
CO. No.	**Course Outcome of SIUSCS12** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Understand the concepts of programming before starting to write programs. Students should be able to develop logic for Problem Solving.	R, U	PSO1, PSO2
CO2	Made familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.	Ap, An	PO1, PO2, PSO2
CO3	Able to apply the problem-solving skills using syntactically simple language	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCS13	2	3	Free Open Source Software

	Unit1: Introduction and methodologies **Unit2: Social Impact, Case studies and contributing to open source project** **Unit3: Understanding Open Source Ecosystem**		
CO. No.	**Course Outcome of SIUSCS13** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Good working knowledge of Open-Source ecosystem, its use, impact and importance.	R, U	PO3, PO8
CO2	This course shall help student to learn Open-Source methodologies, case studies with real life examples.	E, An	PO2,PSO2
CO3	Able to use different open-source software for programming, development and in designing the application.	Ap, C	PO1, PSO6, PSO8

Course Code	Credits	Lectures/week	Course Name
SIUSCS14	2	3	Database Systems

	Unit1: Introduction to DBMS, Data Models, Entity Relationship Model **Unit2: Schema refinement and Normal forms** **Unit3: Functions, Joining Tables, Subqueries**		
CO. No.	**Course Outcome of SIUSCS14** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Able to evaluate business information problem and find the requirements of a problem in terms of data.	R, U	PSO1, PSO2
CO2	Able to design the database schema with the use of appropriate data types for storage of data in database.	Ap, An	PO1, PO2, PSO2
CO3	Students should be able to create, manipulate, query and back up the databases.	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCS15	2	3	Discrete Mathematics

	Unit1: Recurrence Relations **Unit2: Counting principles, Language and Finite State Machine** **Unit3: Graphs and Trees**		
CO. No.	**Course Outcome of SIUSCS15** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Understand theory of discrete objects, starting with relations and partially ordered sets.	R, U	PSO1, PSO2
CO2	Study about recurrence relations, generating function and operations on them.	Ap, An	PO1, PO2, PSO2
CO3	Give an understanding of graphs and trees, which are widely used in software. Provide basic knowledge about models of automata theory and the corresponding formal languages.	Ap, An	PO1, PO2, PO3

PROGRAM NAME: B.Sc. Computer Science

Course Code	Credits	Lectures/week	Course Name
SIUSCS16	2	3	Descriptive Statistics and Introduction to probability

	Unit1: Data Presentation and Data Aggregation **Unit2: Moments, Measures of skewness and kurtosis, Correlation and Regression** **Unit3: Probability, Conditional Probability.**		
CO. No.	**Course Outcome of SIUSCS16 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Enable learners to know descriptive statistical concepts.	R, U	PSO1, PSO2
CO2	Understand the probability concept required for Computer Science	Ap, An	PO1, PO2, PSO2
CO3	Apply basic statistics essential for prospective researchers and professionals to know these basics.	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCS17	2	3	Soft Skills Development

	Unit1: Introduction to Soft Skills and Hard Skills **Unit2: Academic Skills** **Unit3: Professional Skills**		
CO. No.	**Course Outcome of SIUSCS17 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	To know about various aspects of soft skills and learn ways to develop personality.	R, U	PSO7, PO6
CO2	Understand the importance and type of communication in personal and professional environment.	U, Ap	PO7,PSO6
CO3	To provide insight into much needed technical and non-technical qualities in career planning.	Ap, An	PO6, PSO8

Course Code	Credits	Lectures/week	Course Name
SIUSCSP11	6	18	Practical of SIUSCS11 + SIUSCS12

CO. No.	**Course Outcome of SIUSCSP11 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Design and verify different logic circuits and implement basic assembly language programs.	Ap,An	PSO1, PSO2
CO2	Implement programs with basic python data structure like string, tuple, list and dictionary.	Ap, An	PO1, PO2, PSO2
CO3	Implement object-oriented programming concepts of python to solve real world problems.	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCSP12	**6**	**18**	**Practical of SIUSCS13 + SIUSCS14**

CO. No.	Course Outcome of SIUSCSP12 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Use, modify and learn different open source software and technologies.	U, Ap, C	PSO2, PSO8, PO8
CO2	Work with database tables and can perform different operations on it.	Ap, C	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSCSP13	**6**	**3**	**Practical of SIUSCS15 + SIUSCS16**

CO. No.	Course Outcome of SIUSCSP13 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Solve problems based on different traversal and shortest path algorithms.	Ap, An	PSO1, PSO2
CO2	Find structure and summary of dataset. Create user defined dataset and perform various statistical operations on it.	Ap, An	PSO1, PO2, PSO2

Semester II

Course Code	Credits	Lectures/week	Course Name
SIUSCS21	**2**	**3**	**Programming with C**

	Unit1: Structure of C programs, Data , Variable, Operators **Unit2: Arrays, Data Input and Output, Functions and Recursion** **Unit3: Pointer, Dynamic Memory Allocation, Structure, Unions and File Handing**		
CO. No.	**Course Outcome of SIUSCS21** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Students should be able to write, compile and debug programs in C language.	R, U	PSO1, PSO2
CO2	Use different data types in a computer program, design programs involving decision structures, loops, and functions.	Ap, An	PO1, PO2, PSO2
CO3	Understand the dynamics of memory using pointers, use different data structures and create/update basic data files.	Ap, An	PO1, PO2, PO3

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSCS22	**2**	**3**	**Programming with Python-II**

	Unit1: Python File Input-Output, Exception Handling, Regular Expressions **Unit2: GUI Programming in Python** **Unit3: Database connectivity in Python, Network connectivity**		
CO. No.	**Course Outcome of SIUSCS22** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Students should be able to understand how to read/write to files using python. Students should get an introduction to the concept of pattern matching	R, U	PSO1, PSO2
CO2	Students should be able to catch their own errors that happen during execution of programs.Students should be made familiar with the concepts of GUI controls and designing GUIapplications.	Ap, An	PO1, PO2, PSO2
CO3	Students should be able to connect to the database to move the data to/from the application. Students should know how to connect to computers through networks, read from URL and send email.	Ap, An	PO1, PO2, PO3

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSCS23	**2**	**3**	**Linux**

	Unit1: Introduction, Linux Structure **Unit2: Graphical Desktop, Command Line, Documentation, File Operations** **Unit3: Security, Networking and Basic Shell Scripting**		
CO. No.	**Course Outcome of SIUSCS23** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Upon completion of this course, students should have a good working knowledge of Linux, fromboth a graphical and command line perspective, allowing them to easily use any Linux distribution.	R, U	PSO1, PSO2
CO3	Give an understanding of graphs and trees, which are widely used in software. Provide basic knowledge about models of automata theory and the corresponding formal languages.	Ap, An	PO1, PO2, PO3

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSCS24	**2**	**3**	**Data Structures**

	Unit1: Abstract Data Types, Sets and Maps, Searching and Sorting **Unit2: Linked Structures, Stacks, Queues, Advanced**		

	Linked List. **Unit3: Recursion, Hash Table, Binary Trees and Graphs**		
CO. No.	**Course Outcome of SIUSCS24** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Learn about Data structures, its types and significance in computing.	R, U	PSO1, PSO2
CO2	Explore about Abstract Data types and its implementation. Ability to program various applications using different data structure in Python	Ap, An	PO6, PO2, PSO2

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSCS25	**2**	**3**	**Calculus**

	Unit1: Derivatives and its applications **Unit2: Integration and its applications** **Unit3: Partial derivatives and its applications**		
CO. No.	**Course Outcome of SIUSCS25** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Understanding of Mathematical concepts like limit, continuity, derivative, integration of functions.	R, U	PSO1, PSO2
CO2	appreciate real world applications which uses these concepts. formulate a problem through Mathematical modeling and simulation.	Ap, An	PO1, PO2, PSO2

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSCS26	**2**	**3**	**Statistical Methods and Testing of Hypothesis**

	Unit1: Standard Distributions **Unit2: Hypothesis Testing** **Unit3: Non-parametric tests**		
CO. No.	**Course Outcome of SIUSCS26** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Able to understand different types of random variables and their expectations. Able to know different types of statistical distributions like binomial, gaussian etc	R, U	PSO1, PSO2
CO2	Able to understand different types of hypothesis testing and its procedure.	Ap, An	PO1, PO4, PSO2
CO3	Able to apply different non-parametric tests to check associations, randomness	Ap, An	PSO1, PSO2, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS27	2	3	Green Technologies

	Unit1: Green IT Overview, Green Devices and Hardware **Unit2: Green Data Centre, Green Data Storage, Green Networks and communications** **Unit3: Green Metrics, Green IT Readiness, Green IT Services**		
CO. No.	**Course Outcome of SIUSCS27 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Learn about green IT can be achieved in and by hardware, software, network communication and data centeroperations.	R, U	PSO6, PSO7
CO2	Understand the strategies, frameworks, processes and management of green IT.	Ap, An	PO6, PO7

Course Code	Credits	Lectures/week	Course Name
SIUSCSP21	6	18	Practical of SIUSCS21 + SIUSCS22

CO. No.	Course Outcome of SIUSCSP21 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the syntax of C language and write programs to solve problems	Ap, An	PSO1, PSO2
CO2	Write Python programs for file handling, exception handling and pattern matching using regular expressions/	Ap, An	PO1, PO2, PSO2
CO3	Write GUI programs in python with database connectivity to provide solutions to real life problems.	Ap, An	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSCSP22	6	18	Practical of SIUSCS23 + SIUSCS24

CO. No.	Course Outcome of SIUSCSP22 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Configure linux server, write shell script and preliminary system administrative activity	Ap, An	PSO1, PSO2
CO2	Do python Implementation on different data structure algorithms like linear search, binary search , quicksort, merge sort etc.	Ap, An	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSCSP23	6	3	Practical of SIUSCS25 + SIUSCS26

CO. No.	Course Outcome of SIUSCSP23 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Solve problem based on derivatives, partial derivatives, maxima, and minima	E, U	PSO1, PSO2
CO2	Use different R functions to perform hypothesis testing including parametric and non-parametric tests.	Ap, An	PO1, PO2, PSO2

Course Outcomes: S.Y.B.Sc.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester III

Course Code	Credits	Lectures/week	Course Name
SIUSCS31	2	3	Theory of Computation

Unit1. Automata Theory, Formal Languages
Unit2. Regular sets and Regular grammar
Unit3. Context Free Languages and Pushdown automata

CO. No.	Course Outcome of SIUSCS31 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand Grammar and Languages.	R,U	PSO1, PO2
CO2	Learn about Automata theory and its application in Language Design	Ap	PO1, PO2
CO3	Understand Linear Bound Automata and its applications. Learn about Turing Machines and Pushdown Automata.	Ap, An, E	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS32	2	3	Core Java

Unit1. System of Equations and Matrices
Unit2. Vector Spaces over IR
Unit3. Determinants, Linear Equations (Revisited)

CO. No.	Course Outcome of SIUSCS32 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Object oriented programming concepts using Java. Knowledge of input, its processing and getting suitable output.	R, U	PSO1, PSO2
CO2	Understand, design, implement and evaluate classes and applets. Knowledge and implementation of AWT package.	Ap, An	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS33	2	3	Operating System

Unit1. Introduction to operating system, structure, and process
Unit2. Threads, process synchronization,
CPU scheduling, Deadlocks
Unit3. Main Memory, Virtual Memory,
File-System Interface, File System
Implementation

CO. No.	Course Outcome of SIUSCS33 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To provide a understanding of operating system, its structures and functioning.	R,U	PSO1, PSO2
CO2	Develop and master understanding of algorithms used by operating systems for various purposes.	Ap	PO1, PO2
CO3	Provide understanding of memory and file system implementation.	Ap, An, E	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS34	2	3	Database Management System

Unit1. Store procedures , Triggers, Sequences
Unit2. Fundamentals of PL/SQL
Unit3. Overview of PL/SQL control structures

CO. No.	Course Outcome of SIUSCS34 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Master concepts of stored procedure and triggers and its use.	R, U	PSO1, PSO2
CO2	Learn about using PL/SQL for data management. Understand concepts and implementations of transaction management and crashrecovery	Ap, An	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS35	2	3	Combinatoric and Graph Theory

Unit1. Introduction to combinatorics
Unit2. Graph Theory
Unit3. Network Flows

CO. No.	Course Outcome of SIUSCS35 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Appreciate beauty of combinatorics and how combinatorial problems naturally arisein many settings.	R,U	PSO1, PSO2
CO2	Understand the combinatorial features in real world situations and ComputerScience applications.	Ap	PO1, PO2
CO3	Apply combinatorial and graph theoretical concepts to understand ComputerScience concepts and apply them to solve problems	Ap, An, E	PO1, PO2

PROGRAM NAME: B.Sc. Computer Science

Course Code	Credits	Lectures/week	Course Name
SIUSCS36	2	3	Physical Computing and IOT Programming

Unit1. Soc and Raspberry Pi
Unit2. Programming Raspberry pi
Unit3. Introduction to IoT

CO. No.	Course Outcome of SIUSCS36 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand System on Chip Architectures. production and preparing Raspberry Pi with hardware and installation.	R, U	PSO1, PSO2
CO2	Learn physical interfaces and electronics of Raspberry Pi and program them. Learn how to make consumer grade IoT safe and secure with proper use of protocols.	Ap, An	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS37	2	3	Skill Enhancement : Web Programming

Unit1. HTML5
Unit2. JavaScript, JQuery and XML
Unit3. AJAX and PHP

CO. No.	Course Outcome of SIUSCS37 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To design valid, well-formed, scalable, and meaningful pages using emerging technologies. Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites.	Ap,C	PSO1, PSO2
CO2	To develop and implement client-side and server-side scripting language programs.	Ap,C	PO1, PO2
CO3	To develop and implement Database Driven Websites. Design and apply XML to create a markup language for data and document centricapplications.	Ap, C	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCSP31	**6**	**18**	**Practical of SIUSCS32 + SIUSCS33 + SIUSCS34**

CO. No.	Course Outcome of SIUSCSP31 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the syntax of Java programming and write programs in java to solve various problems.	Ap, An	PSO1, PSO2
CO2	Simulate and implement Operating system algorithms to understand and appreciate the working of OS.	Ap, An	PO1, PO2, PSO2
CO3	Write PL/SQL block, procedure, functions and triggers.	Ap, An	PO1, PO2, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSCSP32	**6**	**3**	**Practical of SIUSCS35 + SIUSCS36+ SIUSCS37**

CO. No.	Course Outcome of SIUSCSP32 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Solve problem based on Prim, Dijkstra's, and Kruskal Algorithm.	E, U	PSO1, PSO2
CO2	Install Raspberry Pi can implement Real Time Clock using PWM, Stepper Motor Control and Web Server.	Ap, An	PO1, PO2, PSO2
CO3	Design and develop interactive web sites by including database connectivity, Asynchronous request, jQuery Animations etc.	Ap, An	PO1, PO2, PO3

Semester IV

Course Code	Credits	Lectures/week	Course Name
SIUSCS41	2	3	Fundamentals of Algorithms

Unit1. Introduction to algorithm, Asymptotic notation
Unit2. Trees Algorithm, Graph Algorithm
Unit3. Algorithm Design Techniques,
Greedy Algorithms, Dynamic Programming

CO. No.	Course Outcome of SIUSCS41 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To understand basic principles of algorithm design and why algorithm analysis is important. To understand how to implement algorithms in Python.	R,U	PSO1, PSO2 PO2
CO2	To understand how to transform new problems into algorithmic problems with efficientsolutions	U,Ap	PO1, PO2 PSO4
CO3	To understand algorithm design techniques for solving different problems .	U, Ap, An, E	PO1, PO2 PSO4

Course Code	Credits	Lectures/week	Course Name
SIUSCS42	2	3	Advanced Java

Unit1. Swings and JDBC
Unit2. Servlets, JSP and Java Beans
Unit3. JSON and Struts2

CO. No.	Course Outcome of SIUSCS42 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the concepts related to JavaTechnology	R, U	PSO1, PSO2
CO2	Explore and understand use of JavaServer Programming	Ap, An	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS43	2	3	Computer Networks

Unit1. Introduction to Network Models
Unit2. Introduction to physical layer and data link layer.
Unit3. Network Layer and Transport Layer

CO. No.	Course Outcome of SIUSCS43 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Learner will be able to understand the concepts of networking, which are importantfor them to be known as a '*networking professionals*.	R,U	PSO1, PSO2
CO2	Useful to proceed with industrial requirements and international vendor certifications.	Ap	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS44	2	3	Software Engineering

Unit1. Introduction, requirement analysis and system modeling
Unit2. System Design, Project Scheduling, Software Project Management
Unit3. Risk Management , Software Quality Assurance, Software testing

CO. No.	Course Outcome of SIUSCS44 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understanding the disciplinary process to develop software and to know different software testing methods.	R, U	PO3,PO4
CO2	Illustrate the different phases in software development. Interpret project management and risk management process. Shows how to apply software testing methods	Ap, An	PSO4,PSO5

Course Code	Credits	Lectures/week	Course Name
SIUSCS45	2	3	Linear Algebra using Python

Unit1. Introduction to complex numbers
Unit2. Matrix, Basic Coordinate System
Unit3. Gaussian elimination, Inner Product

CO. No.	Course Outcome of SIUSCS45 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Appreciate the relevance of linear algebra in the field of computer science.	R,U	PSO1, PSO2
CO2	Understand the concepts through program implementation	Ap	PO1, PO2
CO3	Instill a computational thinking while learning linear algebra.	Ap, An, E	PO1, PO2

Course Code	Credits	Lectures/week	Course Name

SIUSCS46	2	3	.Net Technology
	Unit1. .Net Framework, C# language basics, ASP.NET, HTML Server Controls **Unit2. Web Controls, State Management, Validation , Rich Controls, Master Pages** **Unit3. ADO.Net, Data Binding, Data Controls, LINQ**		

CO. No.	Course Outcome of SIUSCS46 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the .NET framework. Develop a proficiency in the C# programming language.	U, Ap	PSO2,PSO3
CO2	Proficiently develop ASP.NET web applications using C#. Use ADO.NET for data persistence in a web application	Ap, An, C	PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSCS47	2	3	Skill Enhancement: Android Developer Fundamentals
	Unit1. What is Android, Basic Views **Unit2. User Input Controls,** **Unit3. Data saving, retrieving and loading**		

CO. No.	Course Outcome of SIUSCS47 Upon completion of this course, student will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Understand the requirements of Mobile programming environment	R,U	PSO2 ,PSO8
CO2	Learn about basic methods, tools and techniques for developing Apps	Ap	PO2, PO8
CO3	Explore and practice App development on Android Platform. Develop working prototypes of working systems for various uses in daily lives.	Ap, An, E	PSO8

Course Code	Credits	Lectures/week	Course Name
SIUSCSP41	**6**	**18**	**Practical of SIUSCS41 + SIUSCS42 + SIUSCS43**

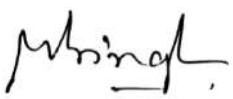
CO. No.	Course Outcome of SIUSCSP41 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Implement different algorithms in python. Find time complexity of algorithms.	Ap,An	PSO1, PSO2
CO2	Install Java based IDE along with server for deploying java application/web application by using swing, Servlet, JSP ,EJB , JSON , struts and can implement database connectivity using JDBC API	Ap, An	PO1, PO2, PSO2
CO3	Design and configure wired and wireless networks by adding different network devices like switches, router, bridges ,server etc.	Ap, An	PO1, PO2, PO3

Course Cod	Credits	Lectures/week	Course Name
SIUSCSP42	**6**	**3**	**Practical of SIUSCS45 + SIUSCS46+ SIUSCS47**

CO. No.	Course Outcome of SIUSCSP42 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Write python program for addition of two complex numbers, calculate vector product, create matrix and find transpose of it.	E, U	PSO1, PSO2
CO2	Develop .NET applications in C# and ASP to solve various problems	Ap, An	PO1, PO2, PSO8
CO3	Install android studio and create various android applications by using layouts ,Text View Elements, Broadcast Receiver and Option menus.	Ap, An	PO1, PO2, PO8

Head of the Department

Manoj Singh



Program: BSc Data Science

Class: FYBSc and SYBSc

Program Outcomes

Program Specific Outcomes

Course Outcomes

Program Name: B.Sc. Data Science

(3-year Integrated Degree Program)

Program Outcomes and Program Specific Outcomes

B.Sc. Data Science

Upon completion of this undergraduate degree program, a student will be able to accomplish the following program outcomes.

SR. NO	Details
PO 1	**Solving Complex Problems:-** Apply the knowledge gained in breaking down complex problems into simple components; and to design processes required for problem solving.
PO 2	**Critical Thinking:-** Ability to apply the acquired knowledge to identify assumptions and evaluate their accuracy and validity.
PO 3	**Reasoning ability and Rational thinking:-** Ability to analyse, interpret data and draw logical conclusions; to evaluate ideas rationally.
PO 4	**Research Aptitude:-** Ability to ask relevant questions to identify and define the problem, applying research tools for analysis and interpretation of data. Understand and comply with research ethics.
PO 5	**Effective Communication skill:-** Demonstrate the ability to listen and to clearly express ideas verbally. Equip to write reports, make presentations effectively.
PO 6	**Information and Digital Literacy:-** Equip to use appropriate tools and techniques inclusive of internet and electronic media for acquiring, assessing and analysing data from diverse resources.
PO 7	**Social Interactive Skills and team work:-** Exhibit networking and social interactive skills; function effectively as an individual and as a member in diverse groups; demonstrate leadership quality useful for employability
PO 8	**Self-directed and Lifelong Learning:-** Ability to explore and gain knowledge in independent and self-reliant ways. Demonstrate ability to adapt and upgrade with the global , social and technological changes.

SR. No	Details
PSO 1	**Sound Knowledge:** Demonstrate the knowledge of core data science concepts and apply them to develop a user- friendly, scalable and robust applications
PSO 2	**Critical and Rational Thinking:** Exhibit higher order skills to adapt to the everchanging technological environment
PSO 3	**Logic Building and Programming Skills:** The ability to apply logic to problem solving and acquire proficiency in various programming languages.
PSO 4	**Data Analysis :** Apply quantitative modeling and data analysis techniques to solve real world business problems, Learn tools and techniques for transformation of data and statistical data analysis
PSO 5	**Application Oriented :** Apply software development, managerial, Professional, and soft skills in industry
PSO 6	**Empathetic Learning:** Understand the global needs and prepare themselves for the changing needs worldwideadapting an ability to engage in life- long learning.
PSO 7	**Sustainable Development Goals:** Become a responsible, ethical citizen and explore environmental issues to developsustainable solutions for it.
PSO 8	**Pursue Higher Education:** Make students competent to take up advanced degree courses like MSc(Data Science),MCA, MSc(CS), MSc(IT) and MBA etc.

Course Outcomes: F.Y.B.Sc. Data Science

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester I

Course Code	Credits	Lectures/week	Course Name
SIUSDS11	**2**	**5**	**Digital Principles and Computer Organisation**

	Unit1: Number Systems, Boolean Algebra and Logic Gates **Unit2: Simplification of Boolean functions, Sequential Logic** **Unit3: Overview Of Register Transfer and Microoperations, Basic Computer Organization and Design** **Unit4: Central Processing Unit, Microprogrammed Control** **Unit5: Pipeline Processing**		
CO. No.	**Course Outcome of SIUSDS11** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Compare the representation of numbers employed in arithmetic operations and on the binary coding of symbols used in data processing.	R, U	PSO1, PSO2
CO2	Acquire necessary background for understanding the digital circuits and logical operation of the most common standard digital components.	Ap, An	PO1, PO2, PSO2
CO3	Compose microoperations in symbolic form using register transfer language and describe the internal operation of the computer and to specify the requirements for its design.	Ap, An	PO1, PO2, PO3
CO4	Illustrate an execution unit with common buses and an arithmetic logic unit which forms the general register organization of typical CPU (Central Processing Unit).	Ap, An	PSO1,PO3
CO5	Explain the concept of pipelining and the way it can speed up the processing with examples.	An, E	PO1, PO2, PSO3

Course Code	Credits	Lectures/week	Course Name
SIUSDS12	**2**	**5**	**Python Programming – I**

	Unit1: Getting started with Python Language, Python Data Types, Simple Mathematical Operators, Bitwise Operator, Boolean Operators, Operator Precedence, Variable Scope and Binding, Basic Input and Output, Conditional Statement **Unit2: Loops, Functions, Defining functions with list arguments, Functional Programming in Python** **Unit3: Arrays, Multidimensional arrays, String Formatting, String Methods** **Unit4: Dictionary, List, List comprehensions, List slicing (selecting parts of lists), Tuple** **Unit5: Importing modules, Difference between Module and Package, Math Module, The OS**		

	Module, Random module, Installing a special purpose Module, Exceptions		
CO. No.	**Course Outcome of SIUSDS12 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Compare the different data types and operators in Python and use the IF statement in writing programs.	R, U	PSO1, PSO2
CO2	Design programs using loops and arrays, predict the use of string concepts to solve simple and complex problems.	Ap, An	PO1, PO2, PSO2
CO3	Compose python statements using list, dictionary and tuples.	Ap, An	PO1, PO2, PO3
CO4	Discuss functional programming.	Ap, An	PSO1,PO3
CO5	Classify the different modules in Python and categorize the various exceptions	An, E	PO1, PO2, PSO3

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSDS13	**2**	**5**	**Discrete Mathematics and Graph Theory**

	Unit1: Introduction, Relations **Unit2: Quantified Statements, Elementary Number Theory and Methods of Proof** **Unit3: Sequences, Mathematical Induction, and Recursion, Functions** **Unit4: Graphs and Trees, Network Flows** **Unit5: Counting and Probability, Elements of Disjoint Sets, Counting Subsets of a Set**		
CO. No.	**Course Outcome of SIUSDS13 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Examine discrete objects, starting with relations and partially ordered sets.	R, U	PO3, PO8
CO2	Identify properties of Combinatorics structures and properties, know the basic techniques in Combinatorics and counting.	E, An	PO2,PSO2

CO3	Inspect recurrence relations, generating function and operations on them.	Ap, C	PO1, PSO6, PSO8
CO4	Construct graphs and trees which are widely used in software.	Ap, An	PO4, PSO3
CO5	Apply graph theory concepts to understand real life concepts and solve problems	An, E	PO3. PSO5

Course Code	Credits	Lectures/week	Course Name
SIUSDS14	**2**	**5**	**Computer Oriented Statistical Techniques – I**

	Unit1: Statistical Methods **Unit2: The Mean, Median, Mode, and Other Measures of Central Tendency** **Unit3: Moments, Skewness, and Kurtosis, Elementary Probability Theory** **Unit4: Elementary Sampling Theory, Curve Fitting and the Method of Least Squares** **Unit5: Correlation Theory**		
CO. No.	**Course Outcome of SIUSDS14 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Assess the mean, median, mode of a data set which describes the whole set of data with a single value.	R, U	PSO1, PSO2
CO2	Predict whether data is uniformly distributed, based on the value taken by Skewness and Kurtosis.	Ap, An	PO1, PO2, PSO2
CO3	Construct a Hypothesis, a testable statement of what the researcher(s) predict will be the outcome of the study.	Ap, An	PO1, PO2, PO3
CO4	Compare and predict whether two variables are related or independent from one another using Chi Squared test.	Ap, An	PO4, PSO3
CO5	Assess the relationship between the dependent variable and the independent variables using Regression and quantifying the association between a dependent and independent variable or among two independent variables using Correlation	Ap, C	PO1, PSO6, PSO8

Course Code	Credits	Lectures/week	Course Name
SIUSDS15	**2**	**5**	**Soft Skills Development**

	Unit1: Introduction to Soft Skills and Hard Skills, Personality Development, Emotional Intelligence, **Unit2: Etiquette and Mannerism, Communication Today** **Unit3: Employment Communication, Professional Presentation, Job Interviews** **Unit4: Group Discussion, Professional Skills - Creativity at Workplace, Ethical Values** **Unit5: Capacity Building, Stress and Time Management**		

CO. No.	**Course Outcome of SIUSDS15 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Describe the various hard skills, soft skills and components of emotional intelligence	R, U	PSO1, PSO2
CO2	Develop professional etiquettes and mannerisms, listening skills	Ap, An	PO1, PO2, PSO2
CO3	Write impressive resume, plan the preparation for job interviews and presentations	Ap, An	PO1, PO2, PO3
CO4	Explain the techniques of group and panel discussions, personality and develop emotional intelligence	Ap, An	PO4, PSO3
CO5	Describe the strategies for Capacity Building, Leadership, Team Building and managing stress and time	Ap, C	PO1, PSO6, PSO8

Course Code	**Credits**	**Lectures/week**	**Course Name**
SIUSDSP11	**2**	**3**	**Digital Principles and Computer Organisation Practical**

CO. No.	Course Outcome of SIUSDSP11 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Design and verify different logic circuits and implement the different Gates	Ap,An	PSO1, PSO2
CO2	To implement basic assembly language programs and Microprocessor 8085 programs using Instruction formats and different Addressing Modes.	Ap, An	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP12	**2**	**3**	**Python Programming – I Practical**

CO. No.	Course Outcome of SIUSDSP12 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Implement programs with basic python data structure like string, tuple, list and dictionary.	U, Ap, C	PSO2, PSO8, PO8
CO2	Implement object-oriented programming concepts of python to solve real world problems.	Ap, C	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP13	**2**	**3**	**Discrete Mathematics and Graph Theory Practical**

CO. No.	Course Outcome of SIUSDSP13 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Solve problems based on different traversal and shortest path algorithms.	Ap, An	PSO1, PSO2
CO2	Find Relations and different types of function properties to be exhibit and implementation of probability problems using inclusive exclusive property.	Ap, An	PSO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP14	**2**	**3**	**Computer Oriented Statistical Techniques – I Practical**

CO. No.	Course Outcome of SIUSDSP14 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To construct a Hypothesis, a testable statement of what the researcher(s) predict will be the outcome of the study.	U, Ap, C	PSO2, PSO8, PO8
CO2	Find structure and summary of dataset. Create user defined dataset and perform various statistical operations on it.	Ap, C	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP15	**2**	**3**	**Soft Skills Development Practical**

CO. No.	Course Outcome of SIUSDSP15 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To write impressive resume, plan the preparation for job interviews and presentations.	Ap, An	PSO1, PSO2
CO2	To implement the techniques of group and panel discussions, personality and develop emotional intelligence	Ap, An	PSO1, PO2, PSO2

Semester - II

Course Code	Credits	Lectures/week	Course Name
SIUSDS21	2	5	Database Management Systems - I

	Unit1: Introduction to Databases, Data Models, Database design and ER Model **Unit2: Relational database model, SQL Basics, Simple Queries** **Unit3: Multi table Queries, Summary Queries, Subqueries** **Unit4: Database Updates, Data Integrity, Creating a Database** **Unit5: Views, SQL Security, Applications of SQL in data analytics**		
CO. No.	**Course Outcome of SIUSDS21** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Outline the database architecture, basic building blocks of a data model and entity relationship model.	R, U	PSO1, PSO2
CO2	Describe the relational database model , Role of SQL and write SELECT queries in SQL to filter and sort data.	Ap, An	PO1, PO2, PSO2
CO3	Write SQL queries for data from multiple tables, aggregate data and different kinds of subqueries	Ap, An	PO1, PO2, PO3
CO4	Write SQL queries using DDL,DML statements and data integrity constraints.	Ap, An	PSO1,PO3
CO5	Write SQL queries to create views and handle access rights.	An, E	PO1, PO2, PSO3

Course Code	Credits	Lectures/week	Course Name
SIUSDS22	2	5	Python Programming - II

	Unit1: Object Oriented Methodology, Multithreaded Programming **Unit2: Python File Input-Output, Iterables, iterators, Regular Expressions** **Unit3: GUI Programming in Python (using Tkinter / wxPython/Qt), Widgets** **Unit4: Database connectivity in Python, Network connectivity** **Unit5: Working with Jupyter Notebook, Introduction to NumPy, Introduction to Pandas**		
CO. No.	**Course Outcome of SIUSDS22** **Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Design programs using Object oriented approach and multiprogramming concepts.	R, U	PSO1, PSO2

CO2	Compare various file handling methods and perform validations and pattern matching using regular expressions.	Ap, An	PO1, PO2, PSO2
CO3	Compose python GUI programs.	Ap, An	PO1, PO2, PO3
CO4	Discuss and implement database connectivity to move data to and from python programs using MySQL and perform network connectivity.	Ap, An	PSO1,PO3
CO5	Discuss and implement the different modules like NumPy and Pandas and work with Jupyter Notebook.	An, E	PO1, PO2, PSO3

Course Code	Credits	Lectures/week	Course Name
SIUSDS23	**2**	**5**	**Numerical Methods and Calculus**

	Unit1: Mathematical Modeling and Engineering Problem Solving, Solutions of Algebraic and Transcendental Equations **Unit2:** Interpolation, Solution of simultaneous algebraic equations (linear) using iterative methods, Integration **Unit3:** Derivatives and its applications **Unit4:** Integration and its applications, Numerical solution of 1st and 2nd order differential equations **Unit5:** Partial derivatives and its applications		
CO. No.	**Course Outcome of SIUSDS23 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Apply various interpolation to find an unknown value from the set of given values related to a situation and find the solution of simultaneous algebraic equations using iterative methods.	R, U	PO3, PO8
CO2	Inspect the problems related to interpolation, integration and find solution of simultaneous equations using Gauss Elimination, Gauss Jordan, etc.	E, An	PO2,PSO2
CO3	Construct a problem through Mathematical modeling and simulation.	Ap, C	PO1, PSO6, PSO8
CO4	Assess the problem related to integration, derivatives and simulation.	Ap, An	PO4, PSO3
CO5	Apply the concepts of partial derivatives to solve real world problems.	An, E	PO3. PSO5

Course Code	Credits	Lectures/week	Course Name
SIUSDS24	**2**	**5**	**Computer Oriented Statistical Techniques - II**

	Unit1: Standard distributions, Association of Attributes **Unit2:** Small Sampling Theory, The Chi-Square Test **Unit3:** Hypothesis testing		

	Unit4: Non-parametric tests **Unit5:** Partial and Multiple Correlation, Multiple Regression Analysis		
CO. No.	**Course Outcome of SIUSDS24 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Examine statistical concepts like standard distributions and association of attributes	R, U	PSO1, PSO2
CO2	Illustrate the concepts of sampling and chi-square test	Ap, An	PO1, PO2, PSO2
CO3	Examine Hypothesis Testing, Formulate one and two way ANOVA	Ap, An	PO1, PO2, PO3
CO4	Use non- parametric tests in statistics.	Ap, An	PO4, PSO3
CO5	Solve problems using Correlation and Regression.	Ap, C	PO1, PSO6, PSO8

Course Code	**Credits**	**Lectures/week**	**Course Name**		
SIUSDS25	**2**	**5**	**Computer Networks**		
	Unit1: Introduction, Network Models, Introduction to Physical layer, Digital and Analog transmission **Unit2:** Bandwidth Utilization: Multiplexing and Spectrum Spreading, Transmission media, Switching, Introduction to the Data Link Layer, **Unit3:** Data Link Control, Media Access Control, Wireless LANs, Connecting devices and Virtual LANs. **Unit4:** Introduction to the Network Layer, Unicast Routing, Next generation IP **Unit5:** Introduction to the Transport Layer, Standard Client/Server Protocols				
CO. No.	**Course Outcome of SIUSDS25 Upon completion of this course, students will be able to**			**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Describe the OSI model and components of physical layer like analog, digital signals and its conversions.			R, U	PSO1, PSO2
CO2	Explain bandwidth utilization, transmission media, switching and certain concepts of data link layer like link layer addressing, error detection, error correction and checksum			Ap, An	PO1, PO2, PSO2
CO3	Examine data link layer protocols, ethernet protocols and Wireless LANs			Ap, An	PO1, PO2, PO3
CO4	Describe the network layer services, network layer protocols, routing algorithms, IPv4 and IPv6 addressing techniques.			Ap, An	PO4, PSO3

CO5	Explain transport layer protocols and client/server protocols.	Ap, C	PO1, PSO6, PSO8

Course Code	Credits	Lectures/week	Course Name
SIUSDSP21	**2**	**3**	**Database Management Systems – I Practical**

CO. No.	Course Outcome of SIUSDSP21 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To work with database tables and can perform different operations on it.	Ap,An	PSO1, PSO2
CO2	To write SQL queries to create views and handle access rights.	Ap, An	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP22	**2**	**3**	**Python Programming – II Practical**

CO. No.	Course Outcome of SIUSDSP22 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Write Python programs for file handling, exception handling and pattern matching using regular expressions/	U, Ap, C	PSO2, PSO8, PO8
CO2	Write GUI programs in python with database connectivity to provide solutions to real life problems.	Ap, C	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP23	**2**	**3**	**Numerical Methods and Calculus Practical**

CO. No.	Course Outcome of Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To solve problem based on derivatives, partial derivatives, maxima, and minima.	Ap, An	PSO1, PSO2
CO2	To implement Partial derivatives and its applications.	Ap, An	PSO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP24	**2**	**3**	**Computer Oriented Statistical Techniques – II Practical**

CO. No.	Course Outcome of Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	To use different R functions to perform hypothesis testing including parametric and non-parametric tests.	U, Ap, C	PSO2, PSO8, PO8
CO2	To solve problems using Correlation and Regression.	Ap, C	PO1, PO2, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSDSP25	2	3	Computer Networks Practical

CO. No.	Course Outcome of Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Design and configure wired and wireless networks by adding different network devices like switches, router, bridges ,server etc.	Ap, An	PSO1, PSO2
CO2	To demonstrate the network layer services, network layer protocols, routing algorithms, IPv4 and IPv6 addressing techniques.	Ap, An	PSO1, PO2, PSO2

Program: BSc Information Technology

Class: FYBSc and SYBSc

Program Outcomes

Program Specific Outcomes

Course Outcomes

Program Name: B.Sc. Information Technology

(3-year Integrated Degree Program)

Program Outcomes and Program Specific Outcomes
B.Sc. Information Technology

Upon completion of this undergraduate degree program, a student will be able to accomplish the following program outcomes.

SR. NO.	Details
PO1.	**Solving Complex Problems**:- Apply the knowledge gained in breaking down complex problems into simple components; and to design processes required for problem solving.
PO2.	**Critical Thinking:-** Ability to apply the acquired knowledge to identify assumptions and evaluate their accuracy and validity.
PO3.	**Reasoning ability and Rational thinking:-** Ability to analyse, interpret data and draw logical conclusions; to evaluate ideas rationally.
PO4.	**Research Aptitude:-** Ability to ask relevant questions to identify and define the problem, applying research tools for analysis and interpretation of data. Understand and comply with research ethics.
PO5.	**Effective Communication skill:-** Demonstrate the ability to listen and to clearly express ideas verbally. Equip to write reports, make presentations effectively.
PO6.	**Information and Digital Literacy:-** Equip to use appropriate tools and techniques inclusive of internet and electronic media for acquiring, assessing and analysing data from diverse resources.
PO7.	**Social Interactive Skills and team work:-** Exhibit networking and social interactive skills; function effectively as an individual and as a member in diverse groups; demonstrate leadership quality useful for employability
PO8.	**Self-directed and Lifelong Learning:** Ability to explore and gain knowledge in independent and self-reliant ways. Demonstrate ability to adapt and upgrade with the global , social and technological changes.
PO9.	**Awareness towards Environment and Sustainable Development:** Exhibit awareness and a concern for environmental issues; understand and realize the significance of co-habitation and co-evolution in attaining the needs of sustainable development
PSO1.	**Sound Knowledge: Ability to demonstrate comprehensive knowledge and understanding** Demonstrate the knowledge of core IT concepts and apply them to develop a user-friendly, scalable and robust applications
PSO2.	**Logic Building and Programming Skills:** The ability to apply logic to problem solving and acquiring proficiency in various programming languages.

PSO3.	**Enable Employability:** Create computer experts, who can be directly employed or start his/her own work as Web Designer, Database User, Programmer, Testing professional, Designer of a System and Network implementer.
PSO4.	**Pursue Higher Education:** Make students competent to take up advanced degree courses like MCA, MSc(CS), MSc(IT) and MBA etc.

Course Outcomes: F.Y.B.Sc.(IT)

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester 1

Course Code	Credits	Lectures/week	Course Name
SIUSIT11	2	5	Imperative Programming
SIUSITP11	2	3	Imperative Programming Practical

CO. No.	Course Outcome of SIUSIT11 & SIUSITP11 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Write Decision making programs in C and explain the importance of switch statement	Ap, An, E	PO1, PO3, PSO2
CO2	Categorize the different data types in C, compare and contrast the various loop structures and examine the storage classes in C	An, C	PO1, PO3, PSO1,PSO2
CO3	Inspect the built-in functions in C , compose user defined functions and use pointers to work with addresses in memory	An, C	PO1,PO3,PSO1, PSO2
CO4	Design programs using Arrays in C	An, C	PO1,PO3,PSO1,PSO2
CO5	Explain the use of standard library string functions and discuss the difference between structure and union in C	Ap, An, E	PO1, PO3, PSO2

Course Code	Credits	Lectures/week	Course Name
SIUSIT12	2	5	Digital Electronics
SIUSITP12	2	3	Digital Electronics Practical

CO. No.	Course Outcome of SIUSIT12 & SIUSITP12 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Examine and apply the structure of various number systems, binary arithmetic and its applications in digital design	Ap, An	PSO1, PO1
CO2	Apply the Boolean algebra using logic gates and Karnaugh Map	Ap, An	PSO1, PO1
CO3	Construct and design Combinational and Arithmetic circuits.	Ap, An, E	PSO1, PSO2, PO1
CO4	Construct and design Combinational and Sequential logic circuits.	Ap, An, E	PSO1, PSO2, PO1, PO2
CO5	Apply Sequential logic circuits to build Registers and Counters.	Ap, An, E	PSO1, PSO2, PO1, PO2

Course Code	Credits	Lectures/week	Course Name
SIUSIT13	2	5	Web Programming

SIUSITP13	2	3	Web Programming Practical

CO. No.	Course Outcome of SIUSIT13 & SIUSITP13 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Describe the concepts and architecture of the World Wide Web.	R,U	PSO1
CO2	Create a basic website using HTML and Cascading Style Sheets	R,U	PSO1
CO3	Design and implement dynamic web page with validation using JavaScript objects and apply different event handling mechanisms.	Ap, An, E	PSO1, PO1, PO3
CO4	Build dynamic website using server- side PHP programming.	Ap, An, E, C	PSO1, PSO3, PO1, PO3
CO5	Design frontend and connect to backend databases.	Ap,An,C	PSO1, PSO3

	Course Code	Credits	Lectures/ week	Course Name
	SIUSIT14	2	5	Discrete Mathematics
	SIUSITP14	2	3	Discrete Mathematics Practical

CO. No.	Course Outcome of SIUSIT14 & SIUSITP14 Upon completion of this course, students will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Use concepts of set theory, conditional statements and identify valid & invalid arguments.	R,U, Ap, An	PSO1, PSO2, PO3
CO2	Explain the significance of quantified statements	Ap,An,E	PSO1, PSO2, PO1
CO3	Describe sequences, mathematical induction and recursion in mathematics.	Ap,An,E	PSO1, PSO2, PO1
CO4	Classify relations, graphs and trees, implement functions on general sets	Ap,An,E	PSO2, PO1, PSO4
CO5	Solve problems related to counting and probability.	Ap,An,E	PSO1, PSO4, PO1

Course Code	Credits	Lectures/ week	Course Name
SIUSIT15	2	5	Communication Skills
SIUSITP15	2	3	Communication Skills Practical

CO. No.	Course Outcome of SIUSIT15 & SIUSITP15 Upon completion of this course, student will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Describe the concept of communication along with the Seven C's of effective communication.	U, Ap, E	PSO3, PO5, PO7
CO2	Write letters, E-mails, memos, notice, agenda, brochures.	U, Ap, E	PSO3, PO5
CO3	Write business reports, abstracts and summaries	U, Ap, C	PSO3, PO5, PO7
CO4	Develop reading , listening and oral communication skills	Ap, An, E	PSO3, PO5, PO7
CO5	Describe the mechanics of writing like Transitions, Spelling Rules, Hyphenation etc.	Ap, C	PSO3, PSO4, PO5, PO7, PO8

Course Outcomes: F.Y.B.Sc.(IT)

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester 2

Course Code	Credits	Lectures/week	Course Name
SIUSIT21	2	5	Object Oriented Programming
SIUSITP21	2	3	Object Oriented Programming Practical

CO. No.	Course Outcome of SIUSIT21 & SIUSITP21 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Explain the difference between top down and bottom up approach in programming and outline the essential features and elements of C++ programming	R, U, Ap, An	PSO1, PSO2
CO2	Apply the concepts of member functions, constructors, destructors in C++.	Ap, An, E	PSO1, PSO2, PO1, PO3
CO3	Describe and apply the concepts of function and operator overloading and inheritance.	Ap, An, E	PSO1, PSO2, PO1, PO3
CO4	Incorporate exception handling in object oriented programs.	Ap, An ,E	PSO1, PSO2, PO1, PO3
CO5	Use template classes and standard library in C++	Ap, An, E	PSO1, PSO2, PO1, PO3

Course Code	Credits	Lectures/week	Course Name
SIUSIT22	2	5	Microprocessor Architecture
SIUSITP22	2	3	Microprocessor Architecture Practical

CO. No.	Course Outcome of SIUSIT22 & SIUSITP22 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Compare and contrast microprocessor and microcomputers and analyze the assembly language, memory interface and microprocessor Architecture.	Ap, An	PSO1, PO1
CO2	Analyze the interfacing of I/O devices , inspect writing and debugging of 8085 assembly language programs by using various addressing modes.	An, E, C	PSO1, PO1, PO2
CO3	Demonstrate and apply various programming techniques to create counter and time delay.	An, E, C	PSO1, PO1, PO2
CO4	Analyze, demonstrate and apply the stack operations and code conversions.	R, U, Ap, An	PSO1, PO1
CO5	Analyze assembly language programs and select appropriate assembler to run 8085 programs on it with the help of a cross assembler	Ap, An, C	PSO1, PO1, PO2

Course Code	Credits	Lectures/week	Course Name

SIUSIT23	**2**	**5**	**Operating Systems**
SIUSITP23	**2**	**3**	**Operating Systems Practical**

CO. No.	**Course Outcome of SIUSIT23 & SIUSITP23 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinity with PO/ PSO**
CO1	Analyze various scheduling algorithms.	Ap, An	PSO1, PO1
CO2	Compare and contrast various memory management schemes.	An, E, C	PO2
CO3	Explain the deadlock, prevention and avoidance algorithms.	Ap, An, E, C	PSO1, PO1, PO2
CO4	Describe the virtual machines and basics of virtualization techniques.	R, U	PSO1
CO5	Compare Linux, Android and Windows operating systems.	An, E, C	PSO1.PO2

	Course Code	**Credits**	**Lectures/ week**	**Course Name**
	SIUSIT24	**2**	**5**	**Numerical and Statistical Methods**
	SIUSITP24	**2**	**3**	**Numerical and Statistical Methods Practical**

CO. No.	**Course Outcome of SIUSIT24 & SIUSITP24 Upon completion of this course, students will be able to**	**Cognitive Level**	**Affinitywith PO/ PSO**
CO1	Identify the role of errors , solve algebraic and transcendental equations	Ap,An,E	PSO2, PO1, PO3
CO2	Apply various interpolation to find an unknown value from the set of given values related to a situation	Ap,An,E	PSO2, PO1, PO3
CO3	Find the solution of simultaneous algebraic equations using iterative methods, Apply differentiation and integration using various rules like Trapezoidal Rule, Simpson's Rule, Euler's Method, Runge-Kutta Method.	Ap,An,E	PSO2, PO1, PO3
CO4	Apply Linear Regression and Linear Programming Problems for any real life situation	Ap,An,E	PSO2, PO1, PO3
CO5	Compare the role of various distributions such as Uniform, Binomial, Poisson and Bernoulli.	Ap,An,E	PSO2, PO1, PO3

Course Code	**Credits**	**Lectures/ week**	**Course Name**
SIUSIT25	**2**	**5**	**Green Computing**
SIUSITP25	**2**	**3**	**Green Computing Practical**

CO. No.	**Course Outcome of SIUSIT25 & SIUSITP25 Upon completion of this course, student will be able to**	**Cognitive Level**	**Affinitywith PO/ PSO**
CO1	Explain the importance of Green IT & some issues related to it.	R, U, Ap	PSO1, PO8, PO9
CO2	Illustrate the use of cooling and minimizing power usage.	R, U, Ap	PSO1, PO8, PO9
CO3	Find how to recycle e-waste, reduce paper waste and carbon footprint.	R, U, Ap	PSO1, PO8, PO9
CO4	Describe the importance of the use of environmentally sustainable computers and electronic systems.	R, U, Ap	PSO1, PO8, PO9

CO5	Examine the various global standards and initiatives in green computing.	R, U, Ap	PSO1, PO8, PO9

Course Outcomes: S.Y.B.Sc.(IT)

Each course of the program aims at developing certain skills, attitudes and knowledge base of the students. The outline of Course Learning Outcomes is described below.

PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester 3

Course Code	Credits	Lectures/week	Course Name
SIUSIT31	2	5	Python Programming
SIUSITP31	2	3	Python Programming Practical

CO. No.	Course Outcome of SIUSIT31 & SIUSITP31 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Write programs using the conditional statements and loops in Python and explain the importance of functions and apply various operations on strings.	Ap,An,E	PO1,PSO1,PSO2
CO2	Classify lists, tuples, dictionaries, and use files and Exceptions in Python	Ap,An,E	PO1,PSO1,PSO2
CO3	Apply regular expression concepts for pattern matching and use various modules in Python and explain the complex data type Class.	Ap,An,E, C	PO1,PO2, PSO1,PSO2
CO4	Illustrate how MySQL database can be hooked up with Python code and used , also can develop basic GUI using widgets	Ap,An,E, C	PO1,PO2, PSO1,PSO2, PSO3,PSO4

Course Code	Credits	Lectures/week	Course Name
SIUSIT32	2	5	Data Structures
SIUSITP32	2	3	Data Structures Practical

CO. No.	Course Outcome of SIUSIT32 & SIUSITP32 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Identify the need of different data structures and choose appropriate data structures to represent data items in real world problem	R,U,Ap, An	PO1,PSO1
CO2	Analyse time and space complexities of the algorithms	Ap,An,E	PO1,PO2,PO3, PSO1,PSO2
CO3	Design programs using various data structures such as arrays, linked list, stack, queues, heap, graphs, binary trees, B-trees.	An,E,C	PO2,PSO1
CO4	Analyse and implement various kinds of searching and sorting techniques.	Ap,An,E	PO3,PSO1,PSO4

Course Code	Credits	Lectures/week	Course Name
SIUSIT33	2	5	Computer Networks

SIUSITP33	2	3	Computer Networks Practical

CO. No.	Course Outcome of SIUSIT33 & SIUSITP33 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.	Ap,An,E	PO1,PO2, PSO1
CO2	Use networking protocols, and their hierarchical relationship in the context of a conceptual model, such as the OSI and TCP/IP framework.	Ap,An,E	PO1,PO2, PSO1
CO3	Explain the OSI layers with their services and protocols	R,U,Ap,An	PO1,PSO1

	Course Code	Credits	Lectures/week	Course Name
	SIUSIT34	2	5	Database Management Systems
	SIUSITP34	2	3	Database Management Systems Practical

CO. No.	Course Outcome of SIUSIT34 & SIUSITP34 Upon completion of this course, students will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Examine and conceptualize data using the relational model and create Entity Relationship diagrams for data models	Ap,An,E,C	PO1,PO2,PSO1
CO2	Use SQL and PL/SQL to create, manage the database objects in the database , retrieve data and program data in the database.	Ap,An,C	PO1,PO2,PSO1, PSO2,PSO4
CO3	Explain the ACID properties of transactions, different types scheduling in transactions, concurrency control and recovery management in DBMS.	Ap,An,E,C	PO1,PO2,PSO1, PSO4

Course Code	Credits	Lectures/week	Course Name
SIUSIT35	2	5	Applied Mathematics
SIUSITP35	2	3	Applied Mathematics Practical

CO. No.	Course Outcome of SIUSIT35 & SIUSITP35 Upon completion of this course, student will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Apply mathematical concepts and principles like matrices, linear equations to perform computations	Ap,An,E	PO1,PO2,PSO1
CO2	Solve problems based on complex numbers and linear differential equations, multiple integrals and apply the concepts of integration	Ap,An,E	PO1,PO2,PSO1
CO3	Evaluate Laplace transforms and inverse Laplace transforms of various functions	Ap,An,E	PO1,PO2,PSO1

Course Outcomes: S.Y.B.Sc.(IT)

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PO- Program Outcome, PSO-Program Specific outcome; CO-Course Outcome;
Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create

Semester 4

Course Code	Credits	Lectures/week	Course Name
SIUSIT41	2	5	Core Java
SIUSITP41	2	3	Core Java Practical

CO. No.	Course Outcome of SIUSIT41 & SIUSITP41 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Explain the features, data types and control flow statements used in Java programming language	Ap,An,E	PO3, PSO1,PSO2
CO2	Write java programs based on object oriented concepts like polymorphism, Inheritance and interfaces, packages.	Ap,An,E, C	PO1,PO2,PSO1,PSO2
CO3	Design Multiple threads, handle exceptions and use event handling and Abstract Window Toolkit to develop software applications that suit user requirements.	Ap,An,E, C	PO1,PSO1,PSO2, PSO3

Course Code	Credits	Lectures/week	Course Name
SIUSIT42	2	5	Introduction to Embedded Systems
SIUSITP42	2	3	Introduction to Embedded Systems Practical

CO. No.	Course Outcome of SIUSIT42 & SIUSITP42 Upon completion of this course, students will be able to	Cognitive Level	Affinity withPO/ PSO
CO1	Explain the embedded system concepts and architecture of embedded systems.	R,U	PSO1
CO2	Describe the architecture of 8051 microcontroller and write embedded program for 8051 microcontroller	Ap,An,E	PO1,PSO1, PSO2
CO3	Design the interfacing for 8051 microcontroller	Ap,An,E	PO1,PO2,PSO1

Course Code	Credits	Lectures/week	Course Name
SIUSIT43	2	5	Computer Oriented Statistical Techniques
SIUSITP43	2	3	Computer Oriented Statistical Techniques Practical

CO. No.	Course Outcome of SIUSIT43 & SIUSITP43 Upon completion of this course, students will be able to	Cognitive Level	Affinity with PO/ PSO
CO1	Apply mean, median, mode, standard deviation on any given data and work with R Language.	Ap,An,E	PO1,PSO1, PSO2
CO2	Compare Skewness, Kurtosis, probability ,sampling theory and apply	Ap,An,E	PO1,PSO1,

	statistical estimation theory and statistical decision theory		PSO2
CO3	Identify the role of chi-square test for real data and apply curve fitting, method of least squares and correlation theory for any given data	Ap,An,E	PO1,PSO1, PSO2

	Course Code	Credits	Lectures /week	Course Name
	SIUSIT44	**2**	**5**	**Software Engineering**
	SIUSITP44	**2**	**3**	**Software Engineering Practical**

CO. No.	Course Outcome of SIUSIT44 & SIUSITP44 Upon completion of this course, students will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Describe various approaches like waterfall, incremental, prototyping.	R,U,An	PO2, PSO1
CO2	Apply new software models, techniques and technologies to bring out innovative and novelistic solutions for the growth of the society in all aspects.	Ap,An,E	PO1,PO2,PSO1
CO3	Develop a project by applying the software engineering principles like project management, interface design and cost estimation.	Ap,An,E,C	PO1,PO2,PSO1, PSO3

Course Code	Credits	Lectures /week	Course Name
SIUSIT45	**2**	**5**	**Computer Graphics and Animation**
SIUSITP45	**2**	**3**	**Computer Graphics and Animation Practical**

CO. No.	Course Outcome of SIUSIT45 & SIUSITP45 Upon completion of this course, student will be able to	Cognitive Level	Affinitywith PO/ PSO
CO1	Analyse the core concepts of graphics and working of various display devices.	Ap,An,E	PSO2,PSO1
CO2	Explain 2D and 3D transformation methods and construct the programs for various scan conversion, surface detection methods.	Ap,An,E	PO1,PSO1, PSO2
CO3	Identify the techniques used in animation and image processing.	Ap,An,E,C	PO1,PO2,PSO1, PSO2

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