MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI

UG COURSES – AFFILIATED COLLEGES

B.C.A

[Bachelor of Computer Applications]

(Choice Based Credit System)

(with effect from the academic year 2022-23 onwards)

1. Vision of the University

To provide quality education to reach the un-reached

2. Mission of the University

- To conduct research, teaching and outreach programmes to improve conditions of human living.
- To create an academic environment that honours women and men of all races, caste, creed, cultures and an atmosphere that values intellectual curiosity, pursuit of knowledge, academic freedom and integrity.
- To offer a wide variety of off-campus educational and training programs, including the use of information technology, to individuals and groups.
- To develop partnership with industries and government so as to improve the quality of the workplace and to serve as catalyst for economic and cultural development.
- To provide quality/inclusive education, especially for the rural and un-reached segments of economically downtrodden students including women, socially oppressed and differently abled.

3. Vision of the Programme

- To provide quality education to the students community and develop them with skills attitude and leadership quality
- To bridge the gap between industry and institution by upgrading curricula and syllabi based on industrial and societal needs(Establish Industry Institute Interaction \ program to enhance corporate expectations)
- Encourage research based projects in the emerging areas of technology convergence.
- To provide suitable environments to develop pioneering talents, practice ethical values and train as permanent learners.

4. Mission of the Programme

- To educate students at under graduate level (BCA) in the fundamental and advanced concepts of computing discipline.

- To foster practical skills in our students with an emphasis on ethics, interpersonal development and professional competency.
- To prepare them to pursue exemplary careers in industries, academia and research.
- To impart the ability to use the expertise in computing to meet the ever growing demands of the society.

5. Preamble

Bachelor of Computer Applications (BCA) is a 3 – Year Under Graduate Programme Spread over Six semesters. This Programme is designed to bridge the gap between IT industries and Academic institutes by incorporating the latest development, into the Curriculum and to give students a complete understanding within a structured framework. This Programme helps the students to build-up a successful Career in Computer Science and for pursuing Higher Studies in Computer Science.

6. Programme Educational Objectives (PEOs)

PEO1: To enhance knowledge in critical areas of Computer Applications and Industrial Computing.

PEO2: To enrich analytical skills of students besides synthesis involved in the field of Computer Applications.

PEO3: To strengthen student's aptitude and ability to cope up with academic demands.

7. Programme Outcomes (POs)

PO1: Computational information: Appreciate and apply mathematical organization, computing and domain information for the conceptualization of computing models from clear harms.

PO2: Difficulty Analysis: Talent to classify, significantly evaluate and prepare complex computing problems using fundamentals of computer knowledge and request domains.

PO3: Accomplish Investigations of Compound Computing Troubles: Ability to invent and ways experiments interpret data and present well up to date conclusions.

PO4: Current Implement Procedure: Skill to select recent computing tools, skills and techniques compulsory for original software solutions

PO5: Proficient Principles: Facility to apply and give expert principles and cyber systems in a universal monetary situation.

PO6: Modernization and Private Enterprise: Classify opportunities, private enterprise dream and use of original thoughts to build worth and means for the betterment of the human being and the world.

8. Programme Specific Outcomes (PSO)

PSO1: An ability to enhance the application of knowledge of theory subjects in diverse fields.

PSO2: Develop language proficiency to handle corporate communication demands.

PSO3: In order to enhance programming skills of the young IT professionals, the concept of project development in using the technologies learnt during the semester has been introduced.

PSO4: To enhance knowledge in robotics, provide experimental hardware equipment for teaching the basics of robotics, robot dynamics and control, and robot system design and application.

PSO5: To enhance logical ability and programming concepts by implementing programming lab.

PSO6: Ability to understand the changes or future trends in the field of computer application.

PSO7: Ability to identify, formulate, analyze and solve problems of programming using different languages.

9. Eligibility for admission to the course and examination

Candidates shall be admitted to the course provided he/she has passed plus two examinations of the State or Central Board with Computer Science/Mathematics/Physics/Chemistry/Biology as one of the subjects or any other Science subject that may be considered as equivalent by the M.S. University.

10. Duration of the Course

The students shall undergo the prescribed course of study for a period of not less than three academic years (Six semesters). Each semester contains 90 working days.

11. Medium of instruction and examination

The medium of instruction as well as examination will be in English.

12. Theory examination

The external evaluation will be based on the examination to be conducted by the university at the end of each semester.

13. Practical examination

Practical examinations will be conducted at the end of each semester.

14. Evaluation

A. Each paper carries an internal component

B. There is a pass minimum of 40% for external and overall components

Theory External: Internal Assessment = 75:25

Practical External: Internal Assessment = 50:50

C. Internal Assessment

Internal marks for Theory shall be allocated in the following manner:

The average of the best two tests from three compulsory tests	20 Marks
Assignment	05 Marks
Total	**25 Marks**

Note: Each test will be of one hour duration.

D. Practical

Internal marks for Practical shall be allotted in the following manner.

Experimental work	20 Marks
Record	10 Marks
Model Test	20 Marks
Total	**50 Marks**

E. Project Work

Components	Marks
Project Report	75 Marks
Viva -Voce	25 Marks
Total	**100 Marks**

Note:

i) Students should carry out group project in major subject.

ii) Project report will be evaluated by Central valuation and Viva-Voce will be conducted by both the External examiner and the Guide at the end of the 6th semester.

15. Grading System

The performance of the student is indicated by the Seven Points Scale Grading System as per the UGC norms given below

Grade	Grade point	Percentage of marks	Performance
O	9.5 and above	95-100	Outstanding
E	8.5 and above	85-94	Excellent
D	7.5 and above	75-84	Distinction
A	7 and above	70-74	Very Good
B	6and above	60-69	Good
C	5 and above	50-59	Average
RA	0	Up to 49	Re-Appear

F. The overall performance level of the candidates will be assessed by the following formulae:

Cumulative weighted average of marks = $\frac{\sum(\text{marks} + \text{credits})}{\sum \text{credits}}$

Cumulative weighted average grade points = $\frac{\sum(\text{Grade points} \times \text{credits})}{\sum \text{credits}}$

16. The question paper pattern for all theory papers shall be as follows.

Duration of Exam: 3Hours

Section	Type of questions	Mark
Part-A	Multiple choice question	1×10=10 Marks

	(Two question from each unit compulsory)	
Part-B	Internal Choice questions (One question from each unit: either/or)	5×5=25 marks
Part-C	Internal Choice questions (One question from each unit: either/or)	8×5=40 marks
	Total	**75 Marks**

17. The question paper pattern for all practical papers shall be as follows.

Duration of Practical Exam: 3 hours

1	Major Experiment	25
2	Minor Experiment	15
3	Spotters	05
4	Record	05
	Total	**50 Marks**

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Sem. (1)	Pt. I/II/ III/ IV/ V (2)	Sub No. (3)	Course Status (4)	Course Title (5)	Con-tact Hrs / Week (6)	L Hrs. / Week (7)	T Hrs. / Week (8)	P Hrs. / Week (9)	C Credits (10)
I	I	1	Language	Tamil / Other Language	6	6	0	0	4
	II	2	Language	Communicative English-I	6	6	0	0	4
	III	3	Core-I	Programming in C	4	4	0	0	4
	III	4	Major Practical - I	C Programming Lab	4	0	0	4	2
	III	5	Add on Major (Mandatory)	Professional English for Physical Sciences - I	4				4
	III	6	Allied - I	Digital Design	4	4	0	0	3
	IV	7	Common	Environmental Studies	2	2	0	0	2
	Subtotal				**30**				**23**
II	I	8	Language	Tamil/Other Language	6	6	0	0	4
	II	9	Language	Communicative English-II	4	6	0	0	2
		10	Naan Mudhalvan	Language Proficiency for Employability – Effective English	2				2
	III	11	Core-II	Object Oriented Programming with C++	4	5	0	0	4
	III	12	Major Practical - II	Object Oriented Programming with C++ Lab	4	0	0	4	2
	III	13	Add on Major (Mandatory)	Professional English for Physical Sciences - II	4				4
	III	14	Allied - II	Mathematical Foundation for Computer Science	4	3	0	0	3
	IV	15	Common	Value Based Education / சமூகஒழுக்கங்களும் பண்பாட்டு விழுமியங்களும் / Social Harmony	2	2	0	0	2
	Subtotal				**30**				**23**

Sem	PartI /II/III/IV/V/VI	Sub. No.	Subject Status	Subject Title	Contact Hrs/ week	L Hrs/ Week	T Hrs/ Week	P Hrs/ Week	Credits
III	I	16	Language	Tamil	6	6	0	0	4
	II	17	Language	English	6	6	0	0	4
	III	18	Core	Java Programming	4	4	0	0	4
	III	19	Core	Financial Accounting	3	3	0	0	4
	III	20	Major Practical III	Java Programming Lab	2	0	0	2	2
	III	21	Allied - III	Data Structure	2	2	0	0	3
	III	22	Allied Practical III	Data Structure LAB	2	0	0	2	2
	III	23	Skill based Core Theory I	Programming with PHP and MySQL	3	3	0	0	4
	IV	24	Non Major Elective	Introduction to IT/Introduction to Computers	2	2	0	0	2
	IV	25	Common	Yoga(* Excluding Contact Hours & Credit)	2*	2	0	0	2*
	Sub Total				**30**				**29**
IV	I	26	Language	Tamil	6	6	0	0	4
	II	27	Language	English	6	6	0	0	4
	III	28	Core	Python Programming	4	4	0	0	4
	III	29	Core	Software Engineering	3	3	0	0	4
	III	30	Major Practical IV	Python Programming Lab	2	0	0	2	2
		31	Allied - IV	Accounting Software- Tally	2	2	0	0	3
	III	32	Allied Practical IV	Tally Lab	2	0	0	2	2
	III	33	Skill Based Core Theory II	Micro Processor	3	3	0	0	4
	IV	34	Non Major Elective	Introduction to Internet with HTML/ Office Automation	2	2	0	0	2
	IV	35	Naan Mudhalvan	Digital Skills for Employability – Office Fundamentals	2*				2*
	V	36	Extension activity	NCC,NSS,YRC,YWF	-	0	0	-	1
	Sub Total				**30**				**30**

* Extra Credit / hrs

V	III	37	Core	Machine Learning Using Python	4	4	0	0	4
	III	38	Core	Web Technology	5	5	0	0	4
	III	39	Core	Relational Database Management System	6	6	0	0	4
	III	40	Major Practical V	RDBMS Lab	4	0	0	4	2
	III	41	Major Elective I	E-Commerce/Design and Analysis of Algorithms/Cyber Security/Multimedia	4	4	0	0	4
	III	42	Project	Mini Project	5	0	0	5	4
	IV	43	Common	Personality Development	2	2	0	0	2
	Sub Total				**30**				**24**
VI	III	44	Core	Cloud Computing	4	4	0	0	4
	III	45	Core	Data Communications and Networking	5	5	0	0	4
	III	46	Core	VB.Net	6	6	0	0	4
	III	47	Major Practical VI	VB.Net Lab	4	0	0	4	2
	III	48	Major elective II	Computer Graphics/Web Services/Software Project Management/ Artificial Intelligence	4	4	0	0	4
	III	49	Project	Major Project -(group)	5	0	0	0	5
		50	Naan Mudhalvan	PBL Android App Development	2				2
	Sub Total				**30**				**25**

Total Credit = 23+23+29+32+24+25 >= 156 (Excluding Yoga)

L-Lecture **T**-Tutorial **P**- Practical

Distribution of marks between External and Internal Assessment is

For Theory 75 : 25 **For Practical 50 : 50**