

**Scheme of Instructions and Examinations**

(For Students admitted from the Academic Year 2020-21 and onwards)

Semester I											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20MAT101	Mathematical Foundations for Computer Applications	BS	4	3	0	1	3	40	60	100	4
M20CAT101	Problem Solving and Python Programming	PC	3	3	0	0	3	40	60	100	3
M20CAT102	Web Programming Essentials	PC	3	3	0	0	3	40	60	100	3
M20CAT103	Data Structures	PC	3	3	0	0	3	40	60	100	3
M20CAT104	Software Engineering	PC	3	3	0	0	3	40	60	100	3
M20CAP101	Python Programming Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP102	Web Programming Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP103	Data Structures Laboratory	PC	4	0	4	0	3	40	60	100	2
M20ENP101	Communication Skills Laboratory	CEC	3	1	2	0	3	40	60	100	2
<b>Total Contact Hours/Week</b>			<b>31</b>	<b>16</b>	<b>14</b>	<b>1</b>	<b>Total Credits</b>				<b>24</b>

Semester II											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAT201	Analysis of Algorithms	PC	3	3	0	0	3	40	60	100	3
M20CAT202	Database Management Systems	PC	3	3	0	0	3	40	60	100	3
M20CAT203	Programming with Java	PC	3	3	0	0	3	40	60	100	3
M20CAT204	Computer Networks	PC	3	3	0	0	3	40	60	100	3
	Professional Elective- I	PE	3	3	0	0	3	40	60	100	3
M20CAP201	Algorithms Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP202	Database Management Systems Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP203	Programming With Java Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP204	Technical Seminar and Report Writing	CEC	2	0	2	0	3	40	60	100	1
<b>Total Contact Hours/Week</b>			<b>29</b>	<b>15</b>	<b>14</b>	<b>0</b>	<b>Total Credits</b>				<b>22</b>

Semester III											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20MAT301	Resource Management Techniques	PC	4	3	0	1	3	40	60	100	4
M20CAT301	Internet of Things	PC	3	3	0	0	3	40	60	100	3
M20CAT302	Cyber Security	PC	3	3	0	0	3	40	60	100	3
M20CAT303	Machine Learning	PC	3	3	0	0	3	40	60	100	3
	Professional Elective II	PE	3	3	0	0	3	40	60	100	3
M20CAP301	Mobile Application Development Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP302	Open Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP303	Mini Project	PW	4	0	4	0	3	40	60	100	2
M20CAP304	Research Methodology	CEC	2	0	2	0	3	0	0	0	1
<b>Total Contact Hours/Week</b>			<b>29</b>	<b>15</b>	<b>14</b>	<b>1</b>	<b>Total Credits</b>				<b>22</b>

Semester IV											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAP401	Project Work	PW	24	0	24	0	3	40	60	100	12
M20CAP402	MOOC Course	CEC	2	0	2	0	3	0	0	0	1
<b>Total Contact Hours/Week</b>			<b>26</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>Total Credits</b>				<b>13</b>

BRIDGE COURSES (for Non-computer science students)

Course Code	Course Name	Instructional Hours			
		Contact Periods	T	P	TU
Semester I					
M20CAB101	DIGITAL LOGIC AND COMPUTER ORGANISATION	3	3	0	0
M20CAB102	PROGRAMMING IN C	3	3	0	0
M20CAB103	C PROGRAMMING LABORATORY	4	0	4	0
Semester II					
M20CAB201	OBJECT ORIENTED PROGRAMMING	3	3	0	0
M20CAB202	OPERATING SYSTEMS	3	3	0	0
M20CAB203	OBJECT ORIENTED PROGRAMMING LABORATORY	4	0	4	0

**BASIC SCIENCES (BS)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20MAT101	Mathematical Foundations for Computer Applications	BS	4	3	0	1	3	40	60	100	4

**PROFESSIONAL CORE (PC)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAT101	Problem Solving and Python Programming	PC	3	3	0	0	3	40	60	100	3
M20CAT102	Web Programming Essentials	PC	3	3	0	0	3	40	60	100	3
M20CAT103	Data Structures	PC	3	3	0	0	3	40	60	100	3
M20CAT104	Software Engineering	PC	3	3	0	0	3	40	60	100	3
M20CAP101	Python Programming Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP102	Web Programming Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP103	Data Structures Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAT201	Analysis of Algorithms	PC	3	3	0	0	3	40	60	100	3
M20CAT202	Database Management Systems	PC	3	3	0	0	3	40	60	100	3
M20CAT203	Programming with Java	PC	3	3	0	0	3	40	60	100	3
M20CAT204	Computer Networks	PC	3	3	0	0	3	40	60	100	3
M20CAP201	Algorithms Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP202	Database Management Systems Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP203	Programming with Java Laboratory	PC	4	0	4	0	3	40	60	100	2

M20MAT301	Resource Management Techniques	PC	3	3	0	0	3	40	60	100	3
M20CAT301	Internet of Things	PC	3	3	0	0	3	40	60	100	3
M20CAT302	Cyber Security	PC	3	3	0	0	3	40	60	100	3
M20CAT303	Machine Learning	PC	3	3	0	0	3	40	60	100	3
M20CAP301	Mobile Application Development Laboratory	PC	4	0	4	0	3	40	60	100	2
M20CAP302	Open Laboratory	PC	4	0	4	0	3	40	60	100	2

**PROFESSIONAL ELECTIVES (PE)****Semester – II****Elective –I**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAE201	Soft Computing	PE	3	3	0	0	3	40	60	100	3
M20CAE202	Software Project Management	PE	3	3	0	0	3	40	60	100	3
M20CAE203	Security in Computing	PE	3	3	0	0	3	40	60	100	3
M20CAE204	Game Programming	PE	3	3	0	0	3	40	60	100	3

**Semester –****III Elective –II**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAE301	Mobile Computing	PE	3	3	0	0	3	40	60	100	3
M20CAE302	Cloud Computing	PE	3	3	0	0	3	40	60	100	3
M20CAE303	Human Resource Management	PE	3	3	0	0	3	40	60	100	3
M20CAE304	Artificial Intelligence	PE	3	3	0	0	3	40	60	100	3

**PROJECT WORK (PW)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20CAP401	Mini Project	PW	4	0	4	0	3	40	60	100	2
M20CAP402	Project Work	PW	24	0	24	0	3	40	60	100	12

**CAREER ENHANCEMENT COURSE (CEC)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
M20ENP101	Communication Skills Laboratory	CEC	3	1	2	0	3	40	60	100	2
M20CAP204	Technical Seminar and Report Writing	CEC	2	0	2	0	3	40	60	100	1
M20CAP304	Research Methodology	CEC	2	0	2	0	3	0	0	0	1
M20CAP402	MOOC Course	CEC	2	0	2	0	3	0	0	0	1