

**BIRLA INSTITUTE OF TECHNOLOGY- MESRA, RANCHI**  
**NEWCOURSE STRUCTURE - To be effective from academic session 2018- 19**  
**Based on CBCS & OBE model**  
**Recommended scheme of study**  
**(BACHELOR OF COMPUTER APPLICATIONS)**

Semester/ Session of Study (Recommended)	Course Level	Course Code	Courses	Mode of delivery & credits <i>L-Lecture; T-Tutorial; P- Practicals</i>			Total Credits <i>C- Credits</i>	
				L (Periods/ week )	T (Periods/ week)	P (Periods/ week)	C	
<b>THEORY</b>								
<b>FIRST Monsoon</b>	<b>FIRST</b>	CA101	Problem Solving and Programming in C	3	0	0	3	
		CA103	Logical Organizations of Computers	3	1	0	4	
		MT123	Business Communications	2	0	0	2	
		CE101	Environmental Science	2	0	0	2	
		CA104	Mathematics-I (Elementary Mathematics)	3	0	0	3	
	<b>LABORATORIES</b>							
	<b>FIRST</b>		CA102	Problem Solving and Programming in C Lab	0	0	4	2
		PE(SEC-I)	Paper-I (Skill Enhancement Course)	0	0	4	2	
<b>TOTAL</b>							<b>18</b>	

<b>SECOND Spring</b>		<b>THEORY</b>					
	<b>FIRST</b>	CA155	Data Structures	3	1	0	4
		CA157	Discrete Structures	3	0	0	3
		CA160	Operating System Concepts	3	0	0	3
		CA158	Numerical and Statistical Methods	3	0	0	3
		<b>LABORATORIES</b>					
	<b>FIRST</b>	CA156	Data Structures Lab	0	0	4	2
		CA161	Operating System Lab	0	0	4	2
		CA159	Numerical and Statistical Methods Lab	0	0	4	2
		PE(SEC-II)	Paper-II (Skill Enhancement Course)	0	0	4	2
<b>TOTAL</b>						<b>21</b>	
<b>THIRD Monsoon</b>		<b>THEORY</b>					
	<b>SECOND</b>	CA201	Object Oriented Programming using Java	3	0	0	3
		CA203	Database Management Systems	3	1	0	4
		**	Program Elective- I	3	1	0	4
		<b>LABORATORIES</b>					
	<b>SECOND</b>	CA202	OOP in Java Lab	0	0	4	2
		CA204	DBMS Lab	0	0	4	2
		**	PE1 Lab	0	0	4	2
		PE(SEC-III)	Paper-III (Skill Enhancement Course)	0	0	4	2
	<b>TOTAL</b>						<b>19</b>

<b>FOURTH Spring</b>			<b>THEORY</b>				
	<b>SECOND</b>	CA255	Fundamentals of Computer Algorithms	3	1	0	4
		CA256	Web Programming	3	0	0	3
		CA258	Software Engineering	3	0	0	3
		**	Program Elective- II	3	1	0	4
		<b>LABORATORIES</b>					
	<b>SECOND</b>	CA257	Web Programming Lab	0	0	4	2
		CA259	Software Engineering Lab	0	0	4	2
		**	PE-II Lab	0	0	4	2
	<b>TOTAL</b>						
<b>FIFTH Monsoon</b>			<b>THEORY</b>				
	<b>THIRD</b>	CA301	Computer Graphics and Multimedia	3	0	0	3
		CA303	Computer Networks	3	0	0	3
		CA304	Management Information Systems	3	0	0	3
	<b>SECOND</b>	PE-III	Program Elective -III	3	0	1	4
	<b>THIRD</b>	PE-IV	Program Elective -IV	3	0	0	3
		<b>LABORATORIES</b>					
	<b>THIRD</b>	CA302	Computer Graphics Lab	0	0	4	2
	<b>SECOND</b>	**	PE-III Lab	0	0	4	2
	<b>THIRD</b>	PE(SEC-IV)	Paper-IV (Skill Enhancement Course)	0	0	4	2
<b>TOTAL</b>							<b>22</b>

SIXTH Spring			THEORY				
	THIRD	CA355	Data Mining	3	0	0	3
		CA356	Distributed Computing	3	0	0	3
	THIRD	**	Program Elective -V	3	1	0	4
	THIRD	**	Program Elective-VI	3	1	0	4
	CA360	Project	0	0	0	6	
<b>TOTAL</b>							<b>20</b>
<b>TOTAL PROGRAM CREDITS</b>							<b>120</b>
<b>LIST OF PROGRAM ELECTIVES</b>							
PE/LEVEL		Code No	Courses	Mode of delivery & credits <i>L-Lecture; T-Tutorial;P-</i>			Total Credits
				L (Periods/ week )	T (Periods/ week )	P (Periods/ week )	C
2	PEI	CA220	Internet Technologies	3	1	0	4
2		CA221	Internet Technologies Lab	0	0	4	2
2		CA222	Mobile Application(MA)	3	1	0	4
2	PEII	CA223	Ecommerce Technology	3	1	0	4
2		CA272	Data Analytics	3	1	0	4
2		CA270	Fuzzy logic and Applications	3	1	0	4
2		CA271	Fuzzy logic and Applications Lab	0	0	4	2
2	PEIII	CA224	Cloud Computing	3	1	0	4
2		CA275	Android Programming	3	1	0	4
2		CA273	R Language	3	1	0	4
2		CA274	R Language Lab	0	0	4	2
3	PEIV	CA320	Software Testing	3	0	0	3
3		CA321	Software Testing Lab	0	0	4	2
3		CA322	Network Security	3	0	0	3
3	PEV	CA323	Cyber Forensics	3	1	0	4
3		CA325	Unix and Shell Programming	3	1	0	4
3		CA326	Unix and Shell Programming Lab	0	0	4	2
3	PEVI	CA327	System Programming	3	1	0	4
3		CA328	Distributed Database Systems	3	1	0	4
3		CA331	Decision Support System	3	1	0	4
<b>PROGRAM ELECTIVES (LIST OF SKILL DEVELOPMENT COURSES)</b>							
PE/LEVEL		Code No	Subjects	Mode of delivery & credits <i>L-Lecture; T-Tutorial;P-</i>			Total Credits
				L (Periods/ week )	T (Periods/ week )	P (Periods/ week )	C

1	PE(SEC-I)	CA180	Office Automation Tools	0	0	4	2
1	PE(SEC-II)	CA181	Designing and Publishing in Computer Using Page maker, Photoshop and Corel draw	0	0	4	2
2		CA280	HTML Programming	0	0	4	2
2	PE(SEC-III)	CA281	Programming in Visual Basic/GAMBAS	0	0	4	2
2		CA284	Programming in SCILAB	0	0	4	2
3	PE(SEC-IV)	CA380	Tally Software (Accounting and FinanceTally ERP)	0	0	4	2
3		CA381	Photo Shop Lab	0	0	4	2