

**Post Graduate Department of Computer Sciences,  
The University of Kashmir,  
Srinagar - 190006**



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**Main subjects of MCA 1st semester - 2011**

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	100*	Computer Fundamentals and Applications	75	30	25	10	-	-
2	101	Microprocessor, ALP and its Applications	75	30	25	10	-	-
3	102	Technical Communication	75	30	25	10	-	-
4	103	Advanced Programming Concepts in C / C++	75	30	25	10	-	-
5	104	Advanced Database Management Systems	75	30	25	10	-	-
6	105	Discrete Mathematics	75	30	25	10	-	-
7	106	Lab for 103	-	-	25	10	50	20
8	107	Lab for 101/104	-	-	25	10	50	20
<b>TOTAL</b>			<b>375</b>	<b>-</b>	<b>175</b>	<b>-</b>	<b>100</b>	<b>-</b>
<b>Grand total</b>			<b>650</b>					

*\*For non BCA students only*

**Main subjects of MCA 2<sup>nd</sup> semester - 2011**

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	201	Advance Computer Systems	75	30	25	10	-	-
2	202	Data and File Structures	75	30	25	10	-	-
3	203	Numerical and Statistical Computing	75	30	25	10	-	-
4	204	Design and Analysis of Algorithms	75	30	25	10	-	-
5	205	Advanced Data Communication	75	30	25	10	-	-
6	206	Lab for 202	-	-	25	10	50	20
7	207	Lab for 203	-	-	25	10	50	20
<b>TOTAL</b>			<b>375</b>	<b>-</b>	<b>175</b>	<b>-</b>	<b>100</b>	<b>-</b>
<b>Grand total</b>			<b>650</b>					

### Main subjects of MCA 3<sup>rd</sup> semester - 2019

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	301	Advanced Operating Systems	75	30	25	10	-	-
2	302	Optimization Techniques	75	30	25	10	-	-
3	303	Computer Graphics	75	30	25	10	-	-
4	304	Computer Networks , Protocols and Programming	75	30	25	10	-	-
5	305	Software Engineering & Management	75	30	25	10	-	-
6	306	Lab for 301	-	-	25	10	50	20
7	307	Lab for 304	-	-	25	10	50	20
<b>TOTAL</b>			<b>375</b>	<b>-</b>	<b>175</b>	<b>-</b>	<b>100</b>	<b>-</b>
<b>Grand total</b>			<b>650</b>					

### Main subjects of MCA 4<sup>th</sup> semester - 2019

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	401	Organization Behavior and Personal Management	75	30	25	10	-	-
2	402	Object Oriented Modeling Analysis and Design	75	30	25	10	-	-
3	403	Data Warehousing and Data Mining	75	30	25	10	-	-
4	404	System Software Design	75	30	25	10	-	-
5	405	Elective I	75	30	25	10	-	-
6	406	Lab for 403/Elective	-	-	25	10	50	25
7	407	Lab for 404	-	-	25	10	50	25
<b>TOTAL</b>			<b>375</b>	<b>-</b>	<b>175</b>	<b>-</b>	<b>100</b>	<b>-</b>
<b>Grand total</b>			<b>650</b>					

### Elective - I (Optional paper of 4<sup>th</sup> semester)

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	408	Windows Programming using C#	75	30	25	10	-	-
2	409	Pervasive Computing	75	30	25	10	-	-
3	410	Programming Language Paradigm	75	30	25	10	-	-
4	411	Management Information Systems	75	30	25	10	-	-
5	412	Theory of Computation & Formal Languages	75	30	25	10	-	-
6	413	Advanced Unix/Linux Programming	75	30	25	10	-	-

### Main subjects of MCA 5<sup>th</sup> semester - 2013

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	501	Java Programming	75	30	25	10	-	-
2	502	Modeling & Simulation	75	30	25	10	-	-
3	503	Artificial Intelligence & Neural Networks	75	30	25	10	-	-
4	504	Web Programming	75	30	25	10	-	-
5	505	Elective II	75	30	25	10	-	-
6	506	Lab for 501/502	-	-	25	10	50	20
7	507	Lab for 504	-	-	25	10	50	20
<b>TOTAL</b>			<b>375</b>	<b>-</b>	<b>175</b>	<b>-</b>	<b>100</b>	<b>-</b>
<b>Grand total</b>			<b>650</b>					

### Elective II (Optional paper of 5<sup>th</sup> semester)

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	508	Wireless and Mobile Communication	75	30	25	10	-	-
2	509	Bio-Informatics	75	30	25	10	-	-
3	510	Digital Image Processing	75	30	25	10	-	-
4	511	Quality Assurance and Testing	75	30	25	10	-	-
5	512	Design & Development of Embedded Systems	75	30	25	10	-	-
6	513	Network Security & Cryptography	75	30	25	10	-	-

### Project of 6<sup>th</sup> semester - 2013

S.No	Subject code	Subject Name	Theory Max	Theory min	Internal max	Internal min	External max	External min
1	600	Project	-	-	150	75	200	100

## Structure of Curriculum

### 1<sup>st</sup> Semester (2011)

- i. 100\* Computer Fundamentals and Applications
- ii. 101 Microprocessor , ALP and its Applications
- iii. 102 Technical Communication
- iv. 103 Advanced Programming Concepts in C / C++
- v. 104 Advanced Database Management Systems
- vi. 105 Discrete Mathematics
- vii. 106 Lab for 103
- viii. 107 Lab for 101/104

\* Course No. 100 is Compulsory for those students who have not studied computer fundamentals in their Bachelor's Degree, however the marks scored will not be accounted for totaling purposes.

### 2<sup>nd</sup> Semester (2011)

- i. 201 Advance Computer Systems
- ii. 202 Data and File Structures
- iii. 203 Numerical and Statistical Computing
- iv. 204 Design and Analysis of Algorithms
- v. 205 Advanced Data Communication
- vi. 206 Lab for 202
- vii. 207 Lab for 203

### 3<sup>rd</sup> Semester (2012)

- i. 301 Advanced Operating Systems
- ii. 302 Optimization Techniques
- iii. 303 Computer Graphics
- iv. 304 Computer Networks , Protocols and Programming
- v. 305 Software Engineering & Management
- vi. 306 Lab for 303
- vii. 307 Lab for 304

### 4<sup>th</sup> Semester (2012)

- i. 401 Organization Behaviour and Personal Management
- ii. 402 Object Oriented Modeling Analysis and Design
- iii. 403 Data Warehousing and Data Mining
- iv. 404 System Software Design
- v. Elective I
- vi. 406 Lab for 403/Elective I
- vii. 407 Lab for 404

## MCA Syllabus –P.G. Dept. of Computer Science, University of Kashmir

### **Elective's for 4<sup>th</sup> Semester**

- viii. 408 Windows Programming using C#
- ix. 409 Pervasive Computing
- x. 410 Programming Language Paradigm
- xi. 411 Management Information Systems
- xii. 412 Theory of Computation & Formal Languages
- xiii. 413 Advanced Unix/Linux Programming

### **5<sup>th</sup> Semester (2013)**

- i. 501 Java Programming
- ii. 502 Modeling & Simulation
- viii. 503 Artificial Intelligence & Neural Networks
- iii. 504 Web Programming
- iv. Elective II
- v. 506 Lab for 501/502
- vi. 507 Lab for 504

### **Elective's for 5<sup>th</sup> Semester**

- vii. 508 Wireless and Mobile Communication
- viii. 509 Bio-Informatics
- ix. 510 Digital Image Processing
- x. 511 Quality Assurance and Testing
- xi. 512 Design & Development of Embedded Systems
- xii. 513 Network Security & Cryptography

### **6<sup>th</sup> Semester (2013)**

- i. Project seminar
- ii. Project Work with Dissertation

**Note : This revised syllabus shall be implemented from the academic session 2011 as follows :-**

- 1<sup>st</sup> and 2<sup>nd</sup> Semester - Academic Session 2011
- 3<sup>rd</sup> and 4<sup>th</sup> Semester - Academic Session 2012
- 5<sup>th</sup> and 6<sup>th</sup> Semester - Academic Session 2013

*Semester - VI - 2013*

- i. Project seminar**
- ii. Project Work with Dissertation**