Table-1

NEP 2020 COLLEGES **SCIENCE** TEMPLATE: STUDENTS OPTING FOR **SINGLE MAJOR AND SINGLE MINOR** IN B.SC, B.SC HONOURS AND B.SC HONOURS WITH RESEARCH

Semester	MAJOR-A (4 Cr)	MINOR (4 Cr)	MDC (3 Cr)	AEC (2 Cr)	VAC (2 Cr)	SEC (3 Cr)	Internship/ Community Work (4 Cr)	Pbi/HCP (2 Cr)	Total
I	MAJ A -1	MIN B-1 MIN C-1	MDC-1	Eng-1	VAC-1	SEC-1		Pbi-1/ HCP-1	24
II	MAJ A - 2	MIN B-2 MIN C-2	MDC-2	Eng-2	VAC-2	SEC-2		Pbi-2/ HCP-2	24
The candidate has to select Major and Minor out of the 3 subjects studied in the 1st and 2nd semester at the end of the 2nd semester.									
The student exiting the programme after one year, securing 48 credits, will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work.									
III	MAJ A- 3 MAJ A- 4	MIN B-3/ MIN C-3 MIN B-4/ MIN C-4	MDC-3	Eng-3/ MIL-1		SEC-3			24
IV	MAJ A- 5 MAJ A- 6 MAJ A- 7 MAJ A- 8	MIN B-5/ MIN C-5		Eng-4/ MIL-2	VAC-3				24
The student exiting the programme after two years securing 96 credits will be awarded UG Diploma provided he/she secures 4 credits from summer									
V	MAJ A- 9 MAJ A- 10 MAJ A-11 MAJ A-12 MAJ A-13						Internship/ Community Work		24
VI	MAJ A-14 MAJ A-15 MAJ A-16 MAJ A-17 MAJ A-18	MIN B-6/ MIN C-6							24

	72	32	09	08	06	09	04	04	144

The student successfully securing 144 credits will be awarded BSc degree

VII	MAJ A-19 RM MAJ A-20 MAJ A-21 MAJ A-22 MAJ A-23	MIN B-7/ MIN C-7							24
VIII	MAJ A-24 MAJ A-25 MAJ A-26 MAJ A-27 MAJ A-28	MIN B-8/ MIN C-8							24
	112	40	09	08	06	09	04	04	192

Students opting for Research:

VII	MAJ A-19 RM MAJ A-20 MAJ A-21 MAJ A-22 MAJ A-23	MIN B-7/ MIN C-7							24
VIII	MAJ A-24 MAJ A-25 MAJ A-26 RM AND Dissertation of 08 credits	MIN B-8/ MIN C-8							24
	112	40	09	08	06	09	04	04	192

NOTES:-

1. In the first semester student will offered three different subjects A, B & C.
2. At the end of second semester each student may choose any one of the two streams namely Single Major or Multi-Disciplinary. The student choosing Single Major stream is required to give his/her Major and Minor at end of the second semester.

3. The student opting for Single Major must secure 50% credits of the total credits in the Major Subject and obtain 24 credits from the Minor Subject(s). To qualify for minor in a particular subject, the student must attain at least 12 credits in that subject(s).
4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.SC HONOURS with research, on the condition that the Institution is a PU approved Research Centre
5. The candidate opting for B.Sc Honours with Research is required to secure 12 credits from research instead of three Major Core Papers.
6. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.
7. Once Major and Minor papers are chosen in 3rd semester, the same will continue as Major and Minor subject in the subsequent semesters.
8. RM=Research Methodology

Table-2

NEP 2020 COLLEGES <u>SCIENCE</u> TEMPLATE: STUDENTS OPTING FOR <u>MULTI-DISCIPLINARY/ INTER-DISCIPLINARY</u> B.SC, B.SC HONOURS AND B.SC HONOURS WITH RESEARCH

Semester	Subject- A (4 Cr)	Subject-B (4 Cr)	Subject- C (4 Cr)	MDC /IDC (3 Cr)	AEC (2 Cr)	VAC (2 Cr)	SEC (3 Cr)	Internship/ Community Work (4 Cr)	Pbi/HCP (2 Cr)	Total
I	MAJ A-1	MAJ B-1	MIN C-1	MDC-1	Eng-1	VAC-1	SEC-1		Pbi-1/ HCP-1	24
II	MAJ A-2	MAJ B-2	MIN C-2	MDC-2	Eng-2	VAC-2	SEC-2		Pbi-2/ HCP-2	24
The student exiting the programme after one year, securing 48 credits, will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work.										
The candidate will have to declare one of the three subjects as Minor in the 3rd semester. The other 02 subjects will remain his/her Major subjects										
III	MAJ A-3	MAJ B-3	MIN C-3 MIN C-4	MDC-3	Eng / MIL		SEC-3			24
IV	MAJ A-4 MAJ A-5	MAJ B-4 MAJ B-5	MIN C-5		Eng/ MIL	VAC-3				24
The student exiting the programme after two years securing 96 credits will be awarded UG Diploma provided he/she secures 4 credits from summer internship										
V	MAJ A-6 MAJ A-7	MAJ B-6 MAJ B-7	MIN C-6					Internship/ Community Work		24
VI	MAJ A-8 MAJ A-9	MAJ B-8 MAJ B-9	MIN C-7 MIN C-8							24
The student successfully securing 144 credits will be awarded BSc degree										
	36	36	32	09	08	06	09	04	04	144

VII	MAJ A-10 MAJ A-11	MAJ B-10 MAJ B-11	MIN C-9 MIN C-10							24
VIII	MAJ A-12 OR RM MAJ A-13 ⎫ Or MAJ A-14 ⎭ Dissertation of 08 credits	MAJ B-12 OR RM MAJ B-13 ⎫ Or MAJ B-14 ⎭ Dissertation of 08 credits								24
	56	56	40	09	08	06	09	04	04	192

Notes:-

1. In the first semester student is offered three different subjects A, B & C.
2. At the end of second semester each student has the option to choose any one of the two streams namely Single Major or Multi-Disciplinary. The student choosing Single Major stream is required to give his/her Major and Minor at end of the second semester.
3. The student choosing Multi-Disciplinary stream will continue with the three subjects and complete his/her three year degree by securing 36 credits each in the chosen two subjects as Major and 24 credits in Minor subject.
4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.SC HONOURS with research, on the condition that the Institution is a PU approved Research Centre
5. The student opting for Single Major must secure 50% credits of the total credits in the Major subject and obtain 24 credits from the Minor subject(s). To qualify for Minor in a particular subject, the student must attain at least 12 credits in that subject(s).
6. The student exiting the programme after one year securing 48 credits will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work. Further, the student exiting the programme after two year securing 96 credits will be awarded UG Diploma provided he/she secure 4 credits from summer internship. The student successfully securing 144 credits will be awarded BA degree.
7. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.
8. Once Major and Minor papers are chosen in 3rd semester, the same will continue as Major and Minor subject in the subsequent semesters.
9. The candidate opting for Honours in research is required to study a paper of Research Methodology (RM) of 04 credits and write Dissertation of 08 credits in one of the two Major subjects.

Table-1

NEP 2020 COLLEGES <u>COMMERCE</u> TEMPLATE: STUDENT OPTING FOR <u>INTERDISCIPLINARY</u> B.COM, B.COM. (HONOURS) AND B.COM. (HONOURS) WITH RESEARCH

SEM	COURSE LEVEL	CORE SUBJECTS			AEC/MIL	SEC	MDSC	VAC	INTERNSHIP	COMPULSORY LANGUAGE	TOTAL CREDITS
		(A)	**(B)**	**(C)**							
		4 Credits	4 Credits	4 Credits	2 Credits	3 Credits	3 Credits	2 Credits	2 Credits	2 Credits	
I	100	A1	B1	C1	English	SEC 1	MDSC 1	VAC 1		Punjabi/ HCP	24
II	100	A2	B2	C2	English	SEC 2	MDSC 2	VAC 2		Punjabi/ HCP	24
A student may exit after 1 year and will be given UG certificate subject to Completion of one 4-credit onsite vocational / internship / apprenticeship (in addition to 6 credits from Skill based course) during summer vacation of Year 1											
III	200	A3 A4	B3	C3	AEC/MIL	SEC 3	MDSC 3				24
IV	200	A5	B4 B5	C4 C5	AEC/MIL			VAC 3			24
A student may exit after 2nd year and a UG Diploma subject to Completion of one 4-credit onsite vocational/ internship / apprenticeship (in addition to 09 credits from Skill based course) course during summer vacation of Year 2											
V	300	A6 A7	B6 B7	C6				VAC 4	INTERN		24
VI	300	A8 A9	B8 B9	C7 C8							24
3 YEAR BCOM DEGREE		**36**	**36**	**32**	**08**	**09**	**09**	**08**	**02**	**04**	**144**

Semester	Marks										Total
VII	400	A10 A11	B10 B11	C9 C10							24
VIII	400	A12 A13	B12 B13	C11 C12							24
4 YEAR DEGREE B COM Honours		**52**	**52**	**48**	**08**	**09**	**09**	**08**	**02**	**04**	**192**
4 YEAR DEGREE WITH RESEARCH											
VII	400	A10 A11	B10 B11	C9 C10							24
VIII*	400	A12-RM A-13	B12	C11					DISSERTATION (08)		24
4 YEAR DEGREE- B COM Honours with research		**52**	**48**	**44**	**08**	**09**	**09**	**08**	**10**	**04**	**192**

NOTES:
1. A student will be **offered 4 groups namely Accounting, Management, Economics and Law.** Group 1 will be compulsory for BCom students. However, they may opt for any two groups out of remaining three groups.
2. **A student can opt for a MDSC course subject to following conditions:**
   a) The student must not have studied that course in 10+2 level.
   b) The student must not have taken that course as a core subject.
3. A student can choose MDSC from following list:
   a) Laws (MDSC1, MDSC 2, MDSC 3)
   b) International Business (MDSC1, MDSC 2, MDSC 3)
   c) ICT (MDSC1, MDSC 2, MDSC 3)
* A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.COM HONOURS with research, on the condition that the Institution is a PU approved Research Centre.
4. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.
5. RM=Research Methodology

Table-2

NEP 2020 COLLEGES **COMMERCE** TEMPLATE: STUDENT OPTING FOR **SINGLE MAJOR, SINGLE/DOUBLE MINOR** B.COM, B.COM. (HONOURS) AND B.COM (HONOURS) WITH AND WITHOUT RESEARCH

SEM	COURSE LEVEL	MAJOR	MINOR 1	MINOR 2	AEC/ MIL	SEC	MDSC	VAC	INTERN SHIP/ DISSERT ATION	COMPUL SORY LANG UAGE	TOTAL CREDITS
		4 Credits	**4 Credits**	**4 Credits**	2 Credits	3 Credits	3 Credits	2 Credits	2 Credits	2 Credits	
I	100	A 1(Compulsory) , B1, C1			English	SEC 1	MDSC 1	VAC 1		PUNJABI /HCP	**24**
II	100	A 2(Compulsory) , B2, C2			English	SEC 2	MDSC 2	VAC 2		PUNJABI HCP	**24**
III	200	MAJ -A3 MAJ –A4 MAJ - A5	MIN – B3/C3		English/ MIL	SEC 3	MDSC 3				**24**
IV	200	MAJ-A6 MAJ-A7 MAJ-A8 MAJ- A9	MIN –B4/C4		English /MIL			VAC 3			**24**
V	300	MAJ-A10 MAJ-A11 MAJ- A12 MAJ-A13	MIN – B5/C5					VAC 4	INTERNS HIP		**24**
VI	300	MAJ-A14 MAJ- A15 MAJ-A16 MAJ-A17 MAJ- A18	MIN – B6/C6								**24**

3 YEAR DEGREE	**72**	**32**	**08**	**09**	**09**	**08**	**02**	**04**	**144**
VII 400	MAJ- A19 MAJ- A20 MAJ- A21 MAJ- A22 MAJ - A23	MIN – B7/C7							24
VIII* 400	MAJ- A24 MAJ- A 25 MAJ- A26 MAJ- A27 MAJ- A28	MIN – B8/C8							24
4 YEAR DEGREE BCOM HONOURS	**112**	**40**	**08**	**09**	**09**	**08**	**02**	**04**	**192**
SINGLE MAJOR 3 YEAR/ 4 YEAR BCOM (HONOURS WITH RESEARCH)									
VII 400	MAJ – A19 MAJ- A20 MAJ- A21 MAJ -A22 MAJ- A23	MIN – B7/C7							24
VIII* 400	MAJ -A24 RM MAJ- A25 MAJ- A26	MIN– B8/C8					DISSERTATION (08 CREDITS)		24
4 YEAR B.COM HONOURS WITH RESEARCH	**104**	**40**	**08**	**09**	**09**	**08**	**10**	**04**	**192**

NOTES:

1. A student will be **offered 4 groups namely Accounting, Management, Economics and Law.** Group 1 will be compulsory for BCom students.

   However, they may opt for any two groups out of remaining three groups.

2. **A student can opt for a MDSC course subject to following conditions:**

   a) The student must not have studied that course in 10+2 level.

   b) The student must not have taken that course as a core subject.

3. A student can choose MDSC from following list:

   a) Laws (MDSC1, MDSC 2, MDSC 3)

   b) International Business (MDSC1, MDSC 2, MDSC 3)

   c) ICT (MDSC1, MDSC 2, MDSC 3)

4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.COM HONOURS with research, on the condition that the Institution is a PU approved Research Centre.

5. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.

6. RM=Research Methodology

Table-1

NEP 2020 COLLEGES <u>ARTS</u> TEMPLATE: STUDENTS OPTING FOR <u>SINGLE MAJOR, SINGLE/DOUBLE MINOR</u> IN BA, BA HONOURS AND BA HONOURS WITH RESEARCH

Semester	Subject-A, Subject-B, Subject-C			MDC (3 Cr)	AEC (2 Cr)	VAC (2 Cr)	SEC (3 Cr)	Internship/ Community Work (2 Cr)	Pbi/HCP (2 Cr)	Total
I	A-1	B-1	C-1	MDC-1	Eng-1	VAC-1	SEC-1		Pbi-1/ HCP-1	24
II	A-2	B-2	C-2	MDC-2	Eng-2	VAC-2	SEC-2		Pbi-2/ HCP-2	24
The candidate has to select Major and Minor out of the 3 subjects studied in the 1st and 2nd semester at the end of the 2nd semester.										
The student exiting the programme after one year securing 48 credits will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work										
III	MAJ A- 3 MAJ A- 4	MIN B-3 or C-3		MDC-3	Eng-3/ MIL-1	VAC-3	SEC-3		Pbi-3/ HCP-3	24
IV	MAJ A- 5 MAJ A- 6 MAJ A- 7 MAJ A- 8	MIN B-4 or C-4			Eng-4/ MIL-2				Pbi-4/ HCP-4	24
The student exiting the programme after two years securing 96 credits will be awarded UG Diploma provided he/she secures 4 credits from summer internship.										
V	MAJ A- 9 MAJ A-10 MAJ A-11 MAJ A-12 MAJ A-13							Internship/ Community Work	Pbi-5/ HCP-5	24
VI	MAJ A-14 MAJ A-15 MAJ A-16 MAJ A-17 MAJ A-18				Eng-5/ MIL				Pbi-6/ HCP-6	24
	72			24	9	10	06	09	02	12	144
The student successfully securing 144 credits will be awarded BA degree										

Sem	Major	Minor							Total
VII	MAJ A-19 RM MAJ A-20 MAJ A-21 MAJ A-22 MAJ A-23	MIN B/C -5							24
VIII	MAJ A-24 MAJ A-25 MAJ A-26 MAJ A-27 MAJ A-28	MIN B/C -6							24
	112	32	9	10	06	09	02	12	192
Students opting for Research:									
VII	MAJ A-19 MAJ A-20 MAJ A-21 MAJ A-22 MAJ A-23	MIN-5							24
VIII	MAJ A-24 MAJ A-25 MAJ A-26 RM AND Dissertation of 08 credits	MIN-6							24
	112	32	9	10	06	09	02	12	192

NOTES:-

1. In the first semester student will be offered three different subjects A, B & C.
2. At the end of second semester each student may choose any one of the two streams namely Single Major or Multi-Disciplinary. The student choosing Single Major stream is required to give his/her Major and Minor at end of the second semester.
3. The student opting for Single Major must secure 50% credits of the total credits in the Major subject and obtain 24 credits from the Minor subject(s). To qualify for Minor in a particular subject, the student must attain at least 12 credits in that subject(s).
4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.A. HONOURS with research, on the condition that the Institution is a PU approved Research Centre.
5. Once Major and Minor papers are chosen in 3rd semester, the same will continue as Major and Minor subject in the subsequent semesters.
6. RM=Research Methodology

Table-2

NEP 2020 COLLEGES <u>ARTS</u> TEMPLATE: STUDENTS OPTING FOR <u>MULTI-DISCIPLINARY/ INTER-DISCIPLINARY</u> BA, BA HONOURS AND BA HONOURS WITH RESEARCH

Semester	Subject- A (4 Cr)	Subject- B (4 Cr)	Subject-C (4 Cr)	MDC /IDC (3 Cr)	AEC (2 Cr)	VAC (2 Cr)	SEC (3 Cr)	Internship/ Community Work (2 Cr)	Pbi/HCP (2 Cr)	Total
I	Subject A-1	SubjectB-1	Subject C-1	MDC-1	Eng-1	VAC-1	SEC-1		Pbi-1/ HCP-1	24
II	Subject A-2	Subject B-2	SubjectC-2	MDC-2	Eng-2	VAC-2	SEC-2		Pbi-2/ HCP-2	24
The student exiting the programme after one year, securing 48 credits, will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work.										
The candidate will have to declare one of the three subjects as Minor in the 3rd semester. The other 02 subjects will remain his/her Major subjects										
III	MAJ A-3	MAJ B-3	MIN C-3	MDC-3	Eng / MIL	VAC-3	SEC-3		Pbi-3/ HCP-3	24
IV	MAJ A-4 MAJ A-5	MAJ B-4 MAJ B-5	MIN C-4		Eng/ MIL				Pbi-4/ HCP-4	24
The student exiting the programme after two years securing 96 credits will be awarded UG Diploma provided he/she secures 4 credits from summer internship.										
V	MAJ A-6 MAJ A-7	MAJ B-6 MAJ B-7	MIN C-6					Internship/ Community Work	Pbi-5/ HCP-5	24
VI	MAJ A-8 MAJ B-9	MAJ B-8 MAJ B-9	MIN C-8		Eng/ MIL				Pbi-6/ HCP-6	24
	36	36	24	09	10	06	09	02	12	144
The student successfully securing 144 credits will be awarded BA degree.										
VII	MAJ A-10 MAJ A-11	MAJ B-10 MAJ B-11	MIN C-7 MIN C-8							24

VIII	MAJ A-12 OR RM MAJ A-13 } Or Dissertation MAJ A-14 } of 08 credits	MAJ B-12 OR RM MAJ B-13 } Or Dissertation MAJ B-14 } of 08 credits								24
	56	56	32	09	10	06	09	02	12	192

NOTES:-

1. In the first semester student will be offered three different subjects A, B & C.
2. At the end of second semester each student may choose any one of the two streams namely Single Major or Multi-Disciplinary. The student choosing Single Major stream is required to give his/her Major and Minor at end of the second semester.
3. The student opting for Single Major must secure 50% credits of the total credits in the Major subject and obtain 24 credits from the Minor subject(s). To qualify for Minor in a particular subject, the student must attain atleast 12 credits in that subject(s).
4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.A. HONOURS with research, on the condition that the Institution is a PU approved Research Centre
5. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.
6. Once Major and Minor papers are chosen in 3rd semester, the same will continue as Major and Minor subject in the subsequent semesters.
7. The candidate opting for Honours in research is required to study a paper of Research Methodology (RM) of 04 credits and write Dissertation of 08 credits in one of the two Major subjects.

Table-3

NEP 2020 COLLEGES ARTS TEMPLATE: STUDENT OPTING FOR SINGLE MAJOR AND SINGLE MINOR B.A. HONOURS

Semester	Major Discipline Specific Core (4 Credits)	Minor Disciplinary (4 Credits)	AEC (2 Credits)	Value Added (2 Credits)	Multi disciplinary (3 Credits)	Skill Enhancement Course (3 Credits)	Internship/ Community work/ Field Project (2 Credits each)	Dissertation (Total 12 Credits)	Compulsory language 2 Credits	Total Credits
I (100 level)	MAJ A1 MAJ A2	MIN-B 1	English	VAC- 1	MDSC 1	SEC1			Pun/HCP	24
II (100 level)	MAJ A3 MAJ A4	MIN-B2	English	VAC-2	MDSC 2	SEC2			Pun/HCP	24
The student exiting the programme after one year, securing 48 credits, will be awarded UG Certificate provided he/she secures 4 credits from summer internship/community work.										
III (200 level)	MAJ A5 MAJ A6	MIN-B3	English/ MIL 1	VAC-3	MDSC 3	SEC3			Pun/HCP	24
IV (200 level)	MAJ A7 MAJ A8 MAJ A9 MAJ A10	MIN-B4	English/ MIL 2						Pun/HCP	24
The student exiting the programme after two years securing 96 credits will be awarded UG Diploma provided he/she secures 4 credits from Summer Internship										
V (300 level)	MAJ A11 MAJ A12 MAJ A13 MAJ A14	MIN -B5					Internship /CW /FP		Pun/HCP	24
VI (300 level)	MAJ A15 MAJ A16 MAJ A17 MAJ A18	MIN -B6	English/ MIL 3						Pun/HCP	24
	72	24	10	06	09	09	02		12	144
The student successfully securing 144 credits will be awarded BA Degree.										

VII (400 level) (Hons without Research)	MAJ B19RM MAJ A20 MAJ A21 MAJ A22 MAJ A23	MIN-B7								24
VIII (400 level) (Hons without Research)	MAJ A24 MAJ A25 MAJ A26 MAJ A27 MAJ A28	MIN-B8								24
Students opting for Research:										
VII (400 level) (Hons with Research)	MAJ B19 MAJ A20 MAJ A21 MAJ A22 MAJ A23	MIN-B7								24
VIII (400 level) (Hons with Research)	MAJ A-24 MAJ A-25 MAJ A-26 RM AND Dissertation of 08 credits	MIN-B8								24
Total credits	112	32	10	06	09	09	02		12	192

NOTES:
1. In the first year the student will opt for two different subjects A and B. The choice of Major and Minor will be determined at the time of admission into the degree programme.
2. The student must secure 50% credits of the total credits in the Major subjects and obtain 24 credits from the Minor subject(s). To qualify for Minor in a particular subject, the student must attain atleast 12 credits in that subject(s).
3. Language paper chosen as MIL-1 and MIL-2 should be in the same subject.
4. A student who secures 75% or more marks in aggregate till semester 6 (up to 3 year degree) shall be eligible for 4 YEAR DEGREE B.A. HONOURS with research, on the condition that the Institution is a PU approved Research Centre
5. RM=Research Methodology

PANJABUNIVERSITY,CHANDIGARH-160014(INDIA)

FACULTYOFSCIENCE

SYLLABI

FOR

BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)
(Under NEP)

(SEMESTER SYSTEM)
(First to Sixth Semester)
FOR
2024 - 2025 Session

--:o:--

Semester-I

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-101	A-1	Introduction to Web Technologies	2	--	4	45	05	--	--	100
BCA-101P		Practical Based on BCA-101	--	2				50	-	
BCA-102	B-1	Fundamentals of Mathematical Statistics	4	--	4	90	10	--	--	100
BCA-103	C-1	Problem Solving Through C	2	--	4	45	05	--	--	100
BCA-103P		Practical Based on BCA-103	--	2				50	-	
BCA-104	MDSC-1	E-Commerce	3	--	3	75	--	--	--	75
BCA-105	AEC-1	English-A	2	--	2	45	05	--	--	50
BCA-106	SEC-1	Computer Fundamentals and Personal Computing Software	--	3	3	--	--	--	--	75
BCA-107	Pbi/HCP	Punjabi / HCP	2	--	2	--	--	--	--	50
BCA-108	VAC-1	Common Basket	2	--	2	--	--	--	--	50
Total Credits					**24**					**600**

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.

Semester-II

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-201	A-2	Computer Organisation	4	-	4	90	10	--	--	100
BCA-202	B-2	Introduction to Artificial Intelligence and Data Science	2	--	4	45	05	--	--	100
BCA-202P		Practical Based on BCA-202	--	2		--	--	50	--	
BCA-203	C-2	Object Oriented Programming Using C++	2	--	4	45	05	--	--	100
BCA-203P		Practical Based on BCA-203	--	2		--	--	50	--	
BCA-204	MDSC-2	Management Information System	3	-	3	75	--	--	--	75
BCA-205	AEC-2	English-B	2	-	2	--	--	--	--	50
BCA-206	SEC-2	Desktop Publishing using GIMP	--	3	3	-	-	75	--	75
BCA-207	Pbi/HCP	Punjabi / HCP	2	-	2	--	--	-	-	50
BCA-208	VAC-2	Common Basket	2	-	2	--	--	--	--	50
Total Credits					24					600

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.

Semester-III

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-301	A-3	Computer Architecture	4	--	4	90	10	--	--	100
BCA-302	A-4	Data Structures	2	--	4	45	05	--	--	100
BCA-302P		Practical Based on BCA-302	-	2		--	--	50	--	
BCA-303	B-3	Computer Oriented Numerical Methods	2	--	4	45	05	--	--	100
BCA-303P		Practical Based on BCA-303	--	2		--	--	50	--	
BCA-304	B-4	Introduction to Machine Learning	4	--	4	90	10	--	--	100
BCA-305	MDSC-3	Common Basket	--	--	3	--	--	--	--	75
BCA-306	AEC-3	English/MIL	2	--	2	--	--	--	--	50
BCA-307	SEC-3	Back-End Web Development	--	3	3	--	--	75	--	75
Total Credits					**24**					**600**

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.

Semester-IV

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-401	A-5	Operating System Concepts	4	--	4	90	10	--	--	100
BCA-402	A-6	Data Base Management System	2	--	4	45	05	--	--	100
BCA-402P		Practical Based on BCA-402	--	2		--	--	50	--	
BCA-403	A-7	Information System Design and Implementation	4	-	4	90	10	--	--	100
BCA-404	A-8	Cyber Security	4	-	4	90	10	--	--	100
BCA-405	B-5	Python Programming	2	--	4	45	05	--	--	100
BCA-405P		Practical Based on BCA-405	--	2	--	--	--	50	--	
BCA-406	AEC-4	English/MIL	2	--	2	--	--	--	--	50
BCA-407	VAC-3	Common Basket	--	--	2	--	--	--	--	50
Total Credits					**24**					**600**

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.

Semester-V

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-501	A-9	Internet of Things	4	--	4	90	10	--	--	100
BCA-502	A-10	Data Warehouse and Data Mining	4	--	4	90	10	--	--	100
BCA-503	A-11	Java Programming	2	--	4	45	05	--	--	100
BCA-503P		Practical Based on BCA-504	--	2		--	--	50	--	
BCA-504	A-12	Linux Operating System	2	--	4	45	05	--	--	100
BCA-504P		Practical Based on BCA-505	--	2		--	--	50	--	
BCA-505	A-13	Computer Graphics and Multimedia	2	--	4	45	05	--	--	100
BCA-505P		Practical Based on BCA-505	--	2		--	--	50	--	
Internship Work/Community Work	Internship/Project Work	Project Work- & Viva-Voce	-	4	4	--	--	--	--	100
Total Credits					**24**					**600**

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.

Semester-VI

Paper Code	Type of Course	Subject Name	Credits			Marks				
			Th	Pr	Total	Ext (Th)	Int (Th)	Ext (Pr)	Int (Pr)	Total
BCA-601	A-14	Computer Networks	4	--	4	90	10	--	--	100
BCA-602	A-15	Big Data Analytics	4	--	4	90	10	--	--	100
BCA-603	A-16	C # with .NET framework	2	--	4	45	05	--	--	100
BCA-603P		Practical Based on BCA-603	--	2		--	--	50	--	
BCA-604	A-17	Web Development using PHP	2	--	4	45	05	--	--	100
BCA-604P		Practical Based on BCA-604	--	2		--	--	50	--	
BCA-605	A-18	Cloud Computing	4	--	4	90	10	--	--	100
BCA-606	B-6	Discrete Mathematical Structure	4	--	4	90	10	--	--	100
Total Credits					24					600

* One credit of theory lecture is of 1 hour duration and one credit of practical is of 2 hours duration.

A student can opt for a MDSC course subject to following conditions:

a) The student must not have studied that course in 10+2 level.
b) The student must not have taken that course as a core subject.