FACULTY OF COMPUTER SCIENCE & IT

SYLLABUS

of

Bachelor of Science (Information Technology)

(Semester I-VI)

(UnderContinuous Evaluation System)

(12+3 System of Education)

Session 2022-23

The Heritage Institution

KANYA MAHA VIDYALAYA JALANDHAR (Autonomous)

Program Specific Outcomes

Bachelor of Science (Information Technology)
(Session 2022-23)

After completing this program, the students will be able to:

PSO1: Apply skills for development of software and websites for providing efficient solution to IT based problems.

PSO2: Comprehend development process in IT industry through ethical, defined and innovative techniques.

PS03: Achieve leadership role and team player role to be able to work in multidisciplinary areas at various job roles.

PSO4: Identify and demonstrate the implementation of various tools and technologies involved in the field of Information Technology.

PSO5: Demonstrate proficiency in the field of Programming, Web development and IT enabled services.

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester – I							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	**Ext.**		**CA**	
				L	**P**		
BITL-1421 / BITL-1031/ BITL-1431	Punjabi (Compulsory) / [1]Basic Punjabi/ [2]Punjab History and Culture	C	50	40	-	10	3
BITL-1102	Communication Skills in English	C	50	40	-	10	3
BITL-1333	Applied and Discrete Mathematics	C	100	80	-	20	3
BITM-1114	Introduction to Programming – C	C	100	50	30	20	3+3
BITM-1115	Fundamentals of Computers	C	100	50	30	20	3+3
AECD-1161	*Drug Abuse: Problem, Management and Prevention (Compulsory)	AC	50	40	-	10	3
SECF-1492	*Foundation Course	AC	25	20	-	05	1
	Total		**400**				

Note:

C - Compulsory
AC - Audit Course
[1] Special course in lieu of Punjabi (Compulsory)
[2] Special course in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.
***Marks of these courses will not be added in total marks and only grades will be provided.**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester – II							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	**Ext.**		**CA**	
				L	**P**		
BITL-2421 / BITL-2031/ BITL-2431	Punjabi (Compulsory) / [1]Basic Punjabi/ [2]Punjab History and Culture (C. 320 to 1000 B.C.)	C	50	40	-	10	3
BITM-2102	Communication Skills in English	C	50	25	15	10	3+3
BITL-2113	Principles of Digital Electronics	C	100	80	-	20	3
BITL-2114	Numerical Methods and Statistical Techniques	C	100	80	-	20	3
BITM-2115	Introduction to Object Oriented Programming-I	C	100	50	30	20	3+3
SECM-2502	*Moral Education	AC	25	20	-	05	1
	Total		**400**				

Note:

C - Compulsory
AC - Audit Course
[1] Special course in lieu of Punjabi (Compulsory)
[2] Special course in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.
***Marks of these courses will not be added in total marks and only grades will be provided.**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester – III							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	**Ext.**		**CA**	
				L	**P**		
BITL-3111	Computational Problem Solving	C	75	60	-	15	3
BITL-3112	Data Structures	C	75	60	-	15	3
BITL-3113	System Analysis and Design	C	75	60	-	15	3
BITP-3114	Lab on Computational Problem solving	C	50	-	40	10	3
BITP-3115	Lab on Data Structures	C	25	-	20	05	3
AECE - 3221	* Environmental Studies (Compulsory)	AC	100	60	20	20	3
SECP - 3512	*Personality Development	AC	25	20	-	05	1
	Total		**300**				

Note:

C - Compulsory

AC - Audit Course

*** Marks of these courses will not be added in total marks and only grades will be provided.**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester - IV							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	Ext.		CA	
				L	P		
BITL-4111	Database Management System	C	75	60	-	15	3
BITL-4112	Internet Applications	C	75	60	-	15	3
BITL-4113	Object Oriented Programming- II	C	75	60	-	15	3
BITL-4114	E-Business	C	75	60	-	15	3
BITP-4115	Lab on Database Management System	C	25	-	20	05	3
BITP-4116	Lab on Internet Applications and Web Designing	C	25	-	20	05	3
BITP-4117	Lab on Object Oriented Programming - II	C	50	-	40	10	3
SECS - 4522	*Social Outreach	AC	25	-	20	05	1
	Total		**400**				

Note:

C - Compulsory

AC - Audit Course

*** Marks of these courses will not be added in total marks and only grades will be provided.**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester - V							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	**Ext.**		**CA**	
				L	**P**		
BITL-5111	Computer Networks	C	100	80	-	20	3
BITL-5112	Web Technologies	C	100	80	-	20	3
BITL-5113	Operating System	C	100	80	-	20	3
BITP-5114	Lab on Web Technologies	C	50	-	40	10	3
BITP-5115	Lab on Operating System	C	50	-	40	10	3
SECJ-5551	* Job Readiness Course	AC	25	20	-	05	1
	Total		**400**				

Note:

C – Compulsory

*** Marks of these courses will not be added in total marks and only grades will be provided**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME

Bachelor of Science (Information Technology)

Session 2022-23

Bachelor of Science (Information Technology) Semester - VI							
Course Code	**Course Name**	**Course Type**	**Marks**				**Examination Time (in Hours)**
			Total	**Ext.**		**CA**	
				L	**P**		
BITL-6111	Computer Graphics	C	75	60	-	15	3
BITL-6112	Digital Marketing	C	75	60	-	15	3
BITP-6113	Lab on Computer Graphics	C	50	-	40	10	3
BITD-6114	Project	C	200	-	160	40	3
	Total		**400**				

Note:

C - Compulsory

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1421
PUNJABI (COMPULSORY)

COURSE OUTCOMES

CO1:ਆਤਮਅਨਾਤਮ' ਪੁਸਤਕ ਦੇ ਕਵਿਤਾਭਾਗਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾਮਨੋ+ਕਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਵਿਤਾਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਤਾਂਕਿ ਉਹ ਆਧੁਨਿਕਦੌਰਵਿਚਚੱਲਰਹੀਆਂਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂਬਾਰੇ ਗਿਆਨਹਾਸਿਲਕਰ ਸਕਣ।

CO2:ਇਸ ਦਾਹੋਰਮਨੋਰਥਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆਤੋਂਜਾਣੂ ਕਰਾਉਣਾਵੀ ਹੈ ਤਾਂਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜਦੀਆਂ ਸਮੱਸਿਆਵਾਂਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕਦ੍ਰਿਸ਼ਟੀਬਣਾ ਸਕਣ।

CO3:ਗੱਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿਤ੍ਰ ਤੇ ਹਲਕੇ ਲੇਖ) ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨਇਤਿਹਾਸ ਤੋਂਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।

CO4:ਪੈਰ੍ਹਾ ਰਚਨਾ ਅਤੇ ਪੈਰ੍ਹਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾਮਨਰੋਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO5:ਧੁਨੀਵਿਉਂਤ ਪੜ੍ਹਣਨਾਲਵਿਦਿਆਰਥੀ ਧੁਨੀਆਂ ਦੀ ਉਚਾਰਨਪ੍ਰਣਾਲੀਤੋਂਵਾਕਫ਼ ਹੋਣਗੇ।

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1421
PUNJABI (COMPULSORY)

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 50
Theory : 40
CA: 10

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਆਤਮਅਨਾਤਮ(ਕਵਿਤਾਭਾਗ),(ਸੰਪ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਵਰਿਆਮਸਿੰਘ ਸੰਧੂ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਭਾਈ ਵੀਰ ਸਿੰਘ ,ਡਾ.ਜਸਵੰਤ ਸਿੰਘ ਨੇਕੀ,ਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾ ਨਹੀਂ ਹੈ)

(ਸਾਰ,ਵਿਸ਼ਾ ਵਸਤੂ) 08 ਅੰਕ

ਯੂਨਿਟ-II

ਗੱਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿਤ੍ਰ ਤੇ ਹਲਕੇ ਲੇਖ), ਸੰਪਾ.ਬਿਕਰਮ ਸਿੰਘ ਘੁੰਮਣ, ਜਸਪਾਲ ਸਿੰਘ ਰੰਧਾਵਾ,ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ,ਅੰਮ੍ਰਿਤਸਰ।

(ਰੇਖਾ ਚਿਤ੍ਰ 1 ਤੋਂ 5)(ਨੰਗੀ ਮੁਸਕਾਨ ਰੇਖਾ ਚਿੱਤਰ ਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾ ਨਹੀਂ ਹੈ)

(ਸਾਰ,ਵਿਸ਼ਾ ਵਸਤੂ)08 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ)ਪੈਰ੍ਹਾਰਚਨਾ

(ਅ)ਪੈਰ੍ਹਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ। 08 ਅੰਕ

ਯੂਨਿਟ-IV

(ੳ) ਪੰਜਾਬੀ ਧੁਨੀਵਿਉਂਤ :ਪਰਿਭਾਸ਼ਾ ਤੇ ਉਚਾਰਨ ਅੰਗ

(ਅ) ਸਵਰ, ਵਿਅੰਜਨ8 ਅੰਕ

ਅੰਕਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕਲਈਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨਹੋਣਗੇ।ਸੈਕਸ਼ਨA-Dਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟI-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜਪ੍ਰਸ਼ਨਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨਵਿਚੋਂਇਕਪ੍ਰਸ਼ਨਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂਪ੍ਰਸ਼ਨਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨਵਿਚੋਂਕੀਤਾਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ

ਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1031
BASIC PUNJABI

In lieu of Punjabi(Compulsory)

Course outcomes

CO1:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦਾ ਮੌਕਾ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ।

CO2:ਇਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀਕਬੀਨੀ ਨਾਲ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO3:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO4:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ਬਾਰੇ ਦੱਸਣਾ ਹੈ।

CO5:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲ ਕਰਨਾ ਹੈ।

CO6:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਵਿਚ ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤੱਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ਸਿਖਾਉਣਾ ਹੈ।

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1031
BASIC PUNJABI

In lieu of Punjabi(Compulsory)

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 50
Theory : 40
CA : 10

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ

ਜਾਣ ਪਛਾਣ) ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ।

08ਅੰਕ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ (ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ

ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ)
08ਅੰਕ

ਯੂਨਿਟ-III

ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਬਤੇ ਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਨਾਲ

ਸੰਬੰਧਤ।

08 ਅੰਕ

ਯੂਨਿਟ-IV

ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂਵਿਚ ।

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾਜਾ ਸਕਦਾ ਹੈ।

3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।

4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1431
Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

COURSE OUTCOMES

After completing Semester I and course on Punjab History and Culture students of History will be able to identify and have a complete grasp on the sources & writings of Ancient Indian History of Punjab.

CO1: Identify and understand the sources and physical features of Punjab

CO2:- To study the earliest civilisation (Indus Valley Civilization) and original home of Aryans

CO3:- To examine the Social, Religious and Economic life during Early and Later Vedic Age

CO4: To comprehend the Buddhist, Jain and Hindu faith and their relevance in the modern times

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1431
Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

Examination Time: 3 Hours

Max. Marks: 50
Theory: 40
C A: 10

Instructions for the Paper Setters

1. Question paper shall consist of four Units
2. Examiner shall set 8 questions in all by selecting **Two Questions** of equal marks from each Unit.
3. Candidates shall attempt **5 questions** in **600 words,** by at least selecting **One Question** from each Unit and the **5th question** may be attempted from any of the **four Units**.
4. Each question will carry 8 marks.

Unit-I

1. Physical features of the Punjab
2. Sources of the ancient history of Punjab

Unit-II

3. Harappan Civilization: social, economic and religious life of the Indus Valley People.
4. The Indo-Aryans: Original home

Unit-III

5. Social, Religious and Economic life during Early Vedic Age.
6. Social, Religious and Economic life during Later Vedic Age.

UNIT-IV

7. Teachings of Buddhism
8. Teachings of Jainism

Suggested Readings

- B.N. Sharma, Life in Northern India, Delhi. 1966.
- BudhaParkash, Glimpses of Ancient Punjab, Patiala, 1983.
- Chopra, P.N., Puri, B.N., & Das, M.N.(1974). A Social, Cultural & Economic History of India, Vol. I, New Delhi: Macmillan India.
- L. M Joshi (ed.), History and Culture of the Punjab, Art-I, Patiala, 1989 (3rd edition)
- L.M. Joshi and Fauja Singh (ed.), History of Punjab, Vol.I, Patiala 1977.

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1102
COMMUNICATION SKILLS IN ENGLISH

COURSE OUTCOMES:

At the end of this course, the students will develop the following Skills:

CO 1: Reading skills that will facilitate them to become an efficient reader

CO 2: Through reading skills, the students will have an ability to have a comprehensive understanding of the ideas in the text and enhance their critical thinking

CO 3: Writing skills of students which will make them proficient enough to express ideas in clear and grammatically correct English

CO 4: The skill to use an appropriate style and format in writing letters (formal and informal) and resume, memo, notices, agenda, minutes

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1102
COMMUNICATION SKILLS IN ENGLISH

Examination Time: 3 Hours **Max. Marks: 50**
Theory: 40
CA: 10

Instructions for the paper setter and distribution of marks:

The question paper will consist of four sections. The candidate will have to attempt five questions in all selecting one from each section and the fifth question from any of the four sections. Each question will carry 8 marks.

Section-A: Two questions of theoretical nature will be set from Unit I.

Section-B: Two comprehension passages will be given to the students from Unit II.

Section-C: Two questions will be given from Unit III.

Section-D: Two questions will be set from Unit IV.

(8 x 5 = 40)

The syllabus is divided in four units as mentioned below:

UNIT I

Reading Skills: Reading Tactics and strategies; Reading purposes–kinds of purposes and associated comprehension; Reading for direct meanings.

UNIT II

Reading for understanding concepts, details, coherence, logical progression and meanings of phrases/ expressions.

Activities:

- Comprehension questions in multiple choice format
- Short comprehension questions based on content and development of ideas

UNIT III

Writing Skills: Guidelines for effective writing; writing styles for application, personal letter, official/ business letter.

Activities

- Formatting personal and business letters.
- Organizing the details in a sequential order

UNIT IV

Resume, memo, notices, agenda, minutes, Tips for effective blog writing

Activities:

- Converting a biographical note into a sequenced resume or vice-versa
- Ordering and sub-dividing the contents while making notes.
- Writing notices for circulation/boards
- Writing blogs

Reference / Textbooks:

1. Oxford Guide to Effective Writing and Speaking by John Seely.
2. Business Communication, by Sinha, K.K. GalgotiaPublishers,2003.
3. Business Communication by Sethi, A and Adhikari, B., McGraw Hill Education 2009.
4. Communication Skills by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1333
APPLIED AND DISCRETE MATHEMATICS

Course Outcomes:

After passing this course the student will be able to:

CO1: Apply various operations on sets and relations

CO2: Represents world knowledge in symbolic notation through propositional calculus

CO3: Apply Boolean algebra to solve problems like minimization, standard formetc.

CO4: Apply various operations like addition, subtraction, multiplication, inverseetc. on matrices

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITL–1333
APPLIED AND DISCRETE MATHEMATICS

Examination Time: 3 Hours. **Max. Marks: 100**
Theory: 80
CA: 20

Instructions for Paper Setter -

Eight questions of equal marks (16 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

UNIT-I

Sets and Relations: Definition of sets, subsets, complement of a set, universal set, intersection and union of sets, De-Morgan's laws, Cartesian products, Equivalent sets, Countable and uncountable sets, minset, Partitions of sets, Relations: Basic definitions, graphs of relations, properties of relations

UNIT-II

Logic and Propositional Calculus: Proposition and Compound Propositions, basic Logical Operations, Propositions and Truth Tables, Tautologies and Contradictions, Logical Equivalence, Duality law, Algebra of propositions, Conditional and Bi conditional Statements, Arguments, Logical Implication, Propositional Functions, Predicates and Quantifiers, Negation of Quantified Statements, Inference theory of the predicates calculus.

UNIT-III

Boolean Algebra: Boolean algebra and its duality, Duality, Boolean Algebra as Lattices, Boolean identities, sub-algebra, Representation Theorem, Sum-of-Products Form for Sets, Sum of-Products Form for Boolean Algebra, Minimal Boolean Expressions, Prime Implicants, Boolean Functions, Karnaugh Maps.

UNIT-IV

Matrices: Introduction of a Matrix, its different kinds, matrix addition and scalar multiplication, multiplication of matrices, transpose etc. Square matrices, inverse and rank of a square matrix, Matrix Inversion method.

References/Textbooks:

1. Seymour Lipschutz, Marc Lars Lipson, Discrete Mathematics (Schaum's outlines Series), McGraw-Hill, 1997.
2. Bernard Kolman, Robert C. Busby, Discrete Mathematical structures for Computer Science, Prentice-Hall, 1984.
3. Alan Doerr, Kenneth Levasseur, Applied Discrete Structures for Computer Science, Galgotia Publications, 1989.
4. J.P.Tremblay. and R Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw-Hill, 1997.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITM–1114
INTRODUCTION TO PROGRAMMING - C

Course Outcomes:

After passing course the student will be able to:

CO1:Comprehend the working of various programming constructs involved in C Programming
CO2: Design C program and control its sequence using various control statements
CO3: Apply programming concepts such as arrays, functions and strings to provide solution in different problem domains
CO4: Work with pointers, structures and union

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITM–1114
INTRODUCTION TO PROGRAMMING - C

Examination Time: (3+3) Hrs.

Max. Marks: 100
Theory: 50
Practical: 30
CA: 20

Instructions for Paper Setter -

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

UNIT-I

Fundamentals: Character set, Identifiers and Key Words, Data types, Constants, Variables, Expressions, Statements, Symbolic Constants.

Operations and Expressions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators, Library functions. Data Input and Output statements

UNIT -II

Control Statements: Preliminaries, While, Do–while and for statements, Nested loops,If–else, Switch, Break – Continue statements.

Program Structure Storage Class: Storage Classes- Auto, extern, register and static, about library functions.

UNIT-III

Functions: Brief overview, defining, accessing functions, passing arguments tofunction, specifying argument data types, function prototypes, recursion.

Arrays: Defining, processing an array, passing arrays to a function, multi–dimensional arrays.

Strings: String declaration, string functions and string manipulation.

UNIT - IV

Structures & Unions: Defining and processing a structure, user defined data types, structuresand pointers, passing structures to functions, self referenced structure, unions.

Pointers: Fundamentals, pointer declaration, passing pointer to a function, pointer and onedimensional arrays, operation on pointers, pointers & multi–dimensional arrays of pointers, passing functions, other functions, more about pointer declarations.

References/Textbooks:

1. E Balagurusamy, Programming in ANSI C, Tata McGraw-Hill, 2002.
2. Byron Gottfried, Schaum's Outline Programming with C, McGraw Hill, 1996.
3. Brian W. Kernighan, Dennis M. Ritchie, The C Programming language, Prentice Hall, 1988.
4. Stephen G. Kochan, Programming in C, Pearson Education, 2015.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITM–1115
FUNDAMENTALS OF COMPUTERS

Course Outcomes:

After passing course the student will be able to:

CO1: comprehend about computer hardware, operating system concepts and various system software

CO2: Identify various input, output and memory devices
CO3: Apply office automation software to create professional and academic documents and presentations

CO4: Manage data in a spreadsheet along with its representation through graphs

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: BITM–1115
FUNDAMENTALS OF COMPUTERS

Examination Time: (3+3) Hrs.

Max. Marks: 100
Theory: 50
Practical: 30
CA: 20

Instructions for Paper Setter -

Eight questions of equal marks (10 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT I

Fundamentals of Computer: Introduction to computer, Applications of computer, Components of computers (Input unit, Output Unit, Memory Unit & CPU).

Software: Application Software, Service software, System software -operating system (Types & Function of OS), Translators (compiler, interpreter, assembler), Booting a System.

UNIT II

Input Devices: Keyboards, Mouse, Joystick, Track Ball, Light Pen and Data Scanning devices (scanner, OCR, OMR, MICR, Bar Code Reader, Card Reader)

Output Devices: Monitor, Printers (laser printer, dot matrix printer, ink jet printer)

Memories: Primary Memory -RAM (Working and Its types), ROM (Types of ROM). Secondary Memory - Hard Disk (Structure of a hard disk, working, concept of tracks, sectors, clusters, cylinders), CD, DVD.

UNIT III

Word Processing: Introduction to Office, word processing & its features, Parts of window of word (Title bar, menu bar, status bar, and ruler), understanding the Ribbon, Use of Office Button and Quick Access Toolbar, Creation of new documents, opening document, insert a document into another document. Page setup, margins, gutters, font properties, Alignment, page breaks, header & footer, deleting, moving, replace, editing text in document, saving a document, spell checker, printing a document. Creating a table, entering and editing, Text in tables. Changing format of table, height, width of row/column. Editing, deleting Rows,

columns in table. Adding picture, page colors and Watermarks, Borders, shading, Templates, wizards, drawing objects.

Presentation: Introduction to PowerPoint, Exploring menus, starting a new slide, saving presentation, moving/rearranging slides, printing slides. Applying theme to presentation, Views (slide View, slide sorter, notes view, outline view), Formatting & enhancing text formatting. Displaying slide show, adding multimedia. Slide transitions, applying Animation, Timing slide display, adding movies & sounds.

UNIT IV

Spreadsheet: Introduction to Worksheet/Spreadsheet, Features of excel, Describe the excel Window, Creating a new workbook, different functions on different data in excel, creation of graphs, editing it and formatting, creation of worksheet, adding, deleting, moving the text in worksheet, sorting the data, querying the data, filtering the data (auto and advance filters), To open an already existing workbook, Saving workbook, printing a worksheet, Closing the workbook & exiting.

References/Textbooks:

1. Joyce Cox, Joan Lambert and Curtis Frye, Microsoft office Professional 2010 Step by Step, Microsoft Press, 2010.
2. V. Rajaraman, NeeharikaAdabala, Fundamentals of Computers, PHI Learning, 2015.
3. P.K. Sinha, Computer Fundamentals, BPB Publications, 2004.
4. Anshuman Sharma, A book of Fundamentals of Information Technology, Lakhanpal Publishers, 5th Edition.
5. Peter Norton, Peter Norton's Computing Fundamentals, McGraw-Hill Technology Education, 2006.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)

COURSE CODE: AECD - 1161

DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION

(COMPULSORY)

Course Outcomes

After completing the course the students will be able to:

CO1. Learn how to include factual data about what substance abuse is; warning signs of addiction; information about how alcohol and specific drugs affect the mind and body;

CO 2. Learn how to be supportive during the detoxification and rehabilitation process.

CO3. Focus on substance abuse education- is teaching individuals about drug and alcohol abuse and how to avoid, stop, or get help for substance use disorders.

CO 4. Understand that substance abuse education is important for students alike; there are many misconceptions about commonly used legal and illegal substances, such as alcohol and marijuana

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: AECD - 1161
DRUG ABUSE: PROBLEM, MANAGEMENT AND PREVENTION
(COMPULSORY)
(Theory)

Time: 3Hrs

Max. Marks:50

Theory:40

CA:10

Instructions for the Paper Setter:

Eight questions of equal marks (8 marks each) are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

UNIT-I

Meaning, Nature and Extent of Drug Abuse in India and Punjab.

Consequences of Drug Abuse for:

Individual: Education, Employment, Income.
Family: Violence
Society: Crime
Nation : Law and Order problem

UNIT-II

Management of Drug Abuse

Medical Management: Medication for treatment and to reducewithdrawal effects.

Psychiatric Management: Counselling, Behavioural and Cognitive therapy.

Social Management: Family, Group therapy and Environmental Intervention.

UNIT-III

Prevention of Drug abuse:

Role of family: Parent child relationship, Family support, Supervision

School: Counselling ,Teacher as role-model. Parent-teacher-Health, Professional Coordination.

UNIT-IV

Media: Restraint on advertisements of drugs, advertisements on bad effects of drugs, Educational and awareness program

Legislation: NDPs act, Statutory warnings, Policing of Borders, Checking Supply/Smuggling of Drugs, Strict enforcement of laws.

Suggested Readings:

1. Ahuja, Ram (2003), *Social Problems in India*, Rawat Publication,Jaipur.
2. Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India,2004.
3. Inciardi, J.A. 1981. *The Drug Crime Connection.*Beverly Hills: SagePublications.
4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: MittalPub.
5. Modi, Ishwar and Modi, Shalini (1997) *Drugs: Addiction and Prevention*, Jaipur: Rawat Publication.
6. National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical Epidemiological Unit, All India Institute of Medical Sciences,2004.
7. Sain, Bhim 1991, *Drug Addiction Alcoholism,* Smoking obscenity New Delhi: Mittal Publications.
8. Sandhu, Ranvinder Singh, 2009, *Drug Addiction in Punjab*: A Sociological Study. Amritsar: Guru Nanak Dev University.
9. Singh, Chandra Paul 2000. *Alcohol and Dependence among Industrial Workers*: Delhi:Shipra.
10. Sussman, S and Ames, S.L. (2008). *Drug Abuse: Concepts, Prevention andCessation,*Cambridge University Press.

Bachelor of Science (Information Technology) Semester- I

(Session 2022-23)
COURSE CODE: SECF-1492
FOUNDATION COURSE
AUDIT COURSE (VALUE ADDED)

Course Duration: 30 hours

Course intended for: Semester I students of undergraduate degree programs of all 25 streams.

Course Credits: 1

Course Code: SECF-I

PURPOSE & AIM

This course has been designed to strengthen the intellectual foundation of all the new entrants in the college. One of the most common factors found in the students seeking admission in college after high school is the lack of an overall view of human history, knowledge of global issues, peaks of human intellect, social/political thinkers and inventors & discoverers who have impacted human life. For a student, the process of transition from school to college is full of apprehension and skepticism regarding adapting themselves to new system. The Foundation Programme intends to bridge the gap between high school and college education and develop an intellectual readiness and base for acquiring higher education.

INSTRUCTIONAL OBJECTIVES

- to enable the students to realise their position in the whole saga of time and space
- to inculcate in them an appreciation of life, cultures and people across the globe
- to promote, in the students, an awareness of human intellectual history
- to make them responsible and humane world citizens so that they can carry forward the rich legacy of humanity

LEARNING OUTCOMES

After the completion of this Audit course, students will be able to

- learn how past societies, systems, ideologies, governments, cultures and technologies were built, how they operated, and how they have changed
- understand how the rich history of the world helps us to paint a detailed picture of where we stand today
- understand the Vedic theism, Upanishads Philosophy and doctrines of Jainism, Buddhism and Sikhism
- acquire knowledge of women rights and courage to face day to day challenges
- acknowledge the changes in society, religion and literature in the renaissance period and the importance of empathy and compassion for humanity

- *learn about the prominent Indians (Men and Women) who contributed significantly in freedom struggle, education, economic development and in the formation and evolution of our nation*
- understand meaning of race and how that concept has been used to justify exclusion, inequality, and violence throughout history and the origin of civil right movements to fight for equality, liberty and fraternity
- critically evaluate the socio-political and economic issues at global level and its implications in the present
- upgrade and enhancelearning technological skillsand striking a balance between technology and their well being
- take pride in learning the saga of Indian Past Culture and Heritage
- understand the rich legacy of KMV and its progressive endeavours

MODULE	TITLE	CONTACT HOURS
I	**Introduction and Initial Assessment**	**2**
II	**The Human Story**	**3**
III	***The Vedas* and the Indian Philosophy**	**2.5**
IV	**The Journey of Woman The Story and the Dream**	**2.5**
V	**Changing Paradigms in Society, Religion & Literature**	**2.5**
VI	**Makers of Modern India**	**2.5**
VII	**Racism: Story of the West**	**2.5**
VIII	**Modern World at a Glance: Political & Economic Perspective**	**2.5**
IX	**Technology Vis a Vis Human Life**	**2.5**
X	**My Nation My Pride**	**2.5**
XI	**The KMV Experience**	**2.5**
XII	**Final Assessment, Feedback and Closure**	**2.5**

EXAMINATION

- **Total Marks: 25 (Final Exam: 20; Internal Assessment: 5)**
- Final Exam: multiple choice quiz**.** Marks – 20; Time: 1 hour
- Internal Assessment: 5 (Assessment: 3; Attendance:2)
  Comparative assessment questions (medium length) in the beginning and close of the programme. Marks: 3; Time: 0.5 hour each at the beginning and end.
- Total marks: 25 converted to grade for final result
- Grading system: 90% marks & above: A grade

80% - 89% marks : B grade
70% - 79% marks : C grade
60% - 69% marks : D grade
50% - 59% marks : E grade
Below 50% marks : F grade (Fail - must give the exam again)

SYLLABUS

Module I Being a Human: Introduction & Initial Assessment

- Introduction to the programme
- Initial Assessment of the students through written answers to a couple of questions

Module 2 The Human Story

- Comprehensive overview of human intellectual growth right from the birth of human history
- The wisdom of the Ancients
- Dark Middle Ages
- Revolutionary Renaissance
- Progressive modern times
- Most momentous turning points, inventions and discoveries

Module 3 *The Vedas* and the Indian Philosophy

- Origin, teachings and significance of *The Vedas*
- Upnishads and Puranas
- Karma Theory of *The Bhagwad Gita*
- Main tenets of Buddhism & Jainism
- Teachings of Guru Granth Sahib

Module 4 Changing Paradigms in Society, Religion & Literature

- Renaissance: The Age of Rebirth
- Transformation in human thought
- Importance of humanism
- Geocentricism to heliocentricism
- Copernicus, Galileo, Columbus, Darwin and Saint Joan
- Empathy and Compassion

Module 5 Woman: A Journey through the Ages

- Status of women in pre-vedic times
- Women in ancient Greek and Roman civilizations
- Women in vedic and ancient India
- Status of women in the Muslim world
- Women in the modern world

- Crimes against women
- Women labour workforce participation
- Women in politics
- Status of women- our dream

Module 6 Makers of Modern India

- Early engagement of foreigners with India
- Education: The first step to modernization
- Railways: The lifeline of India
- Raja Ram Mohan Roy, Gandhi, Nehru, Vivekanand, Sardar Patel etc.
- Indira Gandhi, Mother Teresa, Homai Vyarawala etc.
- The Way Ahead

Module 7 Racism: Story of the West

- European beginnings of racism
- Racism in the USA - Jim Crow Laws
- Martin Luther King Jr. and the battle against racism
- Apartheid and Nelson Mandela
- Changing face of racism in the modern world

Module 8 Modern World at a Glance: Political & Economic Perspective

- Changing world order
- World War I & II
- UNO and The Commonwealth
- Nuclear Powers; Terrorism
- Economic Scenario: IMF, World Bank
- International Regional Economic Integration

Module 9 Technology Vis a Vis Human Life

- Impact of technology on modern life
- Technological gadgets and their role in our lives
- Technology and environment
- Consumerism and materialism
- Psychological and emotional consequences of technology
- Harmonizing technology with ethics and humaneness

Module 10 My Nation My Pride

- Indian Past Culture and Heritage
- Major Discoveries (Medicinal and Scientific)
- Vedic Age
- Prominent Achievements
- Art, Architecture and Literature

Module 11 The KMV Experience

- Rich Legacy of KMV
- Pioneering role in women emancipation and empowerment
- KMV Contribution in the Indian Freedom Struggle
- Moral, cultural and intellectual heritage of KMV
- Landmark achievements
- Innovative initiatives; international endeavours
- Vision, mission and focus
- Conduct guidelines for students

Module 12 Final Assessment, Feedback & Closure

- Final multiple choice quiz
- Assessment through the same questions asked in the beginning
- Feedback about the programme from the students
- Closure of the programme

PRESCRIBED READING

- ***The Human Story*** published by Dawn Publications

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2421
PUNJABI (COMPULSORY)

COURSE OUTCOMES

CO1: ਆਤਮ ਅਨਾਤਮ ਪੁਸਤਕ ਦੇ ਕਹਾਣੀ ਭਾਗ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਕਹਾਣੀ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO2:ਗੱਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿਤ੍ਰ ਤੇ ਹਲਕੇ ਲੇਖ) ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।

CO3:ਸੰਖੇਪ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮੇਂ ਅਤੇ ਮਿਹਨਤ ਦੀ ਬੱਚਤ ਕਰਨ ਬਾਰੇ ਦੱਸਣਾ ਹੈ।

CO4:ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO5:ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ।ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2421
PUNJABI (COMPULSORY)

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 50
Theory : 40
CA: 10

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਆਤਮ ਅਨਾਤਮ(ਕਹਾਣੀਭਾਗ),(ਸੰਪ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ) ਗੁਰੂ ਨਾਨਕ ਦੇਵ

ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਉਜਾੜ,ਦਲਦਲ ਕਹਾਣੀਆਂ ਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾ ਨਹੀਂ ਹੈ)

(ਵਿਸ਼ਾ-ਵਸਤੂ, ਸਾਰ)08 ਅੰਕ

ਯੂਨਿਟ-II

ਗੱਦ ਪ੍ਰਵਾਹ (ਰੇਖਾ ਚਿਤ੍ਰ ਤੇ ਹਲਕੇ ਲੇਖ), ਸੰਪਾ.ਬਿਕਰਮ ਸਿੰਘ ਘੁੰਮਣ, ਜਸਪਾਲ ਸਿੰਘ ਰੰਧਾਵਾ,ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ,ਅੰਮ੍ਰਿਤਸਰ।

(ਹਲਕੇ ਲੇਖ 1 ਤੋਂ 5)(ਆਉ ਗੱਲਾਂ ਕਰੀਏ ਲੇਖ ਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾ ਨਹੀਂ ਹੈ)

(ਸਾਰ,ਵਿਸ਼ਾ ਵਸਤੂ)08 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਨਾਂਵ,ਪੜਨਾਂਵ,ਕਿਰਿਆ,ਵਿਸ਼ੇਸ਼ਣ
(ਅ) ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ: ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ,ਸੰਬੰਧਕ,ਯੋਜਕ,ਵਿਸਮਿਕ

08 ਅੰਕ

ਯੂਨਿਟ-IV

(ੳ)ਸੰਖੇਪ ਰਚਨਾ

(ਅ) ਮੁਹਾਵਰੇ 08 ਅੰਕ

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1) ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-Dਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2) ਵਿਦਿਆਰਥੀ ਨੇ ਕੁਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾਜਾ ਸਕਦਾ ਹੈ।
3) ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।
4) ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2031
BASIC PUNJABI

In lieu of Punjabi(Compulsory)

Course outcomes

CO1:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦੇ ਮੌਕੇ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ।

CO2:ਇਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀਕਬੀਨੀ ਨਾਲ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO3:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO4:ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO5:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲ ਕਰਨਾ ਹੈ।

CO6:ਵਿਦਿਆਰਥੀ ਵਾਕ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਇਸਦੀ ਬਣਤਰ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ ਅਤੇ ਭਾਸ਼ਾ ਤੇ ਪਕੜ ਮਜਬੂਤ ਹੋਵੇਗੀ।

CO7:ਪੈਰ੍ਹਾ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO8: ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ।

CO9:ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ।ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2031
BASIC PUNJABI

In lieu of Punjabi(Compulsory)

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 50
Theory : 40
CA : 10

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ (ਨਾਂਵ, ਪੜਨਾਂਵ, ਕਿਰਿਆ, ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ, ਸਬੰਧਕ,

ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ)

08 ਅੰਕ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀਵਾਕਬਣਤਰ : ਮੁੱਢਲੀਜਾਣਪਛਾਣ

(ੳ) ਸਾਧਾਰਨਵਾਕ, ਸੰਯੁਕਤ ਵਾਕ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ)

(ਅ) ਬਿਆਨੀਆ ਵਾਕ, ਪ੍ਰਸ਼ਨ ਵਾਚਕ ਵਾਕ ਅਤੇ ਹੁਕਮੀ ਵਾਕ (ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ)

08 ਅੰਕ

ਯੂਨਿਟ-III

ਪੈਰ੍ਹਾ ਰਚਨਾ

ਅਖਾਣ (ਅਖਾਣਾਂ ਦੀ ਲਿਸਟ ਨਾਲ ਨੱਥੀ ਹੈ)

08 ਅੰਕ

ਯੂਨਿਟ-IV

ਚਿੱਠੀ ਪੱਤਰ (ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ)

ਮੁਹਾਵਰੇ (ਮੁਹਾਵਰਿਆਂ ਦੀ ਲਿਸਟ ਨਾਲ ਨੱਥੀ ਹੈ)

08 ਅੰਕ

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1) ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ ਸੈਕਸ਼ਨ ਹੋਣਗੇ।ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2) ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3) ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕ ਹਨ।
4) ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2431
Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

COURSE OUTCOMES

After completing Semester II and course on Ancient History of Punjab students will be able to understand:

CO 1: The reasons and impact of Alexander's invasions

CO 1 (a): To understand the various factors leading to rise and fall of empires and emergence of new dynasties and their administration specifically of Maurya rule in general and Ashok in particular

CO 2: art and architecture of Gupta period and the Indo-Greek style of architecture under Gandhara School

CO 3: To have an insight into the socio-cultural history under Harshvardhan and punjab under the stated period

CO 4: To enable students to have thorough insight into the various forms/styles of Architecture and synthesis of Indo - Greek Art and Architecture in Punjab

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITL–2431
Punjab History and Culture (From Earliest Times to C 320)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

Examination Time: 3 Hours

Max. Marks: 50
Theory: 40
C A: 10

Instructions for the Paper Setter:

1. Question paper shall consist of four Units

2. Examiner shall set 8 questions in all by selecting Two Questions of equal marks from each Unit.

3.Candidates shall attempt 5 questions in 600 words, by at least selecting One Question from each Unit and the 5th question may be attempted from any of the four Units.

4.Each question will carry 8 marks

Unit-I

1. Alexander's Invasion's and Impact
2. Administration of Chandragupta Maurya with special reference to reforms introduced by Ashok

Unit-II

3. The Kushans: Gandhar School of Art
4. Gupta Empire: Golden Period-Social and cultural life, Art and Architecture)

Unit-III

5. The Punjab under Harshvardhana
6. Socio-cultural History of Punjab from 7th to 1000 A.D.

UNIT IV

7. Development of Languages and Education with Special reference to Taxila
8. Development to Art and Architecture

Suggested Readings

- B.N. Sharma: *Life in Northern India*, Delhi. 1966
- BudhaParkash, *Glimpses of Ancient Punjab*, Patiala, 1983.
- L. M Joshi (ed), *History and Culture of the Punjab*, Art-I, Punjabi University, Patiala, 1989 (3rd edition)
- L.M. Joshi and Fauja Singh (ed.), *History of Punjab* ,Vol.I, Punjabi University, Patiala, 1977.

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITM–2102
COMMUNICATION SKILLS IN ENGLISH

Examination Time: (3+3) Hours

Max. Marks: 50
Theory: 25
Practical: 15
CA: 10

COURSE OUTCOMES:

At the end of this course, the students will develop the following skills:

CO1: Enhancement of listening skills with the help of listening exercises based on conversation, news and TV reports

CO2: The ability of Note-Taking to be able to distinguish the main points from the supporting details and the irrelevant information from the relevant one using Listening Skills

CO3: Acquisition of knowledge of phonetics which will help them in learning about correct pronunciation as well as effective speaking

CO4: Speaking skills of the students enabling them to take active part in group discussion and present their own ideas

Bachelor of Science (Information Technology) Semester- II

(Session 2022-23)
COURSE CODE: BITM–2102
COMMUNICATION SKILLS IN ENGLISH

Examination Time: (3+3) Hours **Max. Marks: 50**
Theory: 25
Practical: 15
CA: 10

Instructions for the paper setters and distribution of marks:

The question paper will consist of four sections and distribution of marks will be as under:

Section-A: Two questions of theoretical nature will be set from Unit I of the syllabus and the candidates will have to attempt one carrying 5 marks.

Section-B: Two questions will be set from Unit II of the syllabus. Candidates will have to attempt one carrying 5 marks.

Section-C: Two questions will be set from Unit III of the syllabus. Candidates will have to attempt one carrying 5 marks.

Section-D: Two questions will be set from Unit IV of the syllabus. Candidates will have to attempt one carrying 5 marks.

Important Note:

The candidate will have to attempt five questions in all selecting one from each section of the question paper and the fifth question from any of the four sections.

(5 x 5 = 25)

Course Contents:

UNIT I

Listening Skills: Barriers to listening; effective listening skills; feedback skills.

Activities: Listening exercises – Listening to conversation, News and TV reports

UNIT II

Attending telephone calls; note taking and note making

Activities: Taking notes on a speech/lecture

UNIT III

Speaking and Conversational Skills: Components of a meaningful and easy conversation,understanding the cue and making appropriate responses, forms of polite speech, asking and providing information on general topics

Activities:

1. Making conversation and taking turns
2. Oral description or explanation of a common object, situation or concept

UNIT IV

The study of sounds of English, stress Situation based

Conversation in English Essentials of spoken English

Activities: Giving Interviews

References / Textbooks:

1. Oxford Guide to Effective Writing and Speaking by John Seely.
2. Business Communication by Sethi, A and Adhikari, B., McGraw Hill Education 2009.
3. Communication Skills by Raman, M. & S. Sharma, OUP, New Delhi, India (2011).
4. A Course in Phonetics and Spoken English by J. Sethi and P.V. Dhamija, Phi Learning.

PRACTICAL / ORAL TESTING

Time: 3 hours **Marks: 15**

Course Contents:

1. Oral Presentation with/without audio visual aids

2. Group Discussion

3. Listening to any recorded or live material and asking oral questions for listening comprehension

Questions:

1. Oral Presentation will be of 5 to 7 minutes duration. (Topic can be given in advance or it can be of student's own choice). Use of audio-visual aids is desirable.
2. Group discussion comprising 8 to 10 students on a familiar topic. Time for each group will be 15 to 20 minutes.

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITL–2113
PRINCIPLES OF DIGITAL ELECTRONICS

Course Outcomes:

After the completion of this course, the student will be able to:

CO1: Comprehend and apply the number systems

CO2: Apply K-map for simplification of Boolean expressions and implement them with Logic Gates

CO3: Design advanced and complex combinational and sequential circuits

CO4: Demonstrate the internal structure of semiconductor memory

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITL–2113
PRINCIPLES OF DIGITAL ELECTRONICS

Examination Time: 3 Hours **Max. Marks: 100**
Theory:80
CA:20

Instructions for Paper Setter -

Eight questions of equal marks (16 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

UNIT-I

Number System: Introduction, number conversion system , binary arithmetic, representation ofsigned binary numbers, 1's and 2's complement, Codes: straight binary code, BCD Code Excess3 Code, Grey Code ASCII, Integer and floating point representation

UNIT-II

Logic Gates and Boolean Algebra: Logic gates, Universal Gates, Boolean algebra andMinimization techniques, canonical forms of Boolean expressions, K-Map

UNIT- III

Combinational Circuits: Adder, Subtracter, Multiplexer, Demultiplexer, Decoder, Encoder
Sequential Circuits: Flip-flops, clocks and timers, registers, counter

UNIT-IV

Semiconductor memories: Introduction, Static and dynamic devices, read only &randomaccess memory chips, PROMS and EPROMS Address selection logic. Read and write control timing diagrams for ICs

References / Textbooks:

1. M. Morris Mao, Digital Design, Pearson Publication (2018), 6th Edition.
2. Ronald J. Tocci, Digital Systems, Pearson (2009), 10th Edition.
3. Morris Mano, Digital Logic and Computer Design, Pearson Education (2004), 1st Edition.
4. V.K. Jain, Arti Agarwal, Digital Electronics, Genius Publications Pvt. Ltd. (2018), 1st Edition
5. K. Meena, Principles of Digital Electronics, Prentice Hall India Learning Private Limited (2009), 1st Edition
6. William H. Gothmann, Digital Electronics: An introduction to Theory and Practice, Prentice Hall India Learning Private Limited (1982), 2nd Edition

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITL–2114
NUMERICAL METHODS AND STATISTICAL TECHNIQUES

Course Outcomes:

After the completion of this course, the student will be able to:

CO1: Solve non-linear and linear equations using different methods

CO2: Comprehend interpolation and numerical integration

CO3: Calculate different means and deviations using statistical techniques

CO4: Comprehend correlation, curve fitting and regression for finding solutions to various statistical problems

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITL–2114
NUMERICAL METHODS AND STATISTICAL TECHNIQUES

Examination Time: 3 Hours | **Max. Marks: 100**
Theory:80
CA:20

Instructions for Paper Setter -

Eight questions of equal marks (16 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. Students can use non-programmable and non-storage type scientific calculator.

UNIT-I

Introduction: Numerical Methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.

Non–linear Equations: Bisection Method, False Position method and Newton Raphson's Method

Linear Equations: Direct Method - Gauss Elimination Method, Gauss Jordan Method, Iterative method – Gauss Seidal Method.

UNIT-II

Interpolation: Lagrange's method, Newton's Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.

Numerical Integration: Trapezoidal Rule, Simpson's 1/3 method and Simpson's 3/8 Method

UNIT-III

Statistical Techniques:

Measure of Central Tendency: Arithmetic mean, Geometric Mean, Harmonic Mean, Median, Mode.

Measures of dispersion: Range, Quartile Deviation, Mean deviation, Standard deviation, Co–efficient of variation.

UNIT –IV

Correlation: Introduction, Karl Pearson's Coefficient of Correlation, Rank Correlation

Regression: Regression line and regression equations, Regression Coefficient

Curve Fitting: Fit a polynomial equation, Fit an exponential curve, Geometric Curve, Logarithmic curve

References / Textbooks:

1. AmrinderPalSngh, Jaspal Singh, Anshuman Sharma, Fundamentals Of Numerical Methods And Statistical Techniques, Lakhanpal Publishers, 4th edition.
2. Kandasamy P.& et AI., Numerical Methods, S. Chand & Company (2006), Reprint Edn. 2006 Edition.
3. B.S. Grewal, Numericals Methods in Engineering & Science, Khanna Publishers (2013), 11th Edition.
4. E. Balagurusamy, Numerical Methods, Tata McGraw Hill Education (2017)
5. H.S.G. Rao, Numerical Methods, IK International Publishing House (2011)
6. S.S. Sastry, Introductory methods of Numerical Analysis, PHI (2012), 5th Edition

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITM–2115
INTRODUCTION TO OBJECT ORIENTED PROGRAMMING - I

Course Outcomes:

After the completion of this course, the student will be able to:

CO1: Comprehend the concepts of Object-Oriented Programming Paradigm

CO2: Identify the use of access specifiers and different types of constructors in class

CO3: Apply function and operator overloading

CO4: Comprehend different types of inheritance and polymorphism

Bachelor of Science (Information Technology) Semester- II
(Session 2022-23)
COURSE CODE: BITM–2115
INTRODUCTION TO OBJECT ORIENTED PROGRAMMING - I

Examination Time: (3+3) Hrs **Max. Marks: 100**
Theory:50
Practical: 30
CA:20

Instructions for Paper Setter -

Eight questions of equal marks (10 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts(not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section

UNIT-I

Programming Paradigms: Introduction to the object-oriented approach towards programmingby discussing Traditional, Structured Programming methodology.

Objects & Classes: Object Definition, Instance, Encapsulation, Data Hiding, Abstraction,Inheritance, Messages, Method, Polymorphism, Classes.

UNIT-II

Object Oriented Programming using C++: Characteristics of OOP, Overview of C++, I/Ousing cout and cin, Objects and Classes, Member functions and data, private & public, constructor & destructor, Constructor Overloading, Types of Constructors.

UNIT-III

Function Overloading: Function Overloading, Default Arguments, Ambiguity in FunctionOverloading.

Operator Overloading: Overloading unary and binary operators, Type Conversion usingOperator Overloading

UNIT -IV

Inheritance: Concept of inheritance, Base & derived classes, Access Specifiers, ClassHierarchies, Types of Inheritance with examples.

Virtual Functions and Polymorphism: Virtual functions, friend functions, static function, thispointer, polymorphism, Types of Polymorphism with examples, templates, class templates.

References / Textbooks:

1. HerberttSchildt, C++: The Complete Reference, Tata McGraw-Hill Education India, 4th Edition.
2. Bjarne Stroustrup, The C++ Programming Language, Addison – Wesley Professional (2013), 4th Edition
3. Bjarne Stroustrup, A Tour of C++ (C++ In-Depth Series), Addison – Wesley Professional (2018), 2nd Edition
4. G.S. Baluja, C++ Program Design (w/CD), Khanna Book Publishing Company (2015), 2nd edition.
5. Stanley Lippman, Josee Lajoie, Barbara Moo, C++ Primer, Addison-Wesley Professional (2012), 5th edition.
6. Richard Johnsonbaugh and Martin Kalin, Object Oriented Programming in C++, Pearson Education (1999), 2nd Edition

Bachelor of Computer Applications Semester – II
(Session 2022-23)
COURSE CODE: SECM-2502
MORAL EDUCATION COURSE
AUDIT COURSE (VALUE ADDED)

CourseTitle:Moral Education

CourseDuration:30hours

Courseintendedfor: SemesterIIstudentsofundergraduatedegreeprogrammes ofallstreams.

CourseCredits:2

CourseCode:SECM-2502

CourseDescription:-

The Moral Education Programme has been introduced as part of the curriculum of second semester of all streams of undergraduate degree programmes. Moral education has been added as a compulsory subject, the awards of which will not be incorporated in the total marks but will earn the student two credits.

Expectations:-

This academic input has been taken up to sensitize the students to the need of a morally upright character in the present time

EXAMINATION

- **Total Marks: 25 (Final Exam: 20; Internal Assessment: 5)**
- Final Exam: multiple choice Questions Marks-20; Time: 1 hour
- Internal Assessment: 5 (Assessment: 3; Attendance:2)
- Total marks: 25 converted to grade for final result
- Grading system: 90% marks & above: A grade

80%-89% marks : B grade

70%-79% marks : C grade

60%-69% marks : D grade

50%-59% marks : E grade

Below 50% marks : F grade (Fail - must give the exam again)

SYLLABUS

Module I: Introduction

- What is Moral Education
- Need content and purpose
- Vedic values
- Character building

Module II: The Self and You

- Understanding the Self-Self awareness, fighting the five evils (lust, anger. attachment, ego and greed), Self growth.
- Personal ethics
- Aspiration v/s ambition, self- seeking v/s selflessness
- Self Discipline

Module III: The Family and You

- Importance of family- the basic unit of human interaction.
- Generation gap
- Relation with peer group, sibling, elders,

Module IV: The Society and You

- Social responsibility
- Our rights and duties
- Civic sense
- Opposite sex relations
- Globalization and IT boom - Cellphone menace
- Drug abuse
- Sex abuse

Module V: The Nation and You

- International peace and brotherhood
- Saving the environment

Bachelor of Science (Information Technology) Semester – III

Session 2022-23
COURSE CODE: BITL–3111
COMPUTATIONAL PROBLEM SOLVING

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend basics of Python programming like operators, data types, control structuresetc.

CO2: Apply list and directories for handling and accessing data through iterations

CO3: Implement various built-in and user defined function to solve mathematical problems

CO4: Comprehend Object Oriented Programming and modules in Python

Bachelor of Science (Information Technology) Semester – III

Session 2022-23
COURSE CODE: BITL–3111
COMPUTATIONAL PROBLEM SOLVING

Examination Time: 3 Hours. **Max. Marks: 75**
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT- I

Introduction to Problem solving using Python: Process of Computational Problem Solving, Python Programming Language.

Data and Expressions: Literals, Variables and Identifiers, Operators, Expressions, Statements and Data Types.

Control Structures: Boolean Expressions (Conditions), Logical Operators, Selection Control, Nested conditions, Debugging.

UNIT- II

Lists: List Structures, Lists (Sequences) in Python, Iterating Over Lists (Sequences) in Python.

Iteration: While statement, Definite loops using For, Loop Patterns, Recursive Functions, Recursive Problem Solving, Iteration vs. Recursion.

Dictionaries: Dictionaries and Files, Looping and dictionaries, Advanced text parsing.

UNIT- III

Functions: Fundamental Concepts, Program Routines, Flow of Execution, Parameters & Arguments.

Files: Opening Files, Using Text Files, String Processing, Exception Handling.

UNIT- IV

Objects and Their Use: Introduction to Object Oriented Programming.

Modular Design: Modules, Top-Down Design, Python Modules.

Using Databases and SQL: Database Concepts, SQLite Manager Firefox Add-on, SQL basic summary, Basic Data modeling, Programming with multiple tables.

References/Textbooks:

1. Charles Severance, Python for Informatics, Version 0.0.7.
2. Charles Dierbach, Introduction to Computer Science Using Python: A Computational Problem-Solving Focus, Wiley Publications, 2012.
3. Guttag John V, Introduction To Computation And Programming Using Python, PHI, 2014.
4. Jeeva Jose and Sojan P. Lal, Introduction to Computating& Problem Solving Through Python, Khanna Publishers, 2015.
5. Mark J. Guzdial, Introduction to Computing and Programming in Python, Pearson Education, 2015.
6. Kenneth Lambert, Fundamentals of Python, Course Technology, Cengage Learning, 2015
7. Mark Lutz, Learning Python, O'Reilly Media, 2013

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – III

Session 2022-23
COURSE CODE: BITL–3112
DATA STRUCTURES

Course Outcomes:

After passing course the student will be able to:

CO1: Analyze complexity of algorithms to determine their efficiency

CO2: Comprehend various hashing method, sorting and searching algorithms

CO3: Comprehend various operations of stack and queue along with different scenarios

CO4: Comprehend advanced data structures such as tree and graph

Bachelor of Science (Information Technology) Semester – III

Session 2022-23
COURSE CODE: BITL–3112
DATA STRUCTURES

Examination Time: 3 Hours. **Max. Marks: 75**
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT-I

Basic Data Structure: Introduction to elementary Data Organization, Common Operation on Data Structures, Algorithm Complexity, Big O Notation, Time – Space tradeoff between Algorithms.

Arrays: Array Defined, Representing Arrays in Memory, Various Operations on Linear Arrays, Multidimensional Arrays.

UNIT-II

Sorting and Searching: Sorting Algorithms, Bubble Sort, Insertion Sort, Selection Sort, Merge Sort, Searching Algorithms, Linear Search and Binary Search.

Hashing: Hash Functions, Division Method, MidSquare Method, Folding Method.

Linked Lists Types of Linked Lists, Representing Linked Lists in Memory, Advantages of using Linked Lists over Arrays, Various Operations on Linked Lists.

UNIT-III

Stacks: Description of STACK structure, Implementation of Stack using Arrays and Linked Lists, Applications of Stacks – Converting Arithmetic expression from infix notation to polish and their subsequent evaluation, Quicksort Technique to sort an array.

Queues: Description of queue structure, Implementation of queue using arrays and linked lists, Description of priorities of queues, Dequeues.

UNIT-IV

Trees: Description of Tree Structure and its Terminology, Binary Trees and Binary Search Trees and their representation in Memory, Heapsort.

Graphs: Description of Graph Structure, Implement Graphs in Memory using Adjacency Matrix, PathMatrix, graph traversal techniques - DFS, BFS.

References/Textbooks:

1. Seymour Lipschutz, Data Structures, Schaum'sOutlineSeries,McGraw Hill Company, 2013.
2. Aaron M. Tenenbaum, Data StructuresusingC, Pearson Education, 1990.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – III

Session 2022-23
COURSE CODE: BITL–3113
SYSTEM ANALAYSIS AND DESIGN

Course Outcomes:

After passing course the student will be able to:

CO1: Gather data to analyze and specify the requirements of a system

CO2: Comprehend various system analysis and design processes

CO3: Identify different types of testing and involved documentation

CO4: Comprehend implementation of system along with its maintenance

Bachelor of Science (Information Technology) Semester – III

Session 2022-23

COURSE CODE: BITL–3113
SYSTEM ANALYSIS AND DESIGN

Examination Time: 3 Hours. **Max. Marks: 75**
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT–I

System Planning and Analysis: Introducing System Analysis and Design, SA&D Concepts,Qualifications and Responsibilities of System Analyst as an agent of change, Systems development life cycle and role of different stages Determining Feasibility, types of feasibility, Feasibility Study.

Information Requirements analysis: Sampling and investigating data through Interviews and Questionnaires, use of Structured English, Decision tables.

UNIT–II

System Analysis Process: Using data flow diagrams, data dictionaries, describing Process specifications and system proposal

System Design:Architectural Design, User Interface Design, Data Design, Module specifications, Module coupling and cohesion, Top-down and bottom-up design,

UNIT–III

Tools for Structured design and System design considerations.

System Development and Testing: Introduction to testing and itstypes, Types of Documentation and Documentation Tools.

UNIT–IV

System Implementation: Quality Assurance, Managing system implementation, Transition to new system. Different modes for training users.

System Maintenance: Concept of maintenance and its importance, compare and contrast different types of maintenance.

References/Textbooks:

1. Marvin R. Gore and John W. Stubbe, Elements of System Analysis, Dubuque, Iowa Wm.C. Brown 1988.
2. Thapliyal M.P., System Analysis and Design,JBD Publisher, 2002.
3. Hoffer, Modern Systems Analysis and Design, George and Valacich, Pearson, 2014.
4. Dorny C. Nelson, Understanding Dynamic System: Approaches to Modelling, Analysis and Design, Pearson, 1993.
5. Perry Edwards, System Analysis and Design, McGraw-Hill, 1993.
6. Elias M. Awad, System Analysis and Design, Galgotia Publications, 1997.
7. James A. Senn, Analysis and Design of Information Systems, McGraw-Hill, 1989.
8. Silver and Silver, System Analysis and Design, Addison Wesley, Last Edition

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – III

Session 2022-23

COURSE CODE: BITP–3114
LAB ON COMPUTATIONAL PROBLEM SOLVING

Examination Time: 3 Hours.

Max. Marks: 50
Practical: 40
CA: 10

Lab–I: Lab on computational problem solving.

Bachelor of Science (Information Technology) Semester- III

Session 2022-23

COURSE CODE: BITP–3115
LAB ON DATA STRUCTURES

Examination Time: 3 Hours. **Max. Marks: 25**
Practical: 20
CA: 05

Lab – II: Lab on Data Structures.

Bachelor of Science (Information Technology) Semester- III
(Session 2022-23)
COURSE CODE: AECE-3221
ENVIRONMENTAL STUDIES
(COMPULSORY PAPER)

Course Outcomes:

CO1: Understand the concept and need of environmental education.

CO2: Understand the role of an individual in conservation of natural resources.

CO3: Learn about role of major Eco system and their conservation.

CO4: Develop desirable attitude,value and respect for protection of Biodiversity.

CO5: Learn about the control measure of pollution and solid waste management.

CO6:Understand the role of different agencies in the protection of environment.

CO7: Knowledge regarding welfare programmes and Human rights.

CO8: Knowledge about the applied value of environmental studies.

Bachelor of Science (Information Technology) Semester- III
(Session 2022-23)
COURSE CODE: AECE-3221
ENVIRONMENTAL STUDIES
(COMPULSORY PAPER)

Time: 3Hrs. **Max. Marks: 100**
Theory: 60
Project Report: 20
CA: 20

Instructions for the Paper Setter:

The question paper should carry 60 marks.

The structure of the question paper being:

Part-A, Short answer pattern – 20 marks

Attempt any five questions out of seven. Each question carries 4 marks. Answer to each question should not exceed 2 pages

Part-B, Essay type with inbuilt choice – 40 marks

Attempt any five questions out of eight. Each question carries 8 marks. Answer to each question should not exceed 5 pages.

Unit 1

The multidisciplinary nature of environmental studies

Definition, scope and importance, Need for public awareness

Unit 2

Natural Resources: Renewable and non-renewable resources:

Natural resources and associated problems.

(a) Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

(b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

(c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

(d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

(e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies.

(f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.

Unit 3

Ecosystems

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids
- Introduction, types, characteristic features, structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries)

Unit 4

Biodiversity and its conservation

- Introduction – Definition: genetic, species and ecosystem diversity
- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values
- Biodiversity at global, national and local levels
- India as a mega-diversity nation
- Hot-spots of biodiversity
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts
- Endangered and endemic species of India
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity

Unit 5

Environmental Pollution

Definition

- Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear pollution
- Solid waste management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution
- Pollution case studies
- Disaster management: floods, earthquake, cyclone and landslides

Unit 6

Social Issues and the Environment

- From unsustainable to sustainable development
- Urban problems and related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns. Case studies.
- Environmental ethics: Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation
- Consumerism and waste products
- Environmental Protection Act, 1986
- Air (Prevention and Control of Pollution) Act, 1981
- Water (Prevention and control of Pollution) Act, 1974
- Wildlife Protection Act
- Forest Conservation Act

- Issues involved in enforcement of environmental legislation
- Public awareness

Unit 7

Human Population and the Environment

- Population growth, variation among nations
- Population explosion – Family Welfare Programmes
- Environment and human health
- Human Rights

- Value Education
- HIV / AIDS
- Women and Child Welfare
- Role of Information Technology in Environment and Human Health
- Case Studies

Unit 8

Field Work

- Visit to a local area to document environmental assets river/forest/grassland/hill/mountain
- Visit to a local polluted site – Urban / Rural / Industrial / Agricultural
- Study of common plants, insects, birds
- Study of simple ecosystems-pond, river, hill slopes, etc

References:

1. Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.
2. Down to Earth, Centre for Science and Environment, New Delhi.
3. Heywood, V.H. & Waston, R.T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.
4. Joseph, K. & Nagendran, R. 2004. Essentials of Environmental Studies, Pearson Education (Singapore) Pte. Ltd., Delhi.
5. Kaushik, A. & Kaushik, C.P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delhi.
6. Rajagopalan, R. 2011. Environmental Studies from Crisis to Cure. Oxford University Press, New Delhi.
7. Sharma, J. P., Sharma. N.K. & Yadav, N.S. 2005. Comprehensive Environmental Studies, Laxmi Publications, New Delhi.
8. Sharma, P. D. 2009. Ecology and Environment, Rastogi Publications, Meerut.
9. State of India's Environment 2018 by Centre for Sciences and Environment, New Delhi
10. Subramanian, V. 2002. A Text Book in Environmental Sciences, Narosa Publishing House, New Delhi

Bachelor of Science (Information Technology) Semester- III
(Session 2022-23)
COURSE CODE: SECP - 3512
PERSONALITY DEVELOPMENT
Audit Course (Value added)

Course duration: 30 hours
Course credits: 2 (For Credit based Continuous Evaluation Grading System)
Course Code: SECP-3512

PURPOSE
To enhanceholisticdevelopmentofstudents and improve their employability skills.

INSTRUCTIONAL OBJECTIVES
- To re-engineer attitude and understand its influence on behaviour.
- To develop inter-personal skills and be an effective goal-oriented team player.
- To develop communication and problem solving skills.
- To develop professionals with idealistic, practical and moral values.

LEARNING OUTCOMES
- On completion of the course, students will be able to hone their personality by
- Realisation of the importance and incorporation of positive thinking and attitude in life
- Enhacement of self confidence and analysis of self capabilities
- Learning the different communication skills for self expression
- Effective use of time to combat stress and increase in productivity
- Enhancing personality by physical grooming and fitness
- Understanding the role of design principles and appropriateness of apparel
- Incorporating social etiquettes in daily life and conduct
- Excelling in decision making and leadership qualities

CURRICULUM

Course credits-2 **Total Contact Hours-30**

MODULE	TITLE	HOURS
1.	**Positive Thinking & Attitude**	**2**
2.	**Self Analysis & Self Confidence**	**2**
3.	**Communication Skills**	**10**
	• **Basic Communication Skills** • **Body Language** • **Interview Skills** • **Résumé Writing** • **Group Discussion** • **Telephone and E-mail etiquette** • **Public Speaking**	

4.	**Time Management**	**2**
5.	**Stress and Conflict Management**	**2**
6.	**Physical Fitness and Personal Grooming**	**2**
7.	**Appropriateness of Apparel**	**2**
8.	**Social Etiquette**	**2**
9.	**Decision Making process & Problem Solving Skills** • **Leadership Skills** • **Goal Setting** • **Motivation**	**5**
10.	**Closure**	**1**

EXAMINATION

1. Total marks of the course will be 25 (Final Examination: 20 Marks; Internal Assessment: 5Marks)
2. The pattern of the final examination will be multiple choice questions. 25 multiple choice type questions will be set. The student shall attempt 20 questions. Each question will carry 1 mark (20 X 1 = 20). Total time allotted will be 1 hour.
3. Internal Assessment will consist of Attendance: 2 Marks, Internal: 3 Marks.(Total Internal Assessment:5 Marks)

SYLLABUS

MODULE 1: Positive Thinking & Attitude

- Factors Influencing Attitude
- Essentials to develop Positive Attitude
- Challenges &lessons from Attitude

MODULE 2: Self Analysis & Self Confidence

- Who am I
- Importance of Self Confidence
- SWOT Analysis

MODULE 3: Communication Skills

(i) Basic Communication Skills

- Speaking skills
- Listening skills
- Presentation skills

(ii) Body Language

- Forms of Non-Verbal Communication
- Interpreting body language clues
- Effective use of body language

(iii) Interview Skills

- Type of Interviews
- Ensuring success in job interviews
- Appropriate use of Non-verbal Communication

(iv) Résumé Writing

- Features
- Different types of résumé for Different posts

(v) Group Discussion

- Difference between Group discussion and debate
- Importance of Group Discussion
- Group Decision
- Ensuring success in group discussions

(vi) Telephone & E-mail Etiquette

- Telephone etiquette
- E-mail etiquette

(vii) Public Speaking

- Introductory speech
- Informative speech
- Persuasive speech
- Extemporesession

MODULE 4: Time Management

- Importance of time management
- Values & beliefs
- Goals and benchmarks – The ladders of success
- Managing projects and commitments
- Prioritizing your To-do's
- Getting the results you need

MODULE 5: Stress & Conflict Management

- Introduction to stress
- Types of stressors
- Small changes and large rewards
- Stress prevention
- Overcoming unhealthy worry
- Stress at home and workplace
- Dealing with frustration and anger
- Stress reducing exercises

- Understanding conflicts
- Violent and Non-violent conflicts
- Source of conflict
- Structural and cultural violence

MODULE 6: Physical Fitness and Personal Grooming

- Fitness and exercise
- Balanced & healthy diet
- Skin care & Hair care
- Make-up skills

MODULE 7: Appropriateness of Apparel

- Apparel & Personality
- Psycho-social aspects of apparel
- Style-tips for smart dressing & effective use of design elements

MODULE 8: Social Etiquette

- Civic Sense
- Workplace skills
- Meeting and greeting people
- Table Setting and table manners

MODULE 9: Decision Making Process and Problem Solving Skills

- Anatomy of a decision
- How to use problem solving steps and problem solving tools
- How to distinguish root causes from symptoms to identify right solution for right problems
- How to improve problem solving and decision making by identifying individual problem solving styles
- The creative process for making decisions
- Tools to improve creativity
- Implementing the decision – Wrap up

(i) Leadership Skills

- Handling peer pressure and bullies
- Team work
- Decision making
- Taking initiatives

(ii) Goal Setting

- Wish list
- SMART goals
- Blueprint for success
- Short-term, Long-term, Life-term Goals

(iii) Motivation

- Factors of motivation
- Self talk
- Intrinsic & extrinsic motivators

Books Recommended

1. Rossi, P.(2011).*Everyday Etiquette: How to navigate 101 common and uncommon social situations*. St Martins Pr.
2. Pietrzak, T.,& Fraum,M. (2005). *Building career success skills*. ASTD Press.
3. Treffinger, D.J., Isaksen, S.G., &Brian, K. (2005). *Creative problem solving: An Introduction*.
4. Carr, A. (2004).*Positive Psychology: The science of happiness and human strengths*. Burnner-Routlrdge.
5. Oberg, B.C. (1994).*Speech craft: An Introduction to public speaking*. Meriwether Publishing.

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4111

DATABASE MANAGEMENT SYSTEM

Course Outcomes:

After the completion of this course, the student will be able to:

CO1: Understand data, database and database models

CO2: Apply relational algebra and relational calculus for performing queries of different types

CO3: Gain knowledge of normalization and transaction control

CO4: Create, manage and access database using SQL and PL/SQL

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4111

DATABASE MANAGEMENT SYSTEM

Max. Marks: 75
Theory: 60
CA: 15

Examination Time: 3 Hours

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT-I

Introduction to data, field, record, file, database, database management system. Structure of database system, Advantages and disadvantages, levels of database system, Relational model, Hierarchical model, Network model, comparison of models, different keys used in a relational system, DBA and responsibilities of DBA.

UNIT-II

Codd's Rules, E–R diagram,Relational algebra, Relational calculus – Domain and Tuple relational Calculus.

UNIT-III

Introduction to Normalization : Need and advantages of Normalization, INF, 2NF, 3NF, BCNF, 4NF and 5NF.

Introduction to Transaction Management– ACID properties, concurrency control and its management, protection, security, recovery of database.

UNIT-IV

SQL: Introduction to SQL–DDL, DML, DCL, Join methods & sub query, Union Intersection, Minus, Built in Functions, Views, Security amongst users, Sequences, Indexing.

Introduction to PL/SQL: Cursors– Implicit & Explicit, Procedures, Functions & Packages Database Triggers.

Big Data: Introduction to Big Data and Analytics, Introduction to NoSQL.

References / Textbooks:

1. C.J. Date, Introduction to Database System, Pearson Education (2003), 8th Edition
2. RamezElmasri and ShamkantNavathe, Fundamentals of Database Systems, Pearson Education (2015), 7th Edition
3. Abraham Silberschatz, Henry F. Korth, S. Sudarshan, Database System Concepts, McGraw Hill Education (2019), 7th Edition
4. P.S. Deshpande, SQL & PL / SQL for Oracle 11g, Dreamtech Press (2011)
5. Mahesh Mali, Database Management System for Engineering, TechKnowledge Publication, 2020
6. Raghu Ramakrishnan and Johannes Gehrke, Database Management System, McGraw Hill Education (2014), 3rd Edition
7. Rajiv Chopra, Database Management Systems, S. Chand Publishers (2016), 5th Edition

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4112

INTERNET APPLICATIONS

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend basics of internet and email along with their effective use

CO2: Apply HTML for development of static webpages

CO3: Implement styling and behavior in webpages through the use of CSS and JavaScript

CO4: Create and manage websites through the application of WordPress content management system

Bachelor of Science (Information Technology) Semester- IV

(Session 2022-23)

COURSE CODE: BITL–4112

INTERNET APPLICATIONS

Max. Marks: 75
Theory: 60
CA: 15

Examination Time: 3 Hours

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT-I

Introduction: About Internet and its working, Business use of Internet, services offered by Internet, evaluation of internet, internet service provider (ISP), windows environment for dial up networking (connecting to internet), audio on Internet, Internet addressing (DNS) and IP addresses), Search engine and its working, Intranet and Extranet

E–Mail Basics: Introduction,Advantage and disadvantage, structure of an e–mail message, working of e–mail (sending and receiving messages), managing e–mail (creating new folder, deleting messages, forwarding messages, filtering messages).

UNIT-II

Internet Protocol: Introduction, file transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCP/IP. WWW and its working.

Web Development: HTML – Basics, Text Formatting, font, entities, Links, Images and Image maps, Forms, Form labels, Fieldset/legend, Tables, Frames, Backgrounds / colors, Style / layout, Media. HTML declaratives - head section, Meta tags, scripts, declarations, document types.

UNIT-III

CSS:Introduction, Stylesheets, Syntax, Classes & ID's, Background, Text properties, Box model, Font properties, list, border, margin, padding, table, Class properties, Position properties, Links

JavaScript:Basics, variables, Functions, popup boxes, Conditions and loops, arrays, objects, strings, events, errors, DOM, elements, cookies

UNIT-IV

WordPress: Installation, Configuration, Management - Managing Posts, comments, pages, categories, Plugins, Widgets, Tags, images, users, Import and export content, Updating WordPress. Useful Plugins – MailChimp, Creating Gallery, Stripe Checkout, Verified Authorship, Google Maps, Google Analytics, Live Chat and Social Profile Widget

References / Textbooks:

1. Anshuman Sharma, Fundamentals of Internaet Applications, Lakhanpal Publications (2016)
2. Ikvinderpal Singh, Internet Applications, Khanna Book Publishing Company (2011), 1st Edition
3. P. Rizwan Ahmed, Internet & its Applications, Margham Publications (2013)
4. Douglas E. Corner, Computer Networks and Internet with Internet Applications, Pearson (2008), 4th Edition
5. Satish Jain/Vineeta Pillai, Wireless Communication & Networking made Simple, BPB Publishers (2007)
6. Laura Lerney, Rafe Colburn, Jennifer Kyrnin, Mastering HTML, CSS &Javascript Web Publishing, BPB Publishers (2016), 1st Edition

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4113

OBJECT ORIENTED PROGRAMMING- II

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the basic fundamentals of Object-Oriented Programming using Java

CO2: Identify the use of inheritance, interfaces and packages in Java

CO3: Identify the utilization of multithreading and Exception handling

CO4: Connect Java application with an existing database and access it through JDBC

Bachelor of Science (Information Technology) Semester- IV

(Session 2022-23)

COURSE CODE: BITL–4113

OBJECT ORIENTED PROGRAMMING- II

Max. Marks: 75
Theory: 60
CA: 15

Examination Time: 3 Hours

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT - I

JAVA BASICS: Introduction to Java, Features of Java, Structure of a Java Program, primitive data types, keywords, Identifiers, literals, operators and comments.

OOPS: Object oriented concepts Advantage of OOPs, Objects and Classes,

Strings: Declaring a string, Immutable string, string comparison, concatenation, substring, string tokenizer.

UNIT - II

Inheritance: what is inheritance, types of inheritance, static import, Method overloading, method overriding, Runtime polymorphism, super keyword, final keyword

Interfaces: Abstract classes, declaring an interface, relationship between classes and interface, interface inheritance, implementing multiple inheritance using interface

Packages: what are packages, advantages of using packages, accessing package from another package, subpackaging, running packages by setting path and classpath.

UNIT - III

Exception Handling: what is exception handling, checked and unchecked exceptions, try-catch, try-multiple catch, try – finally, throw and throws

Multithreading: What is a thread, life cycle of a thread, creating a thread, sleeping a thread, joining a thread, thread priority

UNIT - IV

Input/Output: File input stream, File output stream, Buffered output stream, Buffered input stream.

Database connectivity: JDBC, JDBC drivers, steps to connect to the database, connectivity with MYSQL

References/Textbooks:

1. HurbertSchildt, Java The Complete Reference, Tata McGraw Hill, 2014.
2. Y. Daniel Liang, Introduction to Java Programming, Pearsons Publications, 2015.
3. Jon Duckett, Beginning Web Programming with HTML, XHTML, and CSS, John Wiley & Sons, 2004.
4. Thomas A. Powell, HTML & CSS: The Complete Reference, McGraw-Hill, 2010.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4114

E-BUSINESS

Course Outcomes:

After passing this course student will be able to:

CO1: Comprehend the basic terms of E-Commerce, aims, benefits and E-Commerce models

CO2: Acquaint about the working and components of EDI

CO3: Identify Electronic Payment systems, various issues involved in relation to secure electronic transactions and various E-Payment options

CO4: Comprehend BPR and Case Studies of E-Business related applications

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITL–4114

E-BUSINESS

Examination Time: 3 Hours

Max. Marks: 75
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT – I

Introduction to E–Commerce: Meaning and Concept,Features, Benefits, E-Commerce v/s. Traditional Commerce. E-Commerce Framework, VAN and EDI as Promoters. E-Commerce Models.

Steps involved in opening your own online business, Role of Website and the technologies needed to build a website.

UNIT - II

EDI: EDI Vs Traditional Systems, components and working of EDI system, EDI implementation issues, Factors for successful EDI Implementation, EDI service providers in India.

UNIT – III

Concerns for E-Commerce: Legal and regulatory issues, Laws for E-Commerce, E-Commerce in India, Sections of IT Act for E-Commerce transactions.

Electronic Payment Systems: Various Methods of Electronic Payments – Google pay, Paytm, Debit and Credit Cards, UPI. E-Commerce security Issues and Measures.

UNIT – IV

Re–Engineering for Change: Business Process Re–engineering (BPR), Methodology and Planning Methods for change.

Case Studies: To demonstrate usefulness of E-Commerce in various business areas like Banks, Reservations, E-Governance and E-Retailing.

References / Textbooks:

1. Chaffey, E-Business and E-Commerce Managemet: strategy, Implementation and Practice, Pearson Education India (2013), 5th Edition
2. Kenneth C. Laudon and Carol Guercio Traver, E-Commerce, Pearson (2018), 13th Edition
3. S.J. P.t. Joseph, E-Commerce: An Indian Prespective, PHI Learning Pvt. Ltd. (2019), 6th Revised Edition
4. Shruti Mathur, Ecommerce, Pinnacle Learning (2020)
5. David Whiteley, E-Commerce: Strategy, Technologies and Applications, McGraw Hill Education (2017).
6. Nidhi Dhawan, A handbook of E-Commerce, Sun India Publications (2017)
7. Laudon, Kenneth C and Carol Guercio Traver, E–Commerce business. Technology Pearson Education Delhi (2011).

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITP–4115

LAB ON DATABASE MANAGEMENT SYSTEM

Max. Marks: 25
Practical: 20
CA: 05

Examination Time: 3 Hours

Lab on Database Management System.

Bachelor of Science (Information Technology) Semester- IV

(Session 2022-23)

COURSE CODE: BITP–4116

LAB ON INTERNET APPLICATIONS AND WEB DESIGNING

Max. Marks: 25
Practical: 20
CA: 05

Examination Time: 3 Hours

Lab on Internet Applications.

Bachelor of Science (Information Technology) Semester- IV
(Session 2022-23)

COURSE CODE: BITP–4117

LABON OBJECT ORIENTED PROGRAMMING-II

Max. Marks: 50
Practical: 40
CA: 10

Examination Time: 3 Hours

Lab on Object Oriented Programming-II.

Bachelor of Science (Information Technology) Semester – V
Session 2022-23
COURSE CODE: BITL-5111
COMPUTER NETWORKS

Course Outcomes:

After passing course the student will be able to:

CO1: Describe the functions of each layer in OSI and TCP/IP model

CO2: Identify various network devices and the layers on which it operates

CO3: Describe the Data Link layer and Network layer design issues

CO4: Comprehend the functioning of Transport layer and Application layer protocols

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITL-5111
COMPUTER NETWORKS

Examination Time: 3 Hours. **Max. Marks: 100**
Theory: 80
CA: 20

Instructions for Paper Setter -
Eight questions of equal marks (16 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT – I

Introduction: Basic concepts of Computer Networks, Basic Components of a Network, Network types and topologies.

Models:OSI Reference Model, TCP/IP Model, Comparison between TCP/IP and OSI model

Transmission Media: Coaxial Cable, Twisted Pair Cable, Fiber Optics &Satellites.

UNIT – II

Network Devices: Hub, Switch, Repeaters, Bridges, Routers, Gateways.

Introduction to Analog and Digital Transmission: Telephone system, Modems, Types of modems, pulse code modulation. Multiplexing and its types, Circuit Switching, Packet Switching, Message Switching.

UNIT - III

Data Link Layer Design Issues: Framing, Error Control, Flow Control, Error Detection & Correction.
Media Access Protocols: ALOHA, CSMA, CSMA/CD, CSMA/CA. IEEE standards 802: Token Bus, Token Ring, FDDI.

Design Issues of Network Layer: Routing, IPv4: Notation, Classful addressing, Header Format, IPv6 addressing.

UNIT – IV

Design issues of Transport Layer: TCP, UDP
Network Security and Privacy: Brief Introduction to Cryptography.

References/Textbooks:

1. Tanenbaum , A.S., Computer Networks, Prentice Hall, 2010.
2. Stallings, W., Local Networks: An Introduction: Macmillan Publishing Co, 1990.
3. Stallings W., Data and Computer Communications, Prentice Hall, 2011.
4. Forouzan B., Data Communications and networking, McGraw Hill, 2007.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITL-5112
WEB TECHNOLOGIES

Course Outcomes:

After passing course the student will be able to:

CO1: Develop user interface of single page website through React

CO2: Apply PHP as server-side scripting language for control of flow, file handling, cookie and session handling, database interactionsetc.

CO3: Comprehend the application of XML, AJAX, JQuery and REST

CO4: Comprehend the process of web hosting and incorporation of emerging web technologies

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITL-5112
WEB TECHNOLOGIES

Examination Time: 3 Hours. **Max. Marks: 100**
Theory: 80
CA: 20

Instructions for Paper Setter -
Eight questions of equal marks (16 Marks) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT I

ES6 – Variables, Arrow functions, Class and Inheritance

Introduction to React - Render HTML, JSX

React Components – Class, Function, Constructor, Nested Component, Lifecycle of React Components

Data Handling – Props, Props Validation, State, Form and Event Handling in React, Fetching Data through API

UNIT – II

Introduction to Server-Side Scripting using PHP - Basics, Control Statement, Array, Functions

Core PHP Concepts -Superglobals, Form Handling, PHP Include, Sessions, PHP File Handling, File Upload, Cookies, Error Handling, Exception Handling. Access MySQL Database in PHP

Introduction to OOPs in PHP – Classes, Object, Constructor, Inheritance

UNIT – III

XML – Basics, Structure, Namespace, Parsing

AJAX – Fetching response from server (Textual and XML form), Basics of JQuery

Introduction to REST

UNIT IV

Hosting - Overview of Domain, Hosting, SSL Certificates and steps to host a website

Introduction to Emerging Web Technologies - Introduction to Chatbot, Artificial Intelligence and Machine Learning basics used in websites

References / Textbooks:

1. Jeffery C Jackson, "Web Technology- A Computer Science perspective", Pearson Education, 1st Edition, 2007.
2. Chris Bates, "Web Programming- Building Internet Applications", Wiley India, 1st Edition, 2006.
3. Achyut S Godbole and Atul Kahate, "Web technologies", Tata McGraw Hill, 1st Edition, 2008.
4. Web Technologies, Uttam K Roy, Oxford University Press, 1st Edition, 2010.
5. KirupaChinnathambi, Learning React, Addison-Wesley Professional, 1st Edition, 2019.
6. Alex Banks, Eve Porcello, Learning React: Functional Web Development with React and Redux, O'Reilly Media, 1st Edition, 2017.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITL-5113
OPERATING SYSTEM

Course Outcomes:

After passing course the student will be able to:

CO1: Describe, contrast and compare different types of Operating System

CO2: Understand the process synchronization policies and CPU scheduling

CO3: Describe and analyze the memory management and its allocation policies

CO4: Comprehend about the application of virtual memory and disk scheduling

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITL-5113
OPERATING SYSTEM

Examination Time: 3 Hours. **Max. Marks: 100**
Theory: 80
CA: 20

Instructions for Paper Setter -
Eight questions of equal marks (16 marks each) are to be set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT – I

Introduction: Definition, Batch Processing, Multi programming, Time Sharing Systems, Multitasking, multiprocessing, Parallel Systems, Distributed Systems, Real–time Systems.
Processes: Process Concepts, Process Scheduling, Threads, System Calls.

UNIT - II

CPU–Scheduling: Basic concepts, Scheduling Criteria, Scheduling Algorithms, Algorithm Evaluation: Response Time, Turnaround Time, Waiting Time, Throughput.
Process Synchronization: Critical-section problem, semaphores and its Types (Binary and Counting), Classical problems of synchronization and their solutions.

UNIT – III

Deadlocks: System Model, Deadlock characterization, Methods for handing deadlocks, Deadlocks Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock, Approach to Deadlock handling.
Memory Management: Background, Logical v/s Physical Address Space, Swapping, Continuous Allocation, Paging, Segmentation.

UNIT – IV

Virtual Memory: Background, Page Fault, Demand Paging, Page Replacement, Page Replacement Algorithms, Thrashing.
Secondary Storage Structures: Disk structures, Disk scheduling.

References/Textbooks:

1. AviSilberschatz, Peter Baer Galvin, Greg Gagne, Operating System Concepts, Wiley, 2013.
2. Charles Crowley, Operating Systems: A Design-Oriented Approach , Tata McGraw Hill, 2001.
3. Deitel, An Introduction to Operating Systems, Second Edition, Addison Wesley, 1990.
4. William Stallings, Operating Systems: Internals and Design Principles, Pearson Education Limited, 2014.

Note: The latest editions of the books should be followed.

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITP-5114
LAB ON WEB TECHNOLOGIES

Examination Time: 3 Hours. **Max. Marks: 50**
Practical: 40
CA: 10

Lab on Web Technologies.

Bachelor of Science (Information Technology) Semester – V

Session 2022-23
COURSE CODE: BITP-5115
LAB ON OPERATING SYSTEM

Examination Time: 3 Hours. **Max. Marks: 50**
Practical: 40
CA: 10

Implementation of different algorithm in C / C++ based on BITL-5113.

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)
COURSE CODE: SECJ-5551
JOB READINESS COURSE

Course Title: JOB READINESS COURSE

Course Duration: 30 hours

Course intended for: Semester V students of undergraduate degree programmes of different streams.

Course Credits: 2

Objectives of the Course:

It is a specialized programme structured to prepare the students job ready and adaptable for the work place. The main purpose of the course is to enhance their live skills and increase their chances of success in job interviews. It aims at improving their employability skills by making them ready for competitive jobs. It will help them synergising with others, making realistic expectations and goals.

Learning Outcomes:

On successful completion of this course, students will be able to:

- help them building a professional resume to start their career
- learn represent themselves and communicate better in all areas
- make them understand how speaking skills can help them excelling in job interviews
- boost self confidence
- share their ideas in the group and improve their listening skills
- make them aware about critical thinking and leadership qualities

CURRICULUM

Course Credits: 2 **Total contact hours: 30**

MODULE	TITLE	HOURS
I	Resume Building	5 Hours
II	Positive Attitude & Self Confidence	2 Hours
III	Presentation Skills	5 Hours
IV	Public Speaking / Group Discussion	4 Hours
V	E-Mail Etiquette and Telephonic Conversation	4 Hours
VI	Organizational Structure and Corporate Jargons	3 Hours
VII	Tips for Personal Interviews	5 Hours
VIII	Final Assessment, Feedback and Closure	2 Hours

EXAMINATION

- **Total Marks:** 25 (Final Exam: 20; Internal Assessment: 5)
- **Final Exam:** Multiple Choice Quiz; Marks–20; Time: 1 hour
- **Internal Assessment:** 5 (Assessment: 3; Attendance:2)

  Comparative assessment questions (medium length) in the beginning and close of the programme. Marks: 3; Time: 0.5 hour each at the beginning and end.

- **Total marks:** 25 converted to grade for final result
- **Grading system:**

  90.1% -100% marks: O grade

  80.1% - 90% marks: A+ grade

  70.1% - 80% marks: A grade

60.1% - 70% marks: B+ grade

50.1% -60% marks: B grade

45%- 50 % marks: C grade

35%-44.9% marks: P grade

Below 35% marks: F grade

Absent: Ab

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITL - 6111

COMPUTER GRAPHICS

Course Outcomes:

After passing this course the student will be able to:

CO1: Comprehend the background mechanism involved in display devices like CRT, LCD, LEDetc.

CO2: Comprehend basic concepts involved in drawing basic shapes

CO3: Implement various algorithms and techniques to clip and transform various objects and viewports

CO4: Identify the importance of viewing and projections

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITL - 6111

COMPUTER GRAPHICS

Examination Time: 3 Hours **Max. Marks: 75**
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT – I

Overview of Graphics system: Computer Graphics and their applications.

Display Devices: CRT Monitors (Random – Scan and Raster Scan, DVST, Plasma – Panel Display, LED and LCD Monitors, Virtual Reality and Workstation.

UNIT – II

Elementary Drawing: Points and various line drawing Algorithms and their comparisons. Circle generating algorithms, Algorithms for Ellipse, Arc and Sector.

UNIT – III

Two Dimensional Transformations: Basic Transformations - Translation, Rotation, Scaling, Reflection and Shearing. Matrix representation of Basic Transformations and Homogenous Coordinates.

Composite Transformations: Windowing and clipping. Windowing Concepts, Clipping and its Algorithms, Window–to–View Port Transformations.

UNIT - IV

Three Dimensional concepts: 3D Coordinate Systems, 3D Transformations - Translation, Rotation, Scaling, Reflection and Shearing,

Projection: Parallel Projections, Perspective Projection, Vanishing Point, View Confusion and Topological Distortion.

References / Textbooks:

1. Hearn D, Baker P, Computer Graphics, PHI Easter Economy (2002), 2nd Edition.
2. Zhigang Xiang, Plastock R, Kalley G, Computer Graphics, McGraw Hill Education (2006), 2nd Edition.
3. Rajesh K. Maurya, Computer Graphics with Virtual Reality System, Wiley (2018), 3rd Edition
4. Udit Aggarwal, Computer Graphics, SK Katria and Sons (2013), Reprint 2013 Edition
5. Padeep K. Bhatia, Computer Graphics, Dreamtech Press (2019)
6. Andries Van Dam, Foley, Steven, John, Computer Graphics Principles and Practice, Peson Education India (2002), 2nd Edition

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITL - 6112

DIGITAL MARKETING

Course Outcome:

After passing the course the student will be able to:

CO1: Identify impact of digital space and digital marketing in reaching out to customers

CO2: Comprehend importance of Keywords in Search Engine Optimization

CO3: Outline factors affecting Social Media Marketing

CO4: Comprehend importance of Tools and Analytics in social media marketing

Bachelor of Science (Information Technology) Semester- VI
(Session 2021-22)

COURSE CODE: BITL–6112

DIGITAL MARKETING

Examination Time: 3 Hrs **Max. Marks: 75**
Theory: 60
CA: 15

Instructions for Paper Setter -

Eight questions of equal marks (12 marks each) are to set, two in each of the four sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be divided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section.

UNIT – I

Introduction to Marketing: Meaning, 4 Ps of Marketing, Value creation, communication, delivery and exchange. Segmentation, target marketing and positioning.

Consumer Behavior, Environmental and Psychological factors, decision making process and its stages. AIDAA model, Marketing Mix.

UNIT - II

Introduction to Digital Marketing: Introduction, Search Engine Optimization – Keywords, on page and off page optimization, Ad-Words, Meta-tags

Search Engine Marketing: Advertising, PPC, SEM Strategy, SEM Auction models.

UNIT – III

Social Media Marketing: Word of Mouth, factors affecting social media marketing, social media platforms- B2B and B2C.

UNIT – IV

Social Media Marketing Tools: Mobile marketing, website planning and creation, e-mail marketing, content marketing, online reputation management, digital analytics.

.

References / Textbooks:

1. Phillip Kotler and Lane Keller Kevin, Marketing Management, Pearson Education
2. Seema Gupta, Digital Marketing, Tata McGraw Hill Education (2018)
3. Ian Dodson, The Art of Digital Marketing: The defensive guide to Creating Strategic, Targeted and measurable Online campaigns, Wiley Publishers
4. Stephanie Diamond, Digital Marketing - All in One for Dummies, Wiley Publishers
5. Digital Marketers, The Ultimate Guide to Digital Marketing, https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf
6. Damian Ryan, Understanding Digital Marketing: Marketing strategies for engaging, Cogan page Publishers Third Edition

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITP - 6113

LAB ON COMPUTER GRAPHICS

Max. Marks: 50
Practical: 40
CA: 10

ExaminationTime: 3 Hours

Lab on implementation of applications of Computer Graphics in C / C++.

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITD - 6114

PROJECT

Course Outcomes:

After passing course the student will be able to:

CO1: Apply the tools and techniques learnt to frame problems and their corresponding solutions

CO2: Develop skills necessary to structure, manage and execute projects

CO3: Learn to work as a member of a cohesive unit

CO4: Develop presentation skills

Bachelor of Science (Information Technology) Semester – VI
(Session 2022-23)

COURSE CODE: BITD - 6114

PROJECT

Max. Marks: 200
Practical: 160
CA: 40

ExaminationTime: 3 Hours

General Instructions:

1. 1. A software module based on the work done in the entire course is to be developed.
2. Candidates have to submit one hard copy and two CDs/DVDs of documentation which shall be kept with the HoD in the college only. Further, supervisor/guide shall forward one copy of DVD/CD containing all the documentation files of the students (file name to be saved as Rollno_of_the_ student.pdf) to the COE Office. The Covering letter (duly signed by the guide and Head of the department) should contain the following information. Candidate name, Candidate Roll no, Project Title of the student and .pdf file name of her project documentation.
3. The software module / website may be developed in groups, consisting of at most two students in a group.
4. The college shall depute guide(s)/supervisor(s) under whose supervision the software module shall be developed. The guide/supervisor shall clarify that the work done is original and authenticated. The certificate found to be incorrect at any stage shall attract the proceedings against all the stakeholders, as per rules.
5. The evaluation of the module shall be done as per the common ordinance of UG/PG under semester system.