FACULTY OF ECONOMICS AND

BUSINESS

SYLLABUS
of
Bachelor of Science (Economics)
(Semester I, III, V)
(Under Continuous Evaluation System)

Session: 2020-21

The Heritage Institution
KANYA MAHA VIDYALAYA
JALANDHAR
(Autonomous)

Program Specific Outcome – Bachelor of Science (Economics)

B.Sc. (Economics) is a three year graduation degree program. The program aims at creation and dissemination of knowledge regarding core economic principles and issues; focusing on the link between theory and real world.

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

PSO1: understand the basic concepts and principles of economics.

PSO2: have in depth knowledge of concepts and basic theories of consumer behaviour, cost and market structure, and production behaviour.

PSO3: have in depth knowledge of concepts and basic macroeconomics theories such as employment, consumption, investment and international trade, money, banking, development and public finance.

PSO4: understand basic techniques of presentation and analysis of data; and some advanced applications and theory of theoretical and sampling distribution and econometric estimation methodologies.

PSO5: understand Indian experience with planning and various problems faced by Indian economy and latest developments in Indian economy.

KanyaMaha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE PROGRAM
Bachelor of Science (Economics)
Session: 2020-2021

Bachelor of Science (Economics) –SemesterI								
Course Code		**Course Name**	**Course Type**	**Marks**				
				Total	**Ext.**		**CA**	**Examination Time (in Hours)**
					L	**P**		
BECL-1421 BECL-1031 BECL-1431		Punjabi (Compulsory) [1]Basic Punjabi [2]Punjab History & Culture	C	50	40	-	10	3
BECL-1212		English (Compulsory)	C	50	40	-	10	3
BECM-1333	(I)	**Mathematics** (Algebra)	E	100	80 (40+40)	-	20	3+3
	(II)	**Mathematics** (Calculus and Trigonometry)						
BECL-1453		**Quantitative Techniques** (Quantitative Techniques–I)	E	100	80	-	20	3
BECM-1134		**Computer Science** (Computer Fundamental & PC Software)	E	100	50	30	20	3+3
	(P)	**Computer Science** (Computer Fundamental & PC Software) (PRACTICAL)						
BECM-1124		**Computer Applications (Vocational) (**Computer Fundamentals & PC Software)	E	100	50	30	20	3+3
	(P)	**Computer Applications** (Computer Fundamental & PC Software) (PRACTICAL)						
BECL-1175		**Economics** (Micro Economics)	C	100	80	-	20	3
AECD-1161		*Drug Abuse: Problem, Management and Prevention (Compulsory)	AC	50	40	-	10	3
SECF-1492		*Foundation Course	AC	25	20	-	5	1
Total				**400**				

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

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
PUNJABI (COMPULSORY)

COURSE CODE: BECL -1421

COURSE OUTCOMES

CO1: ਦੋ ਰੰਗ(ਕਵਿਤਾਭਾਗ) ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਵਿਤਾਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਤਾਂਕਿ ਉਹ ਆਧੁਨਿਕਦੌਰਵਿਚਚੱਲਰਹੀਆਂਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂਬਾਰੇ ਗਿਆਨਹਾਸਿਲਕਰ ਸਕਣ।

CO2: ਇਸ ਦਾ ਹੋਰਮਨੋਰਥਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆਤੋਂਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜਦੀਆਂ ਸਮੱਸਿਆਵਾਂਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕਦ੍ਰਿਸ਼ਟੀਬਣਾ ਸਕਣ।

CO3: ਸੰਸਾਰਦੀਆਂਪ੍ਰਸਿਧਹਸਤੀਆਂਜੀਵਨੀ ਦੀ ਵਿਧਾਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਜੀਵਨੀਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਜੀਵਨੀਜਗਤਨਾਲਜੋੜਣਾ ਹੈ।

CO4: ਪੈਰ੍ਹਾਰਚਨਾ ਅਤੇ ਪੈਰ੍ਹਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨਰੋਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO6:ਧੁਨੀਵਿਉਂਤ ਪੜ੍ਹਣਨਾਲਵਿਦਿਆਰਥੀ ਧੁਨੀਆਂ ਦੀ ਉਚਾਰਨਪ੍ਰਣਾਲੀਤੋਂਵਾਕਫ਼ ਹੋਣਗੇ।

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
PUNJABI (COMPULSORY)

COURSE CODE: BECL -1421

ਸਮਾਂ: 3 ਘੰਟੇ **Maximum Marks: 50**

Theory: 40

CA: 10

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਦੋ ਰੰਗ(ਕਵਿਤਾਭਾਗ) (ਸੰਪਾ.ਹਰਜਿੰਦਰਸਿੰਘਢਿਲੋਂ ਅਤੇ ਪ੍ਰੀਤਮਸਿੰਘ ਸਰਗੋਧੀਆ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂਸਾਰ)8 ਅੰਕ

ਯੂਨਿਟ-II

ਸੰਸਾਰਦੀਆਂਪ੍ਰਸਿਧਹਸਤੀਆਂ (ਜੀਵਨੀਨੰ: 1 ਤੋਂ 9 ਤਕ)

(ਸੰਪਾ.ਪ੍ਰਿੰ. ਤੇਜਾਸਿੰਘ, ਹਰਨਾਮਸਿੰਘਸ਼ਾਮ),ਪੰਜਾਬੀ ਸਾਹਿਤਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ) **8 ਅੰਕ**

ਯੂਨਿਟ-III

(ੳ) ਪੈਰ੍ਹਾਰਚਨਾ (ਤਿੰਨਵਿਚੋਂਇਕ)

(ਅ) ਪੈਰ੍ਹਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ। **8 ਅੰਕ**

ਯੂਨਿਟ-IV

(ੳ) ਪੰਜਾਬੀਧੁਨੀਵਿਉਂਤ : ਪਰਿਭਾਸ਼ਾ ਤੇ ਉਚਾਰਨਅੰਗ

(ਅ) ਸਵਰ, ਵਿਅੰਜਨ **8 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 ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ**

ਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21

BASIC PUNJABI
In lieu of Punjabi(Compulsory)
COURSE CODE: BECL-1031

Course outcomes

CO1:ਮੁੱਢਲੀਪੰਜਾਬੀਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆਵਿਚਪਾ ਕੇ ਇਕਹੋਰਭਾਸ਼ਾਸਿੱਖਣ ਦਾ ਮੌਕਾਪ੍ਰਦਾਨਕਰਨਾ ਹੈ।

CO2:ਇਸ ਵਿਚਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀਕਬੀਨੀਨਾਲਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨਕਰਵਾਇਆਜਾਵੇਗਾ।

CO3:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀਸ਼ਬਦਰਚਨਾਤੋਂਜਾਣੂ ਕਰਵਾਇਆਜਾਵੇਗਾ।

CO4:ਮੁੱਢਲੀਪੰਜਾਬੀਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀਸ਼ਬਦਾਵਲੀਬਾਰੇ ਦੱਸਣਾ ਹੈ।

CO5:ਮੁੱਢਲੀਪੰਜਾਬੀਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲਕਰਨਾ ਹੈ।

CO6:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀਵਿਚਹਫ਼ਤੇ ਦੇ ਸੱਤਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕਤੋਂ ਸੌ ਤੱਕਗਿਣਤੀਸ਼ਬਦਾਂਵਿਚਸਿਖਾਉਣਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21

BASIC PUNJABI
In lieu of Punjabi(Compulsory)
COURSE CODE: BECL -1031

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 50**

Theory : 40

CA : 10

ਪਾਠ ਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਂਤੀਅੱਖਰੀ, ਅੱਖਰਕ੍ਰਮ, ਪੈਰਬਿੰਦੀਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰਵਿਚਪੈਣਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ ਜਾਣਪਛਾਣ) ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ।

08ਅੰਕ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀਸ਼ਬਦਬਣਤਰ : ਮੁੱਢਲੀਜਾਣਪਛਾਣ (ਸਾਧਾਰਨਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ)

08ਅੰਕ

ਯੂਨਿਟ-III

ਨਿੱਤਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰਧੰਦਿਆਂਆਦਿਨਾਲ ਸੰਬੰਧਤ। 08 ਅੰਕ

ਯੂਨਿਟ-IV

ਹਫ਼ਤੇ ਦੇ ਸੱਤਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀਸ਼ਬਦਾਂ ਵਿਚ ।

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 ਕੁੱਲ ਪੰਜਪ੍ਰਸ਼ਨਕਰਨੇ ਹਨ।ਹਰ ਸੈਕਸ਼ਨਵਿਚੋਂਇਕਪ੍ਰਸ਼ਨਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂਪ੍ਰਸ਼ਨਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨਵਿਚੋਂਕੀਤਾਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 08 ਅੰਕਹਨ।
4. ਪੇਪਰ ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
Course Title: 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 Code: BECL-1431

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 describe the emergence of earliest civilizations in: Indus Valley Civilization and Aryan Societies.

CO2: Identify and analyses the Buddhist, Jain and Hindu faith in the Punjab

CO3: Analyses the emergence of Early Aryans and Later Vedic Period, their Society, Culture, Polity and Economy

CO4: To make students understand the concepts of two faiths Jainism and Buddhism, its principles and their application and relevance in present times

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
Course Title: 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 Code: BECL-1431

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

- 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.
- Budha Parkash, *Glimpses of Ancient Punjab*, Patiala, 1983.
- B.N. Sharma, *Life in Northern India*, Delhi. 1966.

- Chopra, P.N., Puri, B.N., & Das, M.N.(1974). *A Social, Cultural & Economic History of India,* Vol. I, New Delhi: Macmillan India.

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
ENGLISH (COMPULSORY)
Course Code: BECL -1212

COURSE OUTCOMES

After passing this course, the students will be able to:

CO 1: appreciate the writings of various Indian and foreign story and prose writers and relate them to their socio-cultural milieu

CO 2: comprehend the meaning of texts and answer questions related to situations, episodes, themes and characters depicted in them

CO 3: understand fundamental grammatical rules governing tenses, the use of modal verbs and make correct usage in their language

CO 4: develop an understanding of translation of written text from Hindi/Punjabi to English

CO 5: independently write paragraphs on any given topic

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
ENGLISH (COMPULSORY)
Course Code: BECL -1212

Max. Marks: 50

Examination Time: 3 Hrs **Theory: 40**

CA: 10

Instructions for the Examiner:

The question paper will consist of 4 sections & distribution of marks will be as under:

Section A: The question will be set from Unit I of the syllabus. Fifteen sentences will be set and the students would be required to attempt any ten. Each sentence will carry one mark. **(1x10=10)**

Section B: Two questions will be set from Unit II of the syllabus. The students would be required to attempt one paragraph out of the given two topics (word limit 150 words). It will carry five marks. The second question will be based on translation. The students would be required to translate a paragraph from Hindi/Punjabi to English. **(2x5=10)**

Section C: This section will be divided into two parts. Two questions will be set from Unit III of the syllabus. Part one will have one essay type question with internal choice carrying six marks (word limit 300 words). The students would be required to attempt any one. The second part will have three questions. The students would be required to attempt any two. Each question will carry two marks (50 words each). **(6+2x2=10)**

Section D: This section will be divided into two parts. Two questions will be set from Unit IV of the syllabus. Part one will have one essay type question with internal choice carrying six marks (word limit 300 words). The students would be required to attempt any one. The second part will have three questions. The students would be required to attempt any two. Each question will carry two marks (50 words each). **(6+2x2=10)**

Unit I

English Grammar in Use, 4th Edition by Raymond Murphy, CUP (Units: 1-37)

Unit II

Paragraph Writing and Translation of paragraph (from Hindi/Punjabi to English)

Unit III

Tales of Life (Guru Nanak Dev University, Amritsar): Stories at Sr. No. 1, 2, 3, 5, 6

Unit IV

Prose for Young Learners: Essays at Sr. No. 1, 2, 3, 5, 6

Texts Prescribed:

1. *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP
2. *Tales of Life* (Guru Nanak Dev University, Amritsar)
3. *Prose for Young Learners* (Guru Nanak Dev University, Amritsar)

Bachelor of Science (Economics)

(Semester–I)

Session 2020-21

Course Title: Mathematics (Algebra)

Course Code: BECM -1333(I)

Course Outcomes

After passing this course, the students will be able to:

CO 1: Distinguish between solution of cubic equations and Bi-quadratic equations.

CO 2: Classify real quadratic form in variables, definite, semi- definite and indefinite real quadratic form.

CO 3: Understand the concept of matrix congruence of skew symmetric matrices and its reduction in real field.

CO 4: Solve system of linear equations and obtain Eigen values, Eigen vectors, minimal and characteristic equation of a matrix and to apply it in advanced dynamics and electric current.

CO 5: To find the relations between the roots and coefficients of general polynomial equation in one variable.

Bachelor of Science (Economics)

(Semester–I)

Session 2020-21

Course Title: Mathematics (Algebra)

Course Code: BECM -1333(I)

Examination Time: 3 hrs. 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

Linear independence of row and column vectors. Row rank, Column rank of a matrix, Equivalence of column and row ranks, Nullity of matrix, Applications of matrices to a system of linear (both homogeneous and non–homogeneous) equations. Theorems on consistency of a system of linear equations.

Unit-II

Eigen values, Eigen vectors, minimal and the characteristic equation of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix. Quadratic Forms, quadratic form as a product of matrices. The set of quadratic forms over a field.

Unit–III

Congruence of quadratic forms and matrices. Congruent transformations of matrices. Elementary congruent transformations. Congruent reduction of a symmetric matrix. Matrix Congruence of skew–symmetric matrices. Reduction in the real field. Classification of real quadratic forms in variables. Definite, semi–definite and indefinite real quadratic forms. Characteristic properties of definite, semi–definite and indefinite forms.

Unit-IV

Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations and symmetric function of roots, Descarte's rule of signs, Newton's Method of divisors, Solution of cubic equations by Cardon method, Solution of biquadratic equations by Descarte's and Ferrari's Methods.

Text Book:

Chandrika Parsad: Text book on Algebra and Theory of Equations, PothishalaPvt. Ltd., Allahabad.

Reference Books:

1.K.B. Dutta: Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd., New Delhi (2002).
2.Shanti Narayan and P.K. Mittal : Text Book of Matrices.
3.S. Hall and S.R. Knight: Higher Algebra, H.M. Publications, 1994.

Bachelor of Science (Economics)

(Semester–I)

Session 2020-21

Course Title: Mathematics (Calculus and Trigonometry)

Course Code: BECM -1333(II)

Course Outcomes

After passing this course, the students will be able to:

CO 1: Understand real number system, lub&glb of set of real numbers, limit of a function, basic properties of limit & to apply it in real world problem.

CO 2: Analyse continuous and discontinuous function, Apply concept of continuity in uniform continuity.

CO 3: Manage to solve problems related to successive differentiation, Leibnitz theorem, Taylor's & Maclaurin's theorem with various forms of remainders and to use these expansion to compute values of Sine, Cosine, tangent or log function.

CO 4: Understand the concept of De Moivre's theorem & its applications. Identify circular, hyperbolic function and their inverses and use these function to describe the shape of the curve formed by high voltage line suspended between two towers.

CO 5: Demonstrate exponential and logarithmic function of complex numbers, and to solve Gregory's series and summation of series.

Bachelor of Science (Economics)

(Semester–I)

Session 2020-21

Course Title: Mathematics (Calculus and Trigonometry)

Course Code: BECM -1333(II)

Examination Time: 3 hrs. 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

Real number system and its properties, lub, glb of sets of real numbers, limit of a function, Basic properties of limits, Continuous functions and classification of discontinuities, Uniform continuities.

Unit-II

Differentiation of hyperbolic functions, Successive differentiation, Leibnitz theorem, Taylor's and Maclaurin's theorem with various forms of remainders, Indeterminate forms.

Unit-III

De–Moivre's Theorem and its applications, circular and hyperbolic functions and their inverses.

Unit-IV

Exponential and Logarithmic function of a complex numbers, Expansion of trigonometric functions, Gregory's series, Summation of series.

Text Books:

1.George B.Thomas and Ross L.Finney: Calculus and Analytic Geometry, 9th edition, Addison Wesley,1998(Relevant portions related to Unit-I &II)

2..S.L.Loney: Plane trigonometry part -II(relevant portions related to Unit-III & IV) Cambridge university press.

Reference Books:

1.Erwin Kreyszig: Advanced Engineering Mathematics, John Wiley and Sons, 1999.

2.N. Piskunov: Differential and Integral Calculus, Peace Publishers, Moscow.

3.Gorakh Prasad: Differential Calculus, PothishalaPvt. Ltd., Allahabad.

Bachelor of Science (Economics)

Semester-I

Session: 2020-21

Course title: Quantitative Techniques (Quantitative Techniques–I)

Course Code: BECL-1453

Course Outcomes

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

CO 1: Solve linear equations of two variables and its applications in economics, under the quadratic equations, arithmetic progression, geometric progression and their applications in economics.

CO 2: Develop understanding of elements of analytical geometry, straight lines, basic concepts of trigonometry and permutations and combinations.

CO 3: Differentiate between a constant and a variable, graph of linear and quadratic functions and its applications in economics.

CO 4: Recognize derivative of implicit functions, parametric functions, exponential functions, logarithmic functions and how to apply these derivatives in economics theory.

Bachelor of Science (Economics)

Semester-I

Session: 2020 -21

Course title: Quantitative Techniques (Quantitative Techniques–I)

Course Code: BECL-1453

ExaminationTime:3Hours

Max. Marks: 100
Theory :80

CA :20

Note: Instructions for the Paper–Setters/Examiners:

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 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

Solution of Linear Equations: Solution of Simultaneous Linear Equations (up to two variable case), Application of Linear Equation in Economics; Solution of Quadratic Equations. Series: Arithmetic Progression Series, Geometric Progression Series and their applications in economics.

UNIT–II

Elements of Analytical Geometry: Straight line; Basic concepts of trigonometry (with formulae); Concepts of combination and permutation, Elements of set theory, union, intersection, difference, symmetric difference, complementation, Venn diagrams.

UNIT–III

Difference between a constant and a variable, concept of functions, classifications of functions, graph of linear and quadratic functions (Economic applications).Limits and continuity of a function. Concept of differentiation.

UNIT–IV

Derivatives of elementary functions excluding inverse trigonometric functions, Rules of derivatives; functions of functions rule; derivatives of implicit functions, parametric functions, logarithmic differentiation (Application in Economics).

Text Book:
R.S.Aggarwal: Mathematics for Economists
Reference Books:
1. Monga, G.S.: Mathematics and Statistics for Economics.
2. Yamane, Taro: Mathematics for Economists.
3. Allen, R.G.D.: Mathematical Analysis for Economists.
4. Edward T Dowling: Introduction to Mathematical Economics.
5.Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York

Bachelor of Science (Economics)

Semester-I

Session: 2020 -21

Course Code: BECM-1134

COMPUTER SCIENCE

(COMPUTER FUNDAMENTALS& PC SOFTWARE)

Course Outcomes:

After passing this course the student will be able to:

CO1: have knowledge of Computer components - hardware and software.

CO2: use computer system for general tasks at user level, including operative systems and programming environments.

CO3: gain knowledge on office automation software and recognize when to use a particular office program to create professional and academic documents.

Bachelor of Science (Economics)
Semester-I
Session: 2020 -21
Course Code: BECM-1134

COMPUTER SCIENCE
(COMPUTER FUNDAMENTALS & PC SOFTWARE)
(THEORY)

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), type of Software, Translators (compiler, interpreter, assembler), Booting a System.

UNIT II

Input & Output Devices: Keyboards, Mouse, Joystick, Track Ball, Light Pen and Data Scanning devices (scanner, OCR, OMR, MICR, Bar Code Reader, Card Reader), Monitor, Printers (laser printer, dot matrix printer, ink jet printer).
Memories: Primary Memory-RAM and ROM. **Secondary Memory**- Hard Disk, CD, DVD.
Introduction to Windows based operating system and Desktop icons.

UNIT III

MS–Word: Introduction to word, 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 and shading, Templates, wizards, Mail Merge.

UNIT IV

MS-PowerPoint: 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. Creating a graph, displaying slide show, adding multimedia.Slide transitions, applying Animation, Timing slide display, adding movies & sounds. Using a pick look Wizards to change format.

References/Textbooks:

1. Anshuman Sharma, A book of Fundamentals of Information Technology, Lakhanpal Publishers, 5th Edition.
2. Prof. Satish Jain, M. Geetha, Kratika, BPB's Office 2010 Course Complete Book, BPB Publications, 2017.
3. Joyce Cox, Joan Lambert and Curtis Frye, Microsoft office Professional 2010 Step by Step, Microsoft Press, 2010.
4. V. Rajaraman, NeeharikaAdabala, Fundamentals of Computers, PHI Learning, 2015.
5. P.K. Sinha, Computer Fundamentals, BPB Publications, 2004.

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

Bachelor of Science (Economics)

Semester-I

Session: 2020 -21

Course Code: BECM-1134

COMPUTER SCIENCE

(COMPUTER FUNDAMENTALS & PC SOFTWARE)

(PRACTICAL)

Examination Time: (3+3) Hrs.

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

Practical based on Windows, MS Word, MS PowerPoint.

Bachelor of Science (Economics)
Semester-I
Session: 2020 -21
Course Code: BECM-1124

COMPUTER APPLICATION (VOCATIONAL)

(COMPUTER FUNDAMENTALS & PC SOFTWARE)

Course Outcomes:

After passing this course the student will be able to:

CO1: gain knowledge about various generations of computers.

CO2: understand the functionalities of hardware and software parts of the computer system.

CO3: make use of computer as per the need.

CO4: use and configure essential office applications including word processing, spreadsheets etc.

Bachelor of Science (Economics)
Semester-I
Session: 2020 -21
Course Code: BECM-1124

COMPUTER APPLICATION (VOCATIONAL)

(COMPUTER FUNDAMENTALS & PC SOFTWARE)

(THEORY)

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), type of Software, Translators (compiler, interpreter, assembler), Booting a System.

UNIT II

Input & Output Devices : Keyboards, Mouse, Joystick, Track Ball, Light Pen and Data Scanning devices (scanner, OCR, OMR, MICR, Bar Code Reader, Card Reader), Monitor, Printers (laser printer, dotmatrix printer, ink jet printer).

Memories:Primary Memory-RAM and ROM. **Secondary Memory** - Hard Disk, CD, DVD.

Introduction to Windows based operating system and Desktop icons.

UNIT III

MS–Word: Introduction to word, 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 and shading, Templates, wizards, Mail Merge.

UNIT IV

MS-PowerPoint: 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. Creating a graph, displaying slide show, adding multimedia. Slide transitions, applying Animation, Timing slide display, adding movies & sounds. Using a pick look Wizards to change format.

References/Textbooks:

6. Anshuman Sharma, A book of Fundamentals of Information Technology, Lakhanpal Publishers, 5th Edition.
7. Prof. Satish Jain, M. Geetha, Kratika, BPB's Office 2010 Course Complete Book, BPB Publications, 2017.
8. Joyce Cox, Joan Lambert and Curtis Frye, Microsoft office Professional 2010 Step by Step, Microsoft Press, 2010.
9. V. Rajaraman, NeeharikaAdabala, Fundamentals of Computers, PHI Learning, 2015.
10. P.K. Sinha, Computer Fundamentals, BPB Publications, 2004.

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

Bachelor of Science (Economics)
Semester-I
Session: 2020 -21
Course Code: BECM-1124

COMPUTER APPLICATION (VOCATIONAL)

(COMPUTER FUNDAMENTALS & PC SOFTWARE)

(PRACTICAL)

Examination Time: (3+3) Hrs.

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

Practical based on Windows, MS Word, MS PowerPoint.

Bachelor of Science (Economics)
(Semester–I)
Session: 2020 -21
Course Code: BECL-1175
Microeconomics

Course Outcomes:

CO: After passing this course students will be able to**have** an In-depth grounding in the preliminary concepts andtheories in consumer behavior, cost and market structure and production behavior.

Bachelor of Science (Economics)
(Semester–I)
Session 2020-21
Course Code: BECL-1175
MICROECONOMICS

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

Note: Instructions for the Paper–Setters:
Two questions, each carrying 16 marks, from each of Units I-IV (i.e. a total of eightQuestions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I
Introductory: Definition of Economics, Nature and Scope of Microeconomics. Demand Function; Supply Function, Price Determination, Elasticity of Demand – Price, Income and Cross elasticities and their Measurement.
Utility Analysis: law of diminishing marginal utility and law of Equi-marginal utility, Indifference Curve Analysis and Revealed Preference Analysis (Meaning and Equilibrium).

UNIT–II
Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale and Returns to Factor
Cost: Traditional and modern cost Theory, Concepts and Costs curves in the short and in the long run. Revenue Curves and their relationship with elasticity of demand.

UNIT–III
Market forms: Perfect Competition; Assumptions, Price and output determination of firm andIndustry in Short run and Long run; Monopoly: Assumptions and Equilibrium.
Monopolistic Competition: Assumptions and Equilibrium(except Group Equilibrium).

UNIT–IV
Marginal Productivity Theory; Factor Pricing (with reference to labour) under Perfect Competitionand Imperfect Competition, Modern Theory of Distribution.
Rent: Concept, Ricardian Theory and Modern Theory of Rent.
Interest: Concept of interest; classical theory, lonable funds theory.
Profit: Concept of profit; Risk and uncertainty theories.

Books Recommended:
1. D.N. Dwivedi,*" Microeconomics -Theory and Applications",* Pearson Education Pvt. Ltd.
2.H. L. Ahuja," *Advanced Economic Theory",* S. Chand, publicationsNewDelhi.
3. Koutsoyiannis A., "*Modern Micro Economics",* 2nd edition, MacMillan House, New Delhi.
4.Stonier &Hague,A,"*Text book of Economics Theory*", 9th ed., ELBS, London.

Bachelor of Science (Economics)
(Semester–I)
Session: 2020 -21
Drug Abuse: Problem, Management and Prevention (COMPULSORY)
Course Code: AECD-1161
(Theory)

Time: 3 Hrs **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 of Drug Abuse: Meaning, Nature and Extent of Drug Abuse in India and Punjab.

UNIT-II

Consequences of Drug Abuse for:

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

UNIT-III

Management of Drug Abuse

Medical management : medication for treatment and to withdrawal effects.

UNIT-IV

Psychiatric Management: Counselling, Behavioural and Cognitive therapy.Social Management: Family, Group therapy and Environmental Intervention.

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: Sage Publications.

4. Kapoor. T. (1985) *Drug epidemic among Indian Youth*, New Delhi: Mittal Pub.

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 and Cessation,* Cambridge University Press.

Bachelor of Science (Economics)
(Semester–I)
Session: 2020 -21

FOUNDATION COURSE

Course Title: Foundation Course

Course Duration: 30 hours

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

Course Credits: 1

Course Code: SECF-1492

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 benchmarks and inventors & discoverers who have impacted human life. For a student, the process of transformation from school to college is full of apprehension and intimidation of the 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

CURRICULUM

MODULE	TITLE	CONTACT HOURS
I	**Introduction & Initial Assessment**	2
II	**The Human Story**	3
III	***The Vedas, The Gita* & Eastern Philosophy**	2.5
IV	***The Holy Bible* & Genesis**	2.5
V	**Woman: A Journey through the Ages**	2.5
VI	**Changing Paradigms in Society, Religion & Literature**	2.5
VII	**Makers of Modern India**	2.5
VIII	**Racism & Martin Luther King Jr.**	2.5
IX	**Modern World at a Glance: Political & Economic Perspective**	2.5
X	**Technology & Human Life**	2.5
XI	**The KMV Experience**	2.5
XII	**Final Assessment, Feedback & 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 time

• Most momentous turning points, inventions and discoveries

Module 3 *The Vedas, The Gita* & 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 *The Holy Bible* & Genesis

- Book of Genesis: Creation and Fall
- Noah's Ark
- Moses & The Ten Commandments
- Christ and His teachings
- Christianity and the world

Module 5 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 6 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 7 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, HomaiVyarawala etc.
- The Way Ahead

Module 8 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 9 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 10 Technology and 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
- Harmonising technology with ethics and humaneness

Module 11 The KMV Experience

- Historical 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

KanyaMaha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE PROGRAM
Bachelor of Science (Economics)
Session: 2020-2021

Bachelor of Science (Economics)-SemesterIII								
Course Code		**Course Name**	**Course Type**	**Marks**				
				Total	**Ext.**		**CA**	**Examination Time (in Hours)**
					L	**P**		
BECL-3421 BECL-3031 BECL-3431		Punjabi (Compulsory) [1]Basic Punjabi [2]Punjab History & Culture	C	50	40	-	10	3
BECL-3212		English (Compulsory)	C	50	40	-	10	3
BECM-3333	(I)	**Mathematics** (Analysis)	E	100	80 (40+40)	-	20	3+3
	(II)	**Mathematics** (Analytical Geometry)						
BECL-3453		**Quantitative Techniques** (Quantitative Techniques–III)	E	100	80	-	20	3
BECM-3134		**Computer Science** (Computer Oriented Numerical and Statistical Methods)	E	100	50	30	20	3+3
	(P)	**Computer Science** (Computer Oriented Numerical and Statistical Methods) (PRACTICAL)						
BECM-3124		**Computer Applications (Vocational) (**Operating System)	E	100	50	30	20	3+3
	(P)	**Computer Applications** (Operating System)						
BECL-3175		**Economics (As Per GNDU Syllabus)**	C	100	80	-	20	3
AECE-3221		*Environmental Studies (compulsory)	AC	100	60	20	20	3
SECP-3512		* Personality Development	AC	25	20	-	5	1
Total				**400**				

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

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
PUNJABI (COMPULSORY)

COURSE CODE- BECL -3421

COURSE OUTCOMES

CO1:ਚੋਣਵੇ ਪੰਜਾਬੀਨਿਬੰਧਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਵਾਰਤਕ ਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ।

CO2:‘ਸਮਾਂਮੰਗਕਰਦਾ ਹੈ’ ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਇਕਾਂਗੀਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਇਸ ਸਾਹਿਤ ਰੂਪ ਨਾਲਨਾਲਜੋੜਣਾ ਹੈ।

CO3:ਸੰਖੇਪ ਰਚਨਾਕਰਨਨਾਲਵਿਦਿਆਰਥੀਆਪਣੀਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚਕਹਿਣ ਦੀ ਜਾਚਸਿੱਖਣਗੇ ਅਤੇ ਇਹਦਿਮਾਗੀਕਸਰਤਵਿਚ ਸਹਾਈਹੋਵੇਗੀ।

CO4: ਲੇਖ ਰਚਨਾ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO5:ਮੂਲ ਵਿਆਕਰਣਕਇਕਾਈਆਂ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵੰਨਗੀਆਂ (ਭਾਵੰਸ਼, ਸ਼ਬਦ, ਵਾਕੰਸ਼, ਉਪਵਾਕ ਅਤੇ ਵਾਕ)ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਅਤੇ ਬਾਰੀਕੀਆਂਨੂੰ ਸਮਝਣਲਈਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
PUNJABI (COMPULSORY)

COURSE CODE- BECL -3421

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 50**

Theory: 40

CA: 10

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਚੋਣਵੇ ਪੰਜਾਬੀਨਿਬੰਧ(ਜੋਗਿੰਦਰਸਿੰਘ ਪੁਆਰ,ਪਰਮਜੀਤਸਿੰਘਸਿੱਧੂ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ,ਪਟਿਆਲਾ।

ਘਰ ਦਾ ਪਿਆਰ, ਉਮਰ ਲੰਮੀ ਹੋ ਸਕਦੀ ਹੈ,ਅੱਥਰੂ, ਪੁਰਾਣਾਪੰਜਾਬ, ਇੰਗਲੈਂਡ ਦਾ ਸੋਗੀ ਸੋਮਵਾਰ,ਖਿਡਾਰੀਆਂ ਦੇ ਵਹਿਮ।

(ਪਾਠਕ੍ਰਮ ਦਾ ਹਿੱਸਾ ਹਨ)

(ਵਿਸ਼ਾਵਸਤੂ/ਸਾਰ) 8 ਅੰਕ

ਯੂਨਿਟ-II

ਸਮਾਂਮੰਗਕਰਦਾ ਹੈ (ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ) (ਸੰਪਾ . ਕੇਵਲਧਾਲੀਵਾਲ) ਚੇਤਨਾਪ੍ਰਕਾਸ਼ਨ,ਲੁਧਿਆਣਾ।

(ਵਿਸ਼ਾਵਸਤੂ /ਸਾਰ)8 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ) ਸੰਖੇਪ ਰਚਨਾ (ਪ੍ਰੈਸੀ)

(ਅ) ਲੇਖ ਰਚਨਾ8 ਅੰਕ

ਯੂਨਿਟ-IV

ਮੂਲ ਵਿਆਕਰਣਕਇਕਾਈਆਂ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵੰਨਗੀਆਂ (ਭਾਵੰਸ਼, ਸ਼ਬਦ, ਵਾਕੰਸ਼, ਉਪਵਾਕ ਅਤੇ ਵਾਕ)

8 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 ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ

ਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Basic Punjabi (In lieu of Punjabi Compulsory)

COURSE CODE- BECL -3031

Course outcomes

CO1:ਵਿਆਕਰਣਕ ਇਕਾਈਆਂਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਪੰਜਾਬੀਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂਨੂੰ ਸਮਝਣਲਈਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾਅਤੇ ਪੰਜਾਬੀਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆਵਿਚਪਾ ਕੇ ਇਕਹੋਰਭਾਸ਼ਾਸਿੱਖਣ ਦੇ ਮੌਕੇ ਪ੍ਰਦਾਨਕਰਨਾ ਹੈ।

CO2:ਪੈਰ੍ਹਾ ਰਚਨਾ ਦੇਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO3:ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀਚਿੱਠੀਪੱਤਰਲਿਖਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾਵਿਚਨਿਪੁੰਨਕਰਨਾ ਹੈ।

CO4:ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂਨਾਲਗੱਲਬਾਤਵਿਚਪਰਪੱਕਤਾਆਉਂਦੀ ਹੈ।ਇਹਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤਵਿਚਨਿਖਾਰਲਿਆਉਣ ਦਾ ਕੰਮਕਰਨਗੇ।

CO5:ਪੈਰ੍ਹਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO6:ਸੰਖੇਪ ਰਚਨਾਕਰਨਨਾਲਵਿਦਿਆਰਥੀਆਪਣੀਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚਕਹਿਣ ਦੀ ਜਾਚਸਿੱਖਣਗੇ ਅਤੇ ਇਹਦਿਮਾਗੀਕਸਰਤਵਿਚ ਸਹਾਈਹੋਵੇਗੀ।

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Basic Punjabi (In lieu of Punjabi Compulsory)

COURSE CODE- BECL -3031

ਸਮਾਂ: 3 ਘੰਟੇ **Maximum Marks : 50**

Theory : 40

CA : 10

ਪਾਠ ਕ੍ਰਮ

ਯੂਨਿਟ-I

ਵਿਆਕਰਣਕਇਕਾਈਆਂਦੀਪਛਾਣਅਤੇਵਰਤੋਂ; ਵਾਕੰਸ਼, ਉਪਵਾਕਅਤੇਵਾਕ

ਯੂਨਿਟ-II

ਪ੍ਰਕਾਰਜੀਪੰਜਾਬੀ : ਪੈਰ੍ਹਾਰਚਨਾ,ਚਿੱਠੀਪੱਤਰ

ਯੂਨਿਟ-III

I.ਅਖਾਣ

II.ਮੁਹਾਵਰੇ

ਯੂਨਿਟ-IV

I.ਪੈਰ੍ਹਾਅਧਾਰਿਤਪ੍ਰਸ਼ਨ

II.ਸੰਖੇਪਰਚਨਾ

ਅੰਕਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕਲਈਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨਪੱਤਰ ਦੇ ਚਾਰਸੈਕਸ਼ਨਹੋਣਗੇ।।ਸੈਕਸ਼ਨA-Dਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਯੂਨਿਟI-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ।ਹਰ ਯੂਨਿਟਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲਪੰਜਪ੍ਰਸ਼ਨਕਰਨੇ ਹਨ। ਹਰ ਭਾਗਵਿਚੋਂਇਕਪ੍ਰਸ਼ਨਲਾਜ਼ਮੀਹੈ।ਪੰਜਵਾਂਪ੍ਰਸ਼ਨਕਿਸੇ ਵੀਭਾਗਵਿਚੋਂਕੀਤਾਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ ਅੱਠਅੰਕਹਨ।
4. ਪੇਪਰ ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ-ਪ੍ਰਸ਼ਨਾਂਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
COURSE TITLE: PUNJAB HISTORY AND CULTURE (FROM 1000-1605 A. D.)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

COURSE CODE: BECL-3431

Course outcomes

After completing the paper the students will have a thorough insight into the origin of Sikh faith and its major institutions in Punjab

CO 1: To able to construct original historical arguments using a blend of primary and secondary source material

CO 2: To be able to demonstrate the significance of historical topics with reference to broader historical context and their contemporary relevance

CO 3: Students will develop an ability to convey verbally their historical knowledge

CO 4: Students will develop skills in critical thinking and reading

CO 5: To discuss understand and evaluate causes and results of the conflict with Mughals

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
COURSE TITLE: PUNJAB HISTORY AND CULTURE (FROM 1000-1605 A. D.)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

COURSE CODE: BECL-3431

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

Instructions for the Paper Setters

5. Question paper shall consist of four Units
6. Examiner shall set 8 questions in all by selecting **Two Questions** of equal marks from each Unit.
7. 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**.
8. Each question will carry 8 marks

Unit -1.

1. Society and Culture of Punjab during Turko - Afghan Rule

2. The Punjab under the Mughals

Unit-II:

3. Bhakti Movement and Impact on Society of Punjab

4. Sufism in Punjab

Unit-III:

5.Guru Nanak:Early Life and Teachings

6. Concept of Sangat, and Pangat

Unit-IV:

7. Contribution of Guru Angad Dev, Guru Amar Das and Guru Ram Das

8. Guru Arjun Dev and Compilation of Adi Granth

Suggested Readings:

- **Chopra, P. N., Puri, B.N., &Das. M.N. (1974). A Social, Cultural and Economic History of India, Vol. II. New Delhi : Macmillan India.**
- **Grewal, J.S. (1994) The Sikhsof the Punjab, Cambridge University Press, New Delhi.**

- **Singh, Fauja (1972), A History of the Sikhs, Vol. II,I. Patiala: Punjabi University.**
- **Singh, Khuswant (2011). A History of Sikhs- Vol. I (1469-1839), New Delhi:Oxford University Press.**

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
ENGLISH (COMPULSORY)
Course Code: BECL-3212

COURSE OUTCOMES

After passing this course, the students will be able to:

CO 1: develop an understanding of the poems taught, relate to the socio-cultural background of England and be able to answer questions regarding tone, style and central idea

CO 2: comprehend the basics of grammatical rules governing relative clauses, adjectives, adverbs, conjunctions and prepositions

CO 3: enhance their reading and analysing power of texts through guided reading

CO 4: enrich their vocabulary and use new words in their spoken and written language

CO 5: develop skills to write an essay on a given topic

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
ENGLISH (COMPULSORY)
Course Code: BECL-3212

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

Instructions for the Examiner:

(The paper setters should avoid questions of theoretical nature from *Making Connections*.)

Section A: One question with sub-parts will be set from Unit I of the syllabus. Fifteen sentences will be set and the students would be required to attempt any ten. Each sentence will carry one mark. **(10x1=10)**

Section B: Two questions will be set from Unit II of the syllabus. The students would be required to attempt one essay out of the given two topics carrying six marks (word limit 300 words). The second question will be based on vocabulary. The students would be required to write single words for phrases and sentences choosing any four out of six and each carrying one mark. **(1x6+4x1=10)**

Section C: The students would be required to attempt two questions (with sub parts) based on exercises as given before and after reading essays in the prescribed text book *Making Connections*. **(2×5=10)**

Section D: This section will be divided into two parts. In part one, three questions based on central idea, theme, tone and style etc. of the poems from the prescribed textbook, *Moments in Time* from Unit IV of the syllabus will be set. The students would be required to attempt any two, each carrying three marks (100 words each). **(2×3=6)**

Part two will have one question (with internal choice) requiring students to explain a stanza with reference to context carrying four marks (word limit 200 words). The stanzas for explanation will be taken from the prescribed textbook, *Moments in Time* from Unit IV in the syllabus. **(1×4=4)**

Unit I

English Grammar in Use, 4th Edition by Raymond Murphy, CUP (Units 92-120)

Unit II

Essay Writing and *The Students' Companion* by Wilfred D. Best (Section 1: Single words for phrases and sentences: Words denoting Numbers and words denoting Places)

Unit III

Making Connections by Kenneth J. Pakenham, 2nd Edn. CUP: Unit-II

Unit IV

Moments in Time: Poems at Sr. No. 1-6

Texts Prescribed:

1. *English Grammar in Use* (Fourth Edition) by Raymond Murphy, CUP

2. *The Students' Companion* by Wilfred D. Best
3. *Making Connections* by Kenneth J. Pakenham, 2nd Edn. CUP
4. *Moments in Time: An Anthology of Poems*, GNDU, Amritsar

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Title: Mathematics (Analysis)

Course Code: BECM-3333(I)

Course Outcomes

After passing this course, the students will be able to:

CO 1: Demonstrate an understanding of limits and how they are used in sequences and series.

CO 2: To understand the concepts of Riemann sum, partitions, upper and lower sums, Riemann integrability of continuous functions and of monotone functions.

CO 3: To know and describe the converging behavior of improper integrals and Beta , Gamma functions.

CO 4: Distinguish between the absolute convergence and conditional convergence.

CO 5: To find the relation between Beta and Gamma functions.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Title: Mathematics (Analysis)

Course Code: BECM-3333(I)

Examination Time : 3 hrs.
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.

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Unit-I

Definition of a sequence. Theorems on limits of sequences. Bounded and monotonic sequences. Cauchy's convergence criterion.

Unit-II

Series of non-negative terms. Comparison tests. Cauchy's integral tests. Ratio tests. Cauchy's root test. Raabe's test, logarithmic test. Demorgan's and Bertrand's tests. Kummer's test, Cauchy Condensation test, Gauss test, Alternating series. Leibnitz's test, absolute and conditional convergence.

Unit-III

Partitions, Upper and lower sums. Upper and lower integrals, Riemann integrability. Conditions of existence of Riemann integrability of continuous functions and of monotone functions. Algebra of integrable functions.

Unit-IV

Improper integrals and statements of their conditions of existence. Test of the convergence of improper integral, beta and gamma functions.

Text Book:
Ajit Kumar and S. Kumaresan : A Basic Course in Real Analysis, CRC Press

Reference Books:
1. Malik, S.C.: Mathematical Analysis, Wiley Eastern Ltd. (1991).
2. Apostal, T.M.: Mathematical Analysis, Addison Wesley Series in Mathematics (1974).

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Title: Mathematics (Analytical Geometry)

Course Code: BECM -3333(II)

Course Outcomes

After passing this course, the students will be able to:

CO 1: Understand the concept of the geometry of lines and conics in the Euclidian plane.

CO 2: Develop geometry with a degree of confidence and will gain fluency in the basics of Euclidian geometry.

CO 3: Sketch conic sections; identify conic sections, their focal properties and classifications.

CO 4: Demonstrate the concept of parabola, ellipse, hyperbola, sphere and the general quadratic equation.

CO 5: Understand the concept of coordinate geometry on a wider scale with the help of shifting of origin and rotation of axis.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21

Course Title: Mathematics (Analytical Geometry)

Course Code: BECM -3333(II)

Examination Time : 3 hrs. 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

Transformation of axes, shifting of origin, Rotation of axes in two dimension and three dimension, the invariants, Joint equation of pair of straight lines, equations of bisectors

Unit-II

Parabola and its properties. Tangents and normal, Pole and polar, pair of tangents at a point, Chord of contact, equation of the chord in terms of mid point and diameter of conic.

Unit-III

Ellipse and hyperbola with their properties. Tangents and normal, Pole and polar. pair of tangents at a point, Chord of contact, Identifications of curves represented by second degree equation (including pair of lines).

Unit-IV

Intersection of three planes, condition for three planes to intersect in a point or along a line or to form a prism. Sphere: Section of a sphere by a plane, spheres of a given circle. Intersection of a line and a sphere. Tangent line, tangent plane, power of a point with respect to a sphere, radical planes.

Text Book:

S.L. Loney: The Elements of Coordinate Geometry, Macmillan and Company, London.

Reference Books:

1. Gorakh Prasad and H.C. Gupta: Text Book on Coordinate Geometry.
2. Narayan, S and P.K.Mittal.: Analytical Solid Geometry, Sultan Chand & Sons (2005).
3. Kreyszig, E.: Advanced Engineering Mathematics.
4. Thomos, G.B. and Finney, R.L.: Calculus and Analytic Geometry.

Bachelor of Science (Economics)

(Semester –III)

Session 2020-21

Course Code: BECL-3453

QUANTITATIVE TECHNIQUES–III

Course Outcomes:

After passing this course students will be able to:

CO1: understand and apply the concept of differentiation in economic applications such as profit maximization, cost minimization or utility optimization.

CO2: understand and apply the concept of indefinite and definite integrals to the economics concepts like consumer and producer surplus.

CO3: explain and use matrix operations to solve system of equations

Co4: understand the basics of Linear programming.

Bachelor of Science (Economics)

(Semester –III)
Session 2020-21
Course Code: BECL-3453
QUANTITATIVE TECHNIQUES–III

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

Note: Instructions for the Paper–Setters/Examiners:
Two questions, each carrying 16 marks, from each of Units I-IV (i.e. a total of eight Questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Differentiation: Maxima and Minima of Functions, Partial derivatives, Higher order partial derivatives.

UNIT–II

Integration (Excluding Trigonometric and Inverse Functions): Indefinite Integrals; Integration by Partial Fractions; Integration by substitution; Integration by parts; Definite Integrals. Application of Integration in Consumer Surplus and Producer Surplus.

UNIT–III

Matrices: Definition, Types, Addition, Subtraction and Multiplication of Matrices, Scaler Multiplication, Transposition, Determinants and their Properties, Minors and Co-factors, Rank of a Matrix, Inverse of a Matrix, Crammer's Rule for Solution of Simultaneous system of equations. Applications of matrices in economics.

UNIT–IV

Linear Programming: Formulation of problem, Assumptions, Graphical solution, Simplex method. Use of Artificial Variables, Dual Simplex method. Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model, Simple Applications of Input-Output Analysis.

Recommended Texts:

1.Rangi S.S., Mathematical Techniques, S. Vikas &Co. (Publishing House) India.
2. Allen R.G.D., Mathematical Analysis for Economists, ELBS and Macmillan Press.
3. Chiang, A., Fundamental Methods of Mathematical Economics, McGraw Hill.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Code: BECM-3134

COMPUTER SCIENCE

(COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand numerical methods, nonlinear equations, interpolation methods and Simultaneous Solution of Equations.

CO2: Learn about Interpolation and Curve Fitting and Numerical differentiation.

CO3: Learn Correlation, Regression, Bivariate & Multivariate distribution and Interpretation of Trend Analysis.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Code: BECM-3134

COMPUTER SCIENCE

(COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS)

(THEORY)

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. The students can use Non–programmable/ scientific & Non–storage type calculator.

Unit –I

Introduction:

1. Numerical methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
2. Bisection method, false position method and Newton Raphson method.
3. Simultaneous Solution of Equations, Gauss Elimination Method, Gauss Jordan method, Gauss Siedel Method.

Unit -II

4. Interpolation and Curve Fitting, Lagrangian Polynomials, Newtons Methods: Forward Difference Method, Backward Difference Method and Divided Difference Method.
5. Numerical Integration: Traperzoidal Rule, Simpson's 1/3 Rule Simpson's 3/8 Rule.

Unit -III

6. Measure of Central Tendency, Preparing frequency distribution table, Mean Arithmetic, Mean Geometric, Mean Harmonic, Mean, Median and Mode.
7. Measure of dispersion, Range, Mean deviation, Standard deviation, co-efficient of variation, Moments, Skewness, Kurtosis.

Unit –IV

8. Correlation, Bivariate Distribution, Multivariate distribution.
9. Regression B.C., Linear Regression.

References/ Textbooks:

1. B.S. Grewal, Numerical Methods in Engineering & Science: With Programs in C, C++ & MATLAB, Khanna Publisher, 2014.
2. V. Rajaraman, Computer Oriented Numerical Methods, Prentice Hall of India Private Ltd., 2009.

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

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
Course Code: BECM-3134

COMPUTER SCIENCE

(COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS)

(PRACTICAL)

Examination Time: (3+3) Hrs.

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

Practical based on Computer Oriented Numerical and Statistical Methods.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
COURSE CODE: BECM-3124

COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand the basic knowledge of operating system, its types and functions.

CO2: Have knowledge of Unix operating system and its uses.

CO3: Gain knowledge about piping, filters, batch processing, shell programming and vi editors.

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
COURSE CODE: BECM-3124

COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)
(THEORY)

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

Introduction to Operating System, Types of Operating systems: Multiuser, Multitasking & Multiprogramming, Functions of Operating System, Booting a System, Language Processors: Compiler, Assembler, Interpreter, Linker and Loader.

1. CPU Scheduling (For First come First serve, Shortest Job First, Priority, Round Robin Scheduling).

UNIT-II

2. Memory Management (Logical address space and physical address space, schemes).

3. File Management.

4. I/O Device Management.

5. Data Management.

6. Security.

UNIT-III

Introduction to Unix**,** Features and Benefits of Unix, Components of Unix (Kernel, Shell), UNIX file system (Data Block, list, super block, boot block), Types of Files (Ordinary, Directory and Special Files), Login and Logout from Unix Session, Types of Shells (Bourne, c-shell, Korn-shell), Shell as a command interpreter.

UNIT–IV

Simple Directory and File Commands Cat, is, in, chmod, mail, who, whoami, cal, pwd, date, ps, mkdir, cd, rmdir, rm, tput, clear. Piping, filters, shell programming (echo, read, case constructs)

Editors (vi): Commands for opening, inserting, modifying, deleting and saving files.

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.
5. Anshuman Sharma, Fundamentals of Operating System, Lakhanpal Publishers, 2nd Edition.

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

Bachelor of Science (Economics)
(Semester–III)
Session: 2020 -21
COURSE CODE: BECM-3124

COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)
(PRACTICAL)

Practical based on UNIX.

Bachelor of Science (Economics)
(Semester –III)
Session 2020-21
Course Code: BECL-3175
ECONOMICS (As Per GNDU Syllabus)

This Syllabus will be intimated later

Bachelor of Science (Economics)
(Semester –III)
Session 2020-21
Environmental studies (COMPULSORY PAPER)
Course Code: AECE-3221
(Theory)

COURSE OUTCOMES

After passing this course the student will be able to:

- CO1 Demonstrate and Understand the ecological relationships between organisms and their environment.
- CO2 Present an overview of diversity of life forms in an ecosystem.
- CO3 Explain and identify the role of the organism in energy transfers.
- CO5 Understand the Environmental Pollution and their management.
- CO6Understanding and awareness for wildlife conservation.
- CO7Knowledge of conservation of threatened animal species

Bachelor of Science (Economics)
(Semester –III)
Session 2020-21
Environmental studies (COMPULSORY PAPER)
Course Code: AECE-3221

(Theory)

Time: 3 Hours. **Max. Marks: 100**
Theory: 60
Field 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 (Economics)
(Semester –III)
Session 2020-21
PERSONALITY DEVELOPMENT PROGRAMME

Course Title: Personality Development Programme
Nature of course: Audit Course (Skill Based)
Course duration: 30 hours
Course intended for: Sem. III students of all streams (UG Only)
Course credits: 2
Course Code: SECP-3512

PURPOSE
To enhance holistic development of students 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.

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**

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 Résumés for Different Posts

(v) Group Discussion

- Differences 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
- Extempore Session

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. Everyday Etiquette: How to navigate 101 common and uncommon social situations by Patrica Rossi.
2. Building career success skills by Theodore Pietrzak, Mike Fraum.
3. Creative problem solving: An Introduction by Donald J Treffinger, Scott G.Isaksen, K. Brian.
4. Positive Psychology: The science of happiness and human strengths by Alan Carr
5. Speech craft: An Introduction to public speaking by Brent C Oberg.
6. Effective communication skills: The foundations for change by John Nielsen.
7. Conflict Resolution smarts: How to communicate, negotiate promise and more by Matt Doeden.
8. What you wear can change your life by Trinnywoodall, Susannah Constantine.
9. World Famous Personalities by Dr. B.R. Kishore.
10. Personality Development by John Aurther.
11. World Famous Leaders who reshaped the World! by Dr. Gagan Jain, D.Litt.
12. Personality Development by Elizabeth B. Hurlock
13. Personality Plus by Divya Chopra

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. 20 multiple choice type questions will be set. Each question will carry 1 mark (20 X 1 = 20). The student will have to attempt all the questions. Total time allotted will be 1 hour.
3. Internal Assessment will consist of Attendance: 2 Marks, Viva: 3 Marks.(Total:5 Marks)
4. Internal Assessment will be based on the student's level of participation, interaction and communication during the classes.

5. Viva will be conducted by the resource persons of the programme.
6. The syllabus of the programme will be duly signed and provided to the COE office by the co-ordinator.
7. The co-ordinator will convey about the completion of the programme to the COE office to facilitate conduct of examination.
8. The list of paper setters will be provided to the COE office out of which any one can be appointed by it.
9. Final examination will be conducted by COE office as per norms of the college.

Marks secured by the student will not be added in total marks and only grades will be provided. Letter grade would be awarded on a 10 point scale as

KanyaMaha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE-YEAR DEGREE PROGRAM
Bachelor of Science (Economics)
Session: 2020-2021

Bachelor of Science (Economics)-Semester V								
Course Code		**Course Name**	**Course Type**	**Marks**				
				Total	**Ext.**		**CA**	**Examination Time (in Hours)**
					L	**P**		
BECL-5421 BECL-5031 BECL-5431		Punjabi(Compulsory) [1]Basic Punjabi [2]Punjab History & Culture	C	50	40	-	10	3
BECL-5212		English (Compulsory)	C	50	40	-	10	3
BECM-5333	(I)	**Mathematics** (Analysis)	E	100	80 (40+40)	-	20	3+3
	(II)	**Mathematics** (Analytical Geometry)						
BECL-5453		**Quantitative Techniques** (Quantitative Techniques–III)	E	100	80	-	20	3
BECM-5134		**Computer Science** (Computer Oriented Numerical And Statistical Methods)	E	100	50	30	20	3+3
	(P)	**Computer Science** (Computer Oriented Numerical And Statistical Methods) (PRACTICAL)						
BECM-5124		**Computer Applications (Vocational) (**Operating System)	E	100	50	30	20	3+3
	(P)	**Computer Applications** (Operating System)						
BECL-5175		**Economics** (Economics of Development)	C	100	80	-	20	3
Total				**400**				

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

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

PUNJABI (COMPULSORY)

COURSE CODE- BECL -5421

COURSE OUTCOMES

CO1:ਚੋਣਵੀਆਂਪੰਜਾਬੀਕਹਾਣੀਆਂਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਹਾਣੀਆਂਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ।

CO2:ਨਾਵਲ ਏਹੁਹਮਾਰਾਜੀਵਣਾ(ਦਲੀਪਕੌਰਟਿਵਾਣਾ)ਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਨਾਵਲਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਇਸ ਸਾਹਿਤ ਰੂਪ ਨਾਲਨਾਲਜੋੜਣਾ ਹੈ।

CO3:ਪੈਰ੍ਹਾਰਚਨਾਕਰਨਨਾਲਵਿਦਿਆਰਥੀਆਪਣੀਗੱਲ ਨੂੰ ਕਹਿਣ ਦੀ ਜਾਚਸਿੱਖਣਗੇ ਅਤੇ ਇਹਦਿਮਾਗੀਕਸਰਤਵਿਚ ਸਹਾਈਹੋਵੇਗੀ।

CO4:ਸਰਲਅੰਗਰੇਜ਼ੀਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀਵਿਚਅਨੁਵਾਦਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।

CO5:ਪੰਜਾਬੀਧੁਨੀਵਿਉਂਤ, ਵਾਕਾਤਮਕਜੁਗਤਾਂ : ਮੇਲ ਤੇ ਅਧਿਕਾਰ,ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸੰਬੰਧਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਅਤੇ ਬਾਰੀਕੀਆਂਨੂੰ ਸਮਝਣਲਈਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

PUNJABI (COMPULSORY)

COURSE CODE- BECL -5421

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 50**

Theory: 40

CA: 10

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਚੋਣਵੀਆਂਪੰਜਾਬੀਕਹਾਣੀਆਂ
(ਸੰਪਾ.ਡਾ.ਰਮਿੰਦਰਕੌਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ, 2018)

ਲੇਖਕ	ਕਹਾਣੀਕਹਾਣੀ ਸੰਗ੍ਰਹਿ	
ਅਜੀਤਕੌਰ	ਨਿਓ ਯੀਅਰ ਮੌਤ	ਅਲੀਬਾਬੇ ਦੀ
ਜਿੰਦਰ	ਸੌਰੀ	ਜਖ਼ਮ
ਸੁਖਜੀਤ	ਹਜ਼ਾਰ ਕਹਾਣੀਆਂ ਦਾ ਬਾਪ	ਮੈ ਇੰਜੁਆਏ ਕਰਦੀਹਾਂ
ਜਤਿੰਦਰਹਾਂਸ	ਰਾਹੂ ਕੇਤੂ	ਈਸ਼ਵਰ ਦਾ ਜਨਮ
ਪ੍ਰੇਮ ਪ੍ਰਕਾਸ਼	ਅਰਜਨ ਛੇੜ ਗਡੀਰਨਾ	ਕੁਝ ਅਣਕਿਹਾ ਵੀ
ਚੰਦਨ ਨੇਗੀ	ਹਰਖ ਸੋਗ	ਹਰਖ ਸੋਗ
ਜਸਵਿੰਦਰ ਸਿੰਘ	ਖੂਹ ਖਾਤੇ	ਖੂਹ ਖਾਤੇ
ਗੁਰਦੇਵ ਸਿੰਘ ਰੁਪਾਣਾ	ਸ਼ੀਸ਼ਾ	ਸ਼ੀਸ਼ਾ ਅਤੇ ਹੋਰ ਕਹਾਣੀਆਂ

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ) 8 ਅੰਕ

ਯੂਨਿਟ-II

ਨਾਵਲ : ਏਹੁ ਹਮਾਰਾ ਜੀਵਣਾ (ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)
(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ) 8 ਅੰਕ

ਯੂਨਿਟ-III

ਲਗਪਗ 200 ਸ਼ਬਦਾਂ ਵਿਚ ਪੈਰ੍ਹਾ ਰਚਨਾ

ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ 8 ਅੰਕ

ਯੂਨਿਟ-IV

ਵਿਆਕਰਣ :
(ੳ) ਨਾਂਵ ਵਾਕੰਸ਼
(ਅ) ਮੇਲ ਤੇ ਅਧਿਕਾਰ 8 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 ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Basic Punjabi (In lieu of Punjabi Compulsory)

COURSE CODE- BECL -5031

COURSE OUTCOMES

Co1:‘ਸਾਹਿਤ ਦੇ ਰੰਗ’ ਪੁਸਤਕ ਦੇ ਕਵਿਤਾਭਾਗਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਵਿਤਾਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਤਾਂਕਿ ਉਹ ਆਧੁਨਿਕਦੌਰਵਿਚਚਲਰਹੀਆਂਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂਬਾਰੇ ਗਿਆਨਹਾਸਲਕਰ ਸਕਣ।ਇਸ ਦਾ ਹੋਰਮਨੋਰਥਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆਤੋਂਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜਦੀਆਂ ਸਮੱਸਿਆਵਾਂਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕਦ੍ਰਿਸ਼ਟੀਬਣਾ ਸਕਣ।

Co2:‘ਸਾਹਿਤ ਦੇ ਰੰਗ’ ਪੁਸਤਕ ਦੇ ਕਹਾਣੀਭਾਗ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਹਾਣੀਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਕਹਾਣੀਜਗਤਨਾਲਜੋੜਣਾ ਹੈ।

CO3:ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇਕਸ਼ਬਦ ਅਤੇ ਬਹੁਆਰਥਕਸ਼ਬਦਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਵਿਆਕਰਣਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ।

CO4: ਸਮਾਨਰਥਕਸ਼ਬਦ, ਵਿਰੋਧਾਰਥਕਸ਼ਬਦਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਵਿਆਕਰਣਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ।

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Basic Punjabi (In lieu of Punjabi Compulsory)

COURSE CODE- BECL -5031

ਸਮਾਂ : 3 ਘੰਟੇ **Maximum Marks: 50**

Theory: 40

CA: 10

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਸਾਹਿਤ ਦੇ ਰੰਗ (ਸੰਪਾ.ਡਾਮਹਿਲਸਿੰਘ),ਭਾਗਪਹਿਲਾ(ਕਵਿਤਾ),ਰਵੀ ਸਾਹਿਤਪ੍ਰਕਾਸ਼ਨ,ਅੰਮ੍ਰਿਤਸਰ।
ਭਾਈਵੀਰਸਿੰਘ(ਸਮਾਂ,ਚਸ਼ਮਾ)
ਪ੍ਰੋ.ਪੂਰਨਸਿੰਘ(ਪੰਜਾਬ ਨੂੰ ਕੂਕਾਂਮੈਂ,ਹਲਵਾਹੁਣ ਵਾਲੇ)
ਪ੍ਰੋ.ਮੋਹਨਸਿੰਘ(ਮਾਂ,ਕੋਈਆਇਆ ਸਾਡੇ ਵਿਹੜੇ)
(ਕਵਿਤਾਵਾਂਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾਹਨ)

(ਸਾਰ) 08 ਅੰਕ

ਯੂਨਿਟ-II

ਸਾਹਿਤ ਦੇ ਰੰਗ (ਸੰਪਾ.ਡਾਮਹਿਲਸਿੰਘ),ਭਾਗਪਹਿਲਾ(ਕਹਾਣੀ),
ਰਵੀ ਸਾਹਿਤਪ੍ਰਕਾਸ਼ਨ,ਅੰਮ੍ਰਿਤਸਰ।
ਪੇਮੀ ਦੇ ਨਿਆਣੇ,ਕੁਲਫੀ,ਘੋਟਣਾ (ਕਹਾਣੀਆਂਸਿਲੇਬਸ ਦਾ ਹਿੱਸਾਹਨ)

(ਸਾਰ) 08 ਅੰਕ

ਯੂਨਿਟ-III

(ੳ) ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇਕਸ਼ਬਦ

(ਅ) ਬਹੁਆਰਥਕ ਸ਼ਬਦ 08 ਅੰਕ

ਯੂਨਿਟ-IV

(ੳ) ਸਮਾਨਰਥਕਸ਼ਬਦ

(ਅ) ਵਿਰੋਧਾਰਥਕ ਸ਼ਬਦ 08 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 ਸੈੱਟਕਰਨਵਾਲਾਜੇਕਰਚਾਹੇ ਤਾਂਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡਅੱਗੋਂਵੱਧਤੋਂਵੱਧਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ

ਵਿਚਕਰ ਸਕਦਾ ਹੈ।

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Punjab History and Culture (From 1849-1947 A.D)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
COURSE CODE: BECL-5431

COURSE OUTCOMES:-

After completing the course student have understanding of Punjab in the pre-independence phase

CO 1:- Students will understand major changes in the Punjab during British Rule

CO 2:- They will also know about important agitations and their outcomes on the politics of the Punjab.

CO 3:- They will gain knowledge about the society and economy of Punjab

CO 4:-They will be able to evaluate the socio-religious reforms movements of Punjabi society

CO 5:- They will have insights into the details of the partition of Punjab

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Punjab History and Culture (From 1849-1947 A.D)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)
COURSE CODE: BECL-5431

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

Instructions for the Paper Setters

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

Unit- I

1. First Anglo-Sikh War.
2. Annexation of Punjab and Board of Administration

Unit-II

3. British Policy towards agriculture and industry
4. Spread of modern education

Unit-III

5. Socio- religious reform movements: Namdhari, Singh Sabha, AryaSamaj and Ad Dharm
6. Gadhar Movement

Unit-IV

7. Gurdwara Reform Movement
8. Contribution to freedom struggle: Jallianwala Bagh tragedy; Non-cooperation and Quit India Movement.

Suggested Readings

- Singh, Fauja, *History and Culture of the Punjab*, Part II, Publication Bureau, Punjabi University, Patiala, 1987.
- Singh, Fauja, *Freedom Struggle in the Punjab*, Publication Bureau, Punjabi University, Patiala, 1974.

- Grewal, J.S., *The Sikhs of the Punjab*, New Cambridge House, New Delhi, 2005.
- Singh,Kushwant , *A History of the Sikhs*. Vol. II (1839-1998), Oxford University Press, Delhi, 1991.
- Rai, Satya. M (1978), *Heroic Tradition in the Punjab (1900-1947*). Punjabi University, Patiala, 1978.
- Chopra, P.N.& Das, M.N. (1974), *A Social, Cultural & Economic History of India.*Vol.III, Macmillan India, 1974.
- Saini B. S, *The Social & Economic History of the Punjab 1901-1939,* EssEss Publications, Delhi, 1975.
- Mittal, S.C, *Freedom Movement in the Punjab (1905-29)*, Concept Publishing Company Delhi, 1977.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

ENGLISH (COMPULSORY)
Course Code: BECL -5212

COURSE OUTCOMES

After passing this course, the students will be able to:

CO 1: widen their knowledge about various literary devices used in poetry such as tone, style, imagery, figures of speech, symbolism etc.

CO 2: develop power of imagination and appreciate the beauty, rhyme, and style of a poem

CO 3: analyze and appreciate the dramatic technique, plot development and art of characterisation in the prescribed play

CO 4: develop an understanding of the insights, genres, conventions and experimentations associated with English Drama

CO 5: develop the knowledge, skills and capabilities for effective business writing such as letter writing and resume writing

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

ENGLISH (COMPULSORY)
Course Code: BECL -5212

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

Instructions for the Examiner:

Section A: Three questions from the play *All My Sons* from Unit I and three questions from *Poems of Nature and Culture* from Unit II requiring very short answers will be set. The students would be required to answer any five, each carrying two marks (50 words each). **(5x2=10)**

Section B: Four questions requiring brief descriptive answers based on character, tone, plot and theme(s) in the play *All My Sons* from Unit I will be set and the students would be required to attempt any two, each carrying five marks (250 words each). **(2x5= 10)**

Section C: Four questions based on the central idea, theme, tone or style etc. of the prescribed poems from the textbook, *Poems of Nature and Culture* from Unit II will be set for the students to attempt any two of these, each carrying five marks (250 words each). The questions can also be set based on stanzas with reference to context. **(2x5= 10)**

Section D: Two questions with internal choice will be set based on (a) formal letter (b) Job application and Resume Writing, each carrying five marks. **(2x5=10)**

Unit I

All My Sons by Arthur Miller

Unit II

Poems of Nature and Culture
William Wordsworth: The World is Too Much with Us
Gordon Lord Byron: She Walks in Beauty
P.B. Shelly: Ozymandias
Alfred Lord Tennyson: In Memoriam
Mathew Arnold: Dover Beach
Wilfred Owen: Strange Meeting
Robert Graves: The Portrait
W.H. Auden: The Unknown Citizen
Ted Hughes: The Thought-Fox
Sylvia Plath: Mirror
Rabindranath Tagore: False Religion
Nissim Ezekiel: Night of Scorpion

Unit III

Formal letter, Job Application and Resume Writing

Texts Prescribed:

1. *All My Sons* by Arthur Miller
2. *Poems of Nature and Culture*, Guru Nanak Dev University, Amritsar
3. *Oxford Guide to Effective Writing and Speaking* by John Seely.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Mathematics (Dynamics)

Course Code: BECM -5333(I)

Course Outcomes

After passing this course, the students will be able to:

CO 1: Identify the basic relations between distance, time, velocity and acceleration.

CO 2: Explain the relationship between forces and motion. Differentiate between balanced and unbalanced forces and Explain how unbalanced force affect motion.

CO 3: Understand Newton's Laws of Motion and Apply the laws to solve many problems.

CO 4: Discuss the motion of particles connected by a string, motion along a smooth inclined plane.

CO 5: Solve different types of problems with Variable Acceleration.

CO 6: Discuss Simple Harmonic Motion and Illustrate it with a variety of examples.

CO 7: Solve Pendulum, Damped and forced Oscillations oscillating system problems.

CO 8: Define Work, Power and Energy and Explain their relationship. Use measurement tools to apply the concepts of Work and power to solve real life problems.

CO 9: Define Energy and Identify the different types that exist

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Mathematics (Dynamics)

Course Code: BECM -5333(I)

Examination Time:3 Hours

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. 30% of the questions in the question paper must be theoretical (theorem based).

Unit-I

Rectilinear motion in a straight line with uniform acceleration, Newton's laws of motion. Motion of two particles connected by a string.

Unit-II

Motion along a smooth inclined plane. Variable acceleration. Simple Harmonic Motion.

Unit-III

Curvilinear motion of particle in a plane, Definition of velocity and acceleration, projectiles, velocity and direction of motion of a projectile after a given time, projectiles on an inclined plane. Oscillations: Free Vibrations, Simple Pendulum, Conical Pendulum.

Unit-IV

Work, Power and Energy: Kinetic and Potential energy, Conservative forces. Theorem of conservation of energy. Work done against gravity.

Text Book:

S.R.Gupta: A text book of Dynamics

Reference Books:

1. F. Chorlton: Dynamics.

2. S.L. Loney: An Elementary Treatise on the Dynamics of a Practice and of Rigid Bodies, Cambridge University Press, 1956.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Mathematics (Number Theory)

Course Code: BECM -5333(II)

Course Outcomes

Successful completion of this course will enable the students to:

CO 1: Prove results involving divisibility and greatest common divisors.

CO 2: Solve system of linear congruences.

CO 3: Find solutions of specified linear Diophantine equation.

CO 4: Apply Fermat's and Euler's theorem to prove relation involving prime numbers.

CO 5: Apply the Wilson's theorem to solve numerical problems.

CO 6: Solve system of equations using congruences.

CO 7: Understand and apply properties of phi functions in real world problems.

CO 8: Understand application of important arithmetic functions.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

Course Title: Mathematics (Number Theory)

Course Code: BECM -5333(II)

Examination Time: 3 hrs. 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. 30% of the questions in the question paper must be theoretical (theorem based).

Unit-I

The division algorithm, The greatest common divisor, least common multiple, The Euclidean algorithm.

Unit-II

The Diophantine equation ax + by = c, Prime numbers and their distribution, the fundamental theorem of arithmetic, Basic properties of congruences.

Unit-III

Linear congruences, Special divisibility tests, Chinese remainder theorem, The Fermat's theorem, Wilson's theorem

Unit-IV

Euler's Phi function, Euler's theorem, some properties of the Phi Function, σ and τ functions, Mobius Inversion formula, Greatest integer function

Text Book:

D. Burton: Elementary Number Theory, Sixth Edition, McGraw-Hill. (Scope in Chapters 2-5, 7) 2005.

Reference Book:

Niven and Zuckerman: An Introduction to Number Theory, Wiley 1972.

Bachelor of Science (Economics)
(Semester–V)
Session 2020-21
Course Code: BECL-5453
Quantitative Techniques-V

Course Outcome:

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

CO 1: understand the process of formulation and of testing the hypothesis.

CO 2: understand the theoretical details of sampling distributions and their basic applications.

CO 3: learn ANOVA to split and analyse the variations in economic phenomenon.

Bachelor of Science (Economics)
(Semester–V)
Session 2020-21
Course Code: BECL-5453
Quantitative Techniques-I

Time: 3 Hours **Max Marks: 100**

Theory: 80

CA: 20

Note: Instructions for the Paper–Setters:

Two questions, each carrying 16 marks, from each of Units I-IV (i.e. a total of eightQuestions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Statistical Inference: Point & Interval Estimation; Properties of a Good Estimator, Maximum Likelihood Method of Estimation and derivation of mean and variance of Binomial, Poisson and Normal distributions using MLE. Basic Concepts of Null and Alternative Hypotheses, Types of Errors; One Tailed and Two Tailed Tests, Power of Test, Critical Region.

UNIT–II

Sampling Distributions: Derivation of properties of Z, T, Chi Square and F distributions.

UNIT–III

Tests of significance based upon distribution of Z, t, F and Chi-square.

UNIT–IV

Analysis of Variance: Introduction, Assumptions, Techniques of Analyzing Variance, Analysis of Variance of one-way and two-way classification.

Books Recommended:

1. Sukhatme, P.V. and Sukhatme, B.V.: Sampling Theory of Surveys with Applications, Lowa State University Press, Ames, Lowa (1970).

2. Goon, Gupta and DassGupta:An Outlines of Statistical Theory, Dass Gupta Vol. 1(1977).

3. Kapur and Gupta: Fundamentals of Mathematical Statistics, Sultan Chand, New Delhi.

4. Murry, R. Spiegal Statistics: Theory & Practical (1972), McGraw Hill, New York.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE:BCSM-5134

COMPUTER SCIENCE

(DATA BASE MANAGEMENT SYSTEM & ORACLE)

Course Outcomes:

After passing course the student will be able to:

CO1: Understand data, database and database models.

CO2: Gain knowledge of normalization and transaction control.

CO3: Gain knowledge of core database language-SQL.

CO4: Have a basic understanding of concepts of PL/SQL.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE:BCSM-5134

COMPUTER SCIENCE

(DATA BASE MANAGEMENT SYSTEM & ORACLE)

(THEORY)

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.The students can use only Non–programmable & Non–storage type calculator

UNIT–I

DBMS:

Introduction to database management system, Components of DBMS, Three Level Database system Architecture, ER. Diagrams.

Data Models, Hierarchical Model, Network Model and Relational Model, Relational Databases, Relational Algebra and Calculus.

UNIT–II

Normalisation: Introduction, Normal Forms: 1NF, 2NF, 3NF, BCNF, 4NF, 5NF.

Database Security: Protection, Integrity.

Recovery: Introduction, Recovery Techniques: Log Based Recovery and Shadow Paging.

Concurrency Control: Introduction, Concurrency control with locking methods, Two Phase locking, Precedence graph, Concurrency control based on timestamp ordering, Concurrency control based on optimistic scheduling.

UNIT–III

SQL * PLUS:

Introduction to Oracle 10g, Features of Oracle 10g.

SQL – DDL, DML, DCL,TCL,constraints, Join methods & Sub query, Union, Intersection,Built in Functions, View, and Security amongst users, Sequences, indexing object

UNIT–IV

PL/SQL:

Introduction to PL/SQL.

Cursors – Implicit & Explicit.

Procedures, Functions & Packages

Database Triggers.

References/Textbooks:

1. C. J. Date, An Introduction to Database Systems, Pearson Education 2000.
2. H. F. Korth&Silverschatz, A., Database System Concepts, Tata McGraw Hill, 2010.
3. Elmasri&Navathe, Fundamentals of Database Systems, Addison-Wesley, 2011.
4. B.C.Desai, An Introduction to Database Management System, Galgotia Publication, 1991.
5. Ivan Bayross, SQL, PL/SQL - The Programming Language of Oracle, BPB Publications, 2010.
6. Gurvinder Singh, Parteek Bhatia, Simplified Approach to DBMS, Kalyani Publishers, 2016.
7. Anshuman Sharma, Fundamentals of DBMS, Lakhanpal Publications, 4th Edition.

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

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE:BCSM-5134

COMPUTER SCIENCE

(DATA BASE MANAGEMENT SYSTEM & ORACLE)

(PRACTICAL)

Examination Time: (3+3) Hrs.

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

Lab based on Oracle 10g.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE: BECM-5124

COMPUTER APPLICATIONS (VOCATIONAL)
(INTERNET AND WEB DESIGNING)

Course Outcomes:

After passing course the student will be able to:

CO1: Understand Internet basics and it's working.

CO2: Gain knowledge of email service on different mail servers.

CO3: Understand different Internet protocols and search engines.

CO4: Have knowledge of basic web designing using markup languages.

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE: BECM-5124

COMPUTER APPLICATIONS (VOCATIONAL)
(INTERNET AND WEB DESIGNING)

(THEORY)

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

Instructions for the Paper Setters:–
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

Internet: Introduction, its evolution, working, IP Address, DNS and its classification, working of DNS, Internet Services, ISP, Types of internet connection, Internet Security, Advantages, Disadvantages and Uses of Internet.

Search Engines: Introduction, its working, searching using google, web directory, Meta search engines.

UNIT – II

E–Mail: Introduction, its working, E-mail protocols: SMTP, POP, IMAP, Structure of E-mail, Operations on E-mail, Address Book, Signature, File attachment, MIME, Web based E-mail, Spams, Advantages and limitations of E-mail

Browsers: Introduction, Features of Internet Explorer and Google Chrome.

UNIT – III

HTTP: HTTP Protocol and its structure

WWW: Introduction and its working

TCP/IP Protocols: PPP, SLIP

FTP: Introduction, its working, FTP Commands, FTP Session, Advantages and Disadvantages of FTP

UNIT – IV

HTML and Web Designing: Introduction, Structure and creation of HTML document, Formatting Text, Lists, Font element, Advantages and Disadvantages of HTML, Hyperlinks, Images, Tables, Frames, Forms.

References/Textbooks:

1. Keith Sutherland, Understanding the Internet: A Clear Guide to Internet Technologies, Butterworth-Heinemann, 2000.
2. S. K. Bansal, Internet Technologies, APH Publishing Corporation, 2002.
3. Forouzan B., Data Communications and networking, McGraw Hill, 2007.

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

Bachelor of Science (Economics)
(Semester –V)
Session 2020-21

COURSE CODE: BECM-5124

COMPUTER APPLICATIONS (VOCATIONAL)
(INTERNET AND WEB DESIGNING)

(PRACTICAL)

Examination Time: (3+3) Hrs.

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

Practical Based on Internet and Web Designing.

Bachelor of Science (Economics)
(Semester–V)
Course Code: BARL-5175
Economics of Development

Course Outcomes:

After passing this course students will be able to:

CO1: understand the different path ways of economic development, recognize the importance of assumptions in developmentmodels and their policy implications.

CO2:critically evaluate economic problems of developing and least developed countries and participate in the contemporary policy debate on development priorities

Bachelor of Science (Economics)
(Semester–V)
Session 2020-21
Course Code: BARL-5175

Economics of Development

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

Note: Instructions for the Paper–Setters:
Two questions, each carrying 16 marks, from each of Units I-IV (i.e. a total of eightQuestions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Economic Development: Meaning and Measurement, Economic and Non-Economic Factors, Characteristics of Developing and Least Developed Countries. Human Development Index, Concept of Sustainable Development.

Dualism: Social and Technological Dualism

Lewis Model of Unlimited Supply of Labour, Problems of Unemployment and Disguised Unemployment.

UNIT–II

Models of Growth: Classical, Marxian, Schumpeter's, Harrod-Domar and Solow's Growth Models.

UNIT–III

Rostow's Stages of Growth,

Strategies of Economic Development-Balanced vs. Unbalanced Growth; Theory of Big Push; Leibenstein's Critical Minimum Efforts Thesis

Export Promotion and Import Substitution.

UNIT–IV

Capital Formation – Meaning and Sources.

Choice of Technique

Role of Planning in Under Developed Countries, Need, Objective, Strategy, Types and Problems of Planning.

Suggested Readings:

1. Meier, G.M.(1995),*Leading Issues in Economic Development*, Oxford University Press, New Delhi.
2. Thirlwall, A.P.(2011),*Economics of Development*, Palgrave Macmillan.
3. Todaro, M.P. and Smith ,S.C. (2018), *Economic Development*, Pearson India
4. Misra and Puri (2016) ,*Economics of Development and Planning* , Himalaya Publishing House ,New Delhi