

FACULTY OF ECONOMICS & BUSINESS

SYLLABUS

For

Bachelor of Science (Economics)

Honours

Four-Year Degree Program

(Semester I-VI)

(Under Credit-Based Continuous Evaluation Grading System)

(12+3 System of Education)

Session: 2026–27



**The Heritage Institution
Kanya Maha Vidyalaya, Jalandhar
(Autonomous)**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULAM OF EXAMINATION OF FOUR YEAR HONOURS DEGREE PROGRAM
Bachelor of Science (Honours) Economics
Session: 2026-27

Semester I										
Course Code	Course Name	Course Type	Hours Per Week	Credits	Total Credits	Marks				Examination time (in Hours)
			L-T-P	Total		Ext.		CA		
						L	P			
BECL-1421 BECL-1031 BECL-1431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-1212	English Language Skills -I	AEC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-1175	Economics (Microeconomics)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-1453	Quantitative Techniques (Quantitative Techniques-I)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-1333	Mathematics Algebra	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECP-1333	Algebra Laboratory	DSC 2	0-0-2	0-0-1	1	50	-	35	15	3
BECM-1134	Computer Science (Computer Fundamentals and PC Software)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Computer Fundamentals and PC Software) (PRACTICAL)									
BECM-1124	Computer Applications (Vocational) (Computer Fundamentals and PC Software)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (Vocational) (Computer Fundamentals and PC Software) (PRACTICAL)									
USEP-0001	Entrepreneurship Mindset-I	SEC	0-0-4	0-0-2	2	50	-	50	-	3
*VACF-1491	Foundation Course	VAAC	2-0-0	2-0-0	2	50	35	-	15	1
	Total Credits with Quantitative Techniques				24					
	Total Credits with Mathematics				25					

C-Compulsory

AEC-Ability Enhancement Course

DSC- Discipline Specific Course

VAAC- Value Added 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.

***Credits of these course will not be added towards SGPS/CGPA of the Semester/Programme**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)
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Bachelor of Science (Honours) Economics
Session: 2026-27

Semester II										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
			L	P						
BECL-2421 BECL-2031 BECL-2431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-2212	Appreciating English Literature-I	MDC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-2175	Economics (Macroeconomics)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-2453	Quantitative Techniques (Quantitative Techniques-II)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-2333	Mathematics (Advanced Calculus)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECP-2333	Calculus Laboratory		0-0-2	0-0-1	1	50	-	35	15	3
BECM-2134	Computer Science (Programming in C)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Programming in C) (PRACTICAL)									
BECM-2124	Computer Applications (Vocational) (Introduction to Programming using Python)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (Introduction to Programming using Python) (PRACTICAL)									
BECM-2450	Statistical Analysis Using Spreadsheet	SEC	1-0-4	1-0-2	3	100	30	40	30	1+1
VACD-2161	Drug Abuse and Ethical Education	VAC	4-0-0	4-0-0	4	100	70	-	30	1+1
	Total Credits with Quantitative Techniques				27					
	Total Credits with Mathematics				28					

C-Compulsory

MDC- multi-Discipline Course

SEC- Skill Enhancement Course

DSC- Discipline Specific Course

VAC- Value Added Course

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Semester III										
Course Code	Course Name	Course Type	Hours Per Week	Credits	Total Credits	Marks				Examination time (in Hours)
			L-T-P	Total		Ext.		CA		
						L	P			
BECL-3421 BECL-3031 BECL-3431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-3212	English Language Skills -II	AEC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-3175	Economics (Indian Economy)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-3453	Quantitative Techniques (Quantitative Techniques-III)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-3333	Mathematics (Differential Equations)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECP-3333	Differential Equations Laboratory	DSC 2	0-0-2	0-0-1	1	50		35	15	3
BECM-3134	Computer Science (Computer Oriented Numerical and Statistical Methods)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Computer Oriented Numerical and Statistical Methods) (PRACTICAL)									
BECM-3124	Computer Applications (Vocational) (Operating System)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (Vocational) (Operating System (PRACTICAL)									
VACE-3221	Environmental Studies	VAC	2-0-0	2-0-0	2	50	35	-	15	3
	Total Credits with Quantitative Techniques				22					
	Total Credits with Mathematics				23					

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Bachelor of Science (Honours) Economics
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Semester IV										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BECL-4421 BECL-4031 BECL-4431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-4212	Appreciating English Literature-II	MDC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-4175	Economics (International Economics)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-4453	Quantitative Techniques (Quantitative Techniques-IV)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-4333	Mathematics (Analysis)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECP-4333	Analysis Laboratory		0-0-2	0-0-1	1	50		35	15	3
BECM-4134	Computer Science (Data Structures Using C++)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Data Structures Using C++) (PRACTICAL)									
BECM-4124	Computer Applications (Vocational) (Database Management Systems)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (Database Management Systems) (PRACTICAL)									
	Contemporary Indian Economic Policies and Issues	SEC	2-0-2	2-0-1	3	100	50	20	30	3+1
VACP-4511	Personality Development and Gender Sensitization	VAAC	2-0-0	2-0-0	2	50	35	-	15	1
	Total Credits with Quantitative Techniques				29					
	Total Credits with Mathematics				30					

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SCHEME AND CURRICULAM OF EXAMINATION OF FOUR YEAR HONOURS DEGREE PROGRAM
Bachelor of Science (Honours) Economics
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Semester V										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
						I	L	P		
BECL-5421 BECL-5031 BECL-5431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-5212	English Language Skills-III	AEC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-5175	Economics (Economics of Development)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-5453	Quantitative Techniques (Quantitative Techniques-V)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-5333	Mathematics (Statics and Dynamics)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECP-5333	Statics and Dynamics Laboratory	DSC 2	0-0-2	0-0-1	1	50		35	15	3
BECM-5134	Computer Science (Database Management Systems)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Database Management Systems) (PRACTICAL)									
BECM-5124	Computer Applications (Vocational) (Web Designing and Development)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (Vocational)(Web Designing and Development) (PRACTICAL)									
WILI-5732	Internship	C	0-0-4	0-0-2	2	50	-	50		3
	Total Credits with Quantitative Techniques				22					
	Total Credits with Mathematics				23					

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Semester VI										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BECL-6421 BECL-6031 BECL-6431	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	C	4-0-0	4-0-0	4	100	70	-	30	3
BECL-6212	Appreciating English Literature-III	MDC	4-0-0	4-0-0	4	100	70	-	30	3
BECL-6175	Economics (Quantitative Methods for Economists)	DSC 1	4-0-0	4-0-0	4	100	70	-	30	3
BECL-6453	Quantitative Techniques (Quantitative Techniques-VI)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECL-6333	Mathematics (Multivariate Calculus)	DSC 2	4-0-0	4-0-0	4	100	70	-	30	3
BECF-6333	Multivariate Calculus Laboratory		0-0-2	0-0-1	1	50		35	15	3
BECM-6134	Computer Science (Web Designing and Development)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Science (Web Designing and Development) (PRACTICAL)									
BECM-6124	Computer Applications (Vocational) (E-Business and Digital Marketing)	DSC 3	3-0-2	3-0-1	4	100	40	30	30	3+3
	Computer Applications (E-Business and Digital Marketing) (PRACTICAL)									
	Data Analysis using Statistical Softwares	SEC	3-0-0	3-0-0	3	100	70	-	30	1
VACH-6401	Human Rights and Constitutional Duties	VAC	2-0-0	2-0-0	2	50	35	-	15	1

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BACHELOR OF SCIENCE (ECONOMICS) Semester-I

Session 2026-27

PUNJABI (COMPULSORY)

COURSE CODE- BECL -1421

COURSE OUTCOMES

CO1: ‘ਦੇ ਰੰਗ’(ਕਵਿਤਾ ਭਾਗ) ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿ ਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ। ਇਸ ਦਾ ਹੋਰ ਮਨੋਰਥ ਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲਾਂਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਤੋਂ ਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂ ਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕ ਦ੍ਰਿਸ਼ਟੀ ਬਣਾ ਸਕਣ।

CO2: ‘ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿਧ ਹਸਤੀਆਂ’ ਜੀਵਨੀ ਦੀ ਵਿਧਾ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਜੀਵਨੀ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਜੀਵਨੀ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3: ਪੈਰਾ ਰਚਨਾ ਅਤੇ ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਵਿਚ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਅਧਿਆਪਨ : ਪਹਿਲੀ ਅਤੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਜੋਂ ਪੜ੍ਹਣ ਨਾਲ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਤੋਂ ਵਾਕਫ਼ ਹੋਣਗੇ।

BACHELOR OF SCIENCE (ECONOMICS) Semester-I

Session 2026-27

PUNJABI (COMPULSORY)

COURSE CODE- BECL -1421

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory : 70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਦੋ ਰੰਗ (ਕਵਿਤਾਭਾਗ) (ਸੰਪਾ.ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿਲੋਂ ਅਤੇ ਪ੍ਰੀਤਮ ਸਿੰਘ ਸਰਗੋਧੀਆ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ /ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ)

ਯੂਨਿਟ-II

ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿੱਧ ਹਸਤੀਆਂ (ਜੀਵਨੀ ਨੰ: 1 ਤੋਂ 9 ਤੱਕ)

(ਸੰਪਾ.ਪ੍ਰਿੰ. ਤੇਜਾ ਸਿੰਘ, ਹਰਨਾਮ ਸਿੰਘ ਸ਼ਾਨ), ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ/ ਨਾਇਕ ਬਿੰਬ/ ਸਾਰ)

ਯੂਨਿਟ-III

(ੳ) ਪੈਰਾ ਰਚਨਾ (ਤਿੰਨ ਵਿਚੋਂ ਇੱਕ)

(ਅ) ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ।

ਯੂਨਿਟ-IV

(ੳ) ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ ਵਿਚ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ ਚਿੰਨ੍ਹ।

(ਅ) ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਅਧਿਆਪਨ : ਪਹਿਲੀ ਅਤੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਜੋਂ

BACHELOR OF SCIENCE (ECONOMICS) Semester-I

Session 2026-27

BASIC PUNJABI

IN LIEU OF PUNJABI(COMPULSORY)

COURSE CODE - BECL -1031

COURSE OUTCOMES

CO1:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਵਿਚ ਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦਾ ਮੌਕਾ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ। ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੌਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤਰਾਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਲਗਾਤਾਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) ਦੀ ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO2:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ ਦੀ ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ (ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ) ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO3: ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇ ਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।

CO4:ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਵਿਚ ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਚੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤੱਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ਸਿਖਾਉਣਾ ਹੈ।

BACHELOR OF SCIENCE (ECONOMICS) Semester-I

Session 2026-27

BASIC PUNJABI

IN LIEU OF PUNJABI(COMPULSORY)

COURSE CODE - BECL -1031

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 100

L-T-P

Theory :70

4-0-0

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਲਗਾਮਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ ।

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ(ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ)

ਯੂਨਿਟ-III

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

ਯੂਨਿਟ-IV

ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ।

BACHELOR OF SCIENCE (ECONOMICS) Semester- I

Session 2026-27

ENGLISH LANGUAGE SKILLS-I

Course Code: BECL -1212

(NEP-2020)

COURSE OUTCOMES

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

CO 1: understand fundamental grammatical rules governing tenses, the use of modal verbs and make correct usage in their language through the study of “English Grammar in Use” by Raymond Murphy

CO 2: to develop the art of creative expression by writing a paragraph on any given topic

CO 3: comprehend the meaning of texts and answer questions related to situations, episodes, and characters depicted in them through the study of the essays in the text “Prose for Young Learners”

CO 4: appreciate the writings of various Indian and foreign story and prose writers and relate them to their socio-cultural milieu through the study of the essays in the text “Prose for Young Learners”

Bachelor of Science (Economics) Semester-I
Session 2026-27
ENGLISH LANGUAGE SKILLS-I
Course Code: BECL -1212
(NEP-2020)

Examination Time: 3 Hrs
L-T-P (Credits): 4-0-0

Max. Marks: 100
Theory: 70
CA: 30

Instructions for the Examiner:

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

UNIT-I

English Grammar in Use, 5th Edition by Raymond Murphy, CUP (Units: 1-37)

UNIT-II

Paragraph Writing and English Grammar in Use (Units: 38-48)

UNIT-III

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

UNIT-IV

Prose for Young Learners: Essays at Sr. No. 7, 8, 9, 10 and 11

Texts Prescribed:

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

(1/1)

Bachelor of Science (Economics) Semester-I
Session 2026-27
Course Code: BECL-1175
Economics (Microeconomics)

Course outcomes:

After passing this course, students will be able to

CO1: describe and apply the methods of analyzing consumer behavior through demand and supply, elasticity and utility.

CO2: learn about the various cost and revenue curves and the production function.

CO3: learn about various market structures.

CO4: understand various theories of rent, interest, profit, and distribution.

Bachelor of Science (Economics) Semester-I

Session 2026-27

Course Code: BECL-1175

Economics (Microeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

Introductory: Definition of Economics, Nature, Scope, and Assumptions of Microeconomics. Basic Economic Problems

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

UNIT-II

Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale and Law of Variable Proportions

Cost: Concepts and Cost Curves in the short and in the long run; Traditional and Modern Cost Theories,

UNIT-III

Market forms: Perfect Competition- Assumptions, Price and Output determination of firm and Industry in the short run and long run; Monopoly- Assumptions and Equilibrium.

Monopolistic Competition- Assumptions and Equilibrium (except Group Equilibrium).

UNIT-IV

Rent: Concept, Ricardian Theory and Modern Theory of Rent.

Interest: Concept, Classical Theory, Loanable Funds Theory.

Profit: Concept, Risk and Uncertainty Theories.

Case Study: Elasticity of Demand and Monopolistic Competition

Suggested Readings:

1. Ahuja, H.L. (3018), *Advanced Economics Theory: Micro Economics analysis*, S. Chand Publishing, New Delhi

2. Dwivedi, D.N. (3018), *Microeconomics: Theory and Applications*, Pearson Education, New Delhi.

3. Koutsoyiannis, A. (3015), *Modern Microeconomics*, Macmillan Press, London.

4. Sen, A.(3007), *Microeconomics: Theory and Applications*, Oxford University Press, New Delhi.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –I

Session: 2026-27

Course Code: BECL-1453

Quantitative Techniques–I

Course outcomes:

After passing this course, students will be able to:

CO1: organize, manage and present data.

CO2: analyze the data by using central tendency, dispersion and skewness.

CO3: learn the relationship between variables and prediction using correlation and regression.

CO4: compare magnitudes of related variables to each other over a period of time with the help of index numbers and understand the concept of time series in analyzing economic problems.

Bachelor of Science (Economics) Semester –I
Session 2026-27
Course Code: BECL-1453
Quantitative Techniques (Quantitative Techniques–I)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setters:

Two questions, each carrying 14 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

Statistics: Definition, Scope in Economics, Significance, Limitations. Classification, Tabulation, Diagrammatic and Graphical Representation of Data.

UNIT–II

Concepts and Measures of Central Tendency: Means, Median, Mode and GM; Concepts and Measures of Relative Dispersion

UNIT–III

Correlation Analysis: Introduction, Importance, Karl-Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient, Simple Regression Analysis; Difference Between Correlation and Regression, Lines of Regression, Properties of Correlation and Regression Coefficients (Stress on Numerical Examples).

UNIT–IV

Index Numbers: Concept of Index Number, Purpose Construction & Problems, Laspeyre's, Paasche's and Fisher's Formulae, Tests of Consistency

Analysis of Time Series: Definition, Components of Time Series, Measurement of Trend by Different Methods (Stress on Examples).

Suggested Readings:

1. Gupta, S.P. (2014), *Statistical Methods*, Sultan Chand & Sons, New Delhi.
2. Croxton, F.E., Cowden D.J. and Klein, S. (1973), *Applied General Statistics*, 3rd. Ed., Prentice Hall of India, New Delhi.
3. Nagar, A.L. and Das, R.K. (1976), *Basic Statistics*, Oxford University Press, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –I
Session 2026-27
Course Code: BECM-1134
COMPUTER SCIENCE
(COMPUTER FUNDAMENTALS AND PC SOFTWARE)

Course Outcomes:

After passing this course the student will be able to:

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

CO2: Identify various input, output and memory devices.

CO3: Apply office automation software to create professional and academic documents.

CO4: Apply skills to make effective presentations and spreadsheets using associated application software.

Bachelor of Science (Economics) Semester –I

Session 2026-27

Course Code: BECM-1134

COMPUTER SCIENCE

(COMPUTER FUNDAMENTALS AND PC SOFTWARE)

Time: 3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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, Generations of Computers, Classification of Computers, 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 and 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: Concept of storage units (bit, byte, KB, MB etc.), Primary Memory-RAM and ROM. Secondary Memory- Magnetic storage devices, and Optical Storage Devices.

Operating System: meaning, purpose, Windows GUI, Command-line, Powershell overview. File Explorer

UNIT III

Word Processing: 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.

Formatting pages, paragraphs and sections, indents and outdents, creating lists and numbering. headings, styles, fonts and font size; editing, positioning, and viewing texts; finding and replacing text; inserting page breaks, page numbers, bookmarks, symbols, and dates; using tables, header, footer, macros, mail-merge; printing setup

UNIT IV

PowerPoint Presentation: Introduction to PowerPoint, starting a new slide, creating, opening and 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.

Spreadsheets using MS Excel: Spreadsheet overview, Editing, Formatting, freeze panes, using formulas and functions, sorting and filtering, pivot tables, charts and Graphs.

References:

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, Neeharika Adabala, 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 2026-27
Course Code: BECM-1134
COMPUTER SCIENCE
(COMPUTER FUNDAMENTALS AND PC SOFTWARE)
(Practical)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Practical based on PC Software - Office.

Bachelor of Science (Economics) Semester –I
Session 2026-27
Course Code: BECM-1124
COMPUTER APPLICATIONS (VOCATIONAL)
(COMPUTER FUNDAMENTALS AND PC SOFTWARE)

Course Outcomes:

After passing this course the student will be able to:

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

CO2: Identify various input, output and memory devices.

CO3: Apply office automation software to create professional and academic documents.

CO4: Apply skills to make effective presentations and spreadsheets using associated application software.

Bachelor of Science (Economics) Semester –I
Session 2026-27
Course Code: BECM-1124
COMPUTER APPLICATIONS (VOCATIONAL)
(COMPUTER FUNDAMENTALS AND PC SOFTWARE)
(THEORY)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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, Generations of Computers, Classification of Computers, 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 and 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: Concept of storage units (bit, byte, KB, MB etc.), Primary Memory-RAM and ROM. Secondary Memory- Magnetic storage devices, and Optical Storage Devices.

Operating System: meaning, purpose, Windows GUI, Command-line, Powershell overview. File Explorer

UNIT III

Word Processing: 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.

Formatting pages, paragraphs and sections, indents and outdents, creating lists and numbering. headings, styles, fonts and font size; editing, positioning, and viewing texts; finding and replacing text; inserting page breaks, page numbers, bookmarks, symbols, and dates; using tables, header, footer, macros, mail-merge; printing setup

UNIT IV

PowerPoint Presentation: Introduction to PowerPoint, starting a new slide, creating, opening and 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.

Spreadsheets using MS Excel: Spreadsheet overview, Editing, Formatting, freeze panes, using formulas and functions, sorting and filtering, pivot tables, charts and Graphs.

References:

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, Neeharika Adabala, 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 2026-27
Course Code: BECM-1124
COMPUTER APPLICATIONS (VOCATIONAL)
(COMPUTER FUNDAMENTALS AND PC SOFTWARE)
(Practical)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Instructions for the examiners: - Two questions of equal marks strictly as per the syllabus and based on the practical exercises covered in the semester. Questions may be subdivided into parts (not exceeding four). Candidates will attempt ONE question, explain their answer by writing on the answer sheet, and then implement the same on the computer. Examiner will evaluate both the answers (theory as well as practical). The viva should also be conducted alongside, and the student is asked viva questions related to the question and the solution he/she is working on during the exam.

Students will prepare a report after analyzing print and social media advertisements along with the local market survey to understand the desktop/laptop vendors and prices. Arrange the options available as per price/performance preferences.

Lab exercises based on:

- Practice the Windows Operating System command line and the GUI for user interaction, personalization, and file management
- Document preparation with Word using the features mentioned in the syllabus
- Presentation preparation with PowerPoint using the features mentioned in the syllabus
- Spreadsheet preparation with Excel using the features mentioned in the syllabus

Bachelor of Science (Economics) Semester –II
Session 2026-27
PUNJABI (COMPULSORY)
COURSE CODE- BECL -2421

COURSE OUTCOMES

CO1: ‘ਦੋ ਰੰਗ’ (ਕਹਾਣੀ ਭਾਗ) ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ। ਇਸ ਦਾ ਹੋਰ ਮਨੋਰਥ ਕਹਾਣੀ ਦੀ ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆ ਤੋਂ ਜਾਣੂ ਕਰਾਉਣਾ ਵੀ ਹੈ ਤਾਂ ਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜ ਦੀਆਂ ਸਮੱਸਿਆਵਾਂ ਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕ ਦ੍ਰਿਸ਼ਟੀ ਬਣਾ ਸਕਣ।

CO2: ‘ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿਧ ਹਸਤੀਆਂ’ ਜੀਵਨੀ ਦੀ ਵਿਧਾ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਜੀਵਨੀ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਜੀਵਨੀ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3: ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ। ਮੁਹਾਵਰੇ/ਅਖਾਣ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

CO4: ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ, ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ ਪੜ੍ਹਣ ਨਾਲ ਵਿਦਿਆਰਥੀ ਇਸਦੇ ਮੁੱਢਲੇ ਸੰਕਲਪਾਂ ਨੂੰ ਆਧਾਰ ਬਣਾ ਕੇ ਇਹਨਾਂ ਸੰਕਲਪਾਂ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ।

Bachelor of Science (Economics) Semester –II

Session 2026-27

PUNJABI (COMPULSORY)

COURSE CODE- BECL -2421

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory : 70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਦੋ ਰੰਗ (ਕਹਾਣੀ ਭਾਗ) (ਸੰਪਾ.ਹਰਜਿੰਦਰ ਸਿੰਘ ਢਿਲੋਂ ਅਤੇ ਪ੍ਰੀਤਮ ਸਿੰਘ ਸਰਗੋਧੀਆ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਪਾਤਰ ਚਿਤਰਨ/ ਸਾਰ)

ਯੂਨਿਟ-II

ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿੱਧ ਹਸਤੀਆਂ (ਜੀਵਨੀ ਨੰ: 10 ਤੋਂ 18 ਤਕ)(ਸੰਪਾ.ਪ੍ਰਿੰ. ਤੇਜਾ ਸਿੰਘ, ਹਰਨਾਮ ਸਿੰਘ ਸ਼ਾਮ),

ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ।

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਨਾਇਕ ਬਿੰਬ/ ਸਾਰ)

ਯੂਨਿਟ-III

(ੳ) ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ

(ਅ) ਮੁਹਾਵਰੇ/ਅਖਾਣ

ਯੂਨਿਟ-IV

(ੳ) ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ

(ਅ) ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ : ਪਰਿਭਾਸ਼ਾ, ਮੁੱਢਲੇ ਸੰਕਲਪ।

Bachelor of Science (Economics) Semester –II

Session 2026-27

BASIC PUNJABI

In lieu of Punjabi (Compulsory)

COURSE CODE – BECL -2031

Course outcomes

CO1: ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ : ਪਛਾਣ ਅਤੇ ਵਰਤੋਂ (ਨਾਂਵ, ਪੜਨਾਂਵ, ਕਿਰਿਆ, ਵਿਸ਼ੇਸ਼ਣ, ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ, ਸਬੰਧਕ, ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ)ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ-ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO2: ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ(ਸਾਧਾਰਨ ਵਾਕ, ਸੰਯੁਕਤ ਵਾਕ, ਮਿਸ਼ਰਤ ਵਾਕ, ਬਿਆਨੀਆ ਵਾਕ, ਪ੍ਰਸ਼ਨ ਵਾਚਕ ਵਾਕ ਅਤੇ ਹੁਕਮੀ ਵਾਕ) ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਇਸ ਦੀ ਬਣਤਰ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀ ਭਾਸ਼ਾ ਤੇ ਪਕੜ ਮਜ਼ਬੂਤ ਹੋਵੇਗੀ।

CO3: ਪੈਰਾ ਰਚਨਾ ਅਤੇ ਸੰਖੇਪ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ। ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

Bachelor of Science (Economics) Semester –II

Session 2026-27

BASIC PUNJABI

In lieu of Punjabi (Compulsory)

COURSE CODE – BECL -2031

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory :70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

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

ਯੋਜਕ ਅਤੇ ਵਿਸਮਿਕ)

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ

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

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

ਯੂਨਿਟ-III

ਪੈਰ੍ਹਾ ਰਚਨਾ

ਸੰਖੇਪ ਰਚਨਾ

ਯੂਨਿਟ-IV

ਚਿੱਠੀ ਪੱਤਰ (ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ)

ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ (ਲਿਸਟ ਨਾਲ ਨੱਥੀ ਹੈ)

BACHELOR OF SCIENCE (ECONOMICS) Semester-II

Session 2026-27

APPRECIATING ENGLISH LITERATURE-I

Course Code: BECL -2212

(NEP-2020)

COURSE OUTCOMES

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

CO 1: change the narration and voice of sentences after understanding fundamental grammatical rules governing them through the study of “English Grammar in Use” by Raymond Murphy

CO 2: to learn to write personal letters and enhance the writing skills

CO 3: comprehend the meaning of texts and answer questions related to situations, episodes, themes and characters depicted in them through the study of the stories in the text “Tales of Life”.

CO 4: appreciate the writings of various Indian and foreign story and Short - Story writers and relate them to their socio-cultural milieu through the study of the stories in the text “Tales of Life”.

BACHELOR OF SCIENCE (ECONOMICS) Semester-II

Session 2026-27

APPRECIATING ENGLISH LITERATURE-I

Course Code: BECL -2212

(NEP-2020)

Examination Time: 3 Hrs

L-T-P (Credits): 4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Instructions for the Paper Setters:-

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

UNIT-I

English Grammar in Use, 5th Edition by Raymond Murphy, CUP (Units: 49-81)

UNIT-II

Personal letter Writing and English Grammar in Use (Units: 82-97)

UNIT-III

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

UNIT-IV

Tales of Life (Guru Nanak Dev University, Amritsar): Stories at Sr. No. 7, 9, 10, 11, 12

Texts Prescribed:

1. *English Grammar in Use* (Fifth Edition) by Raymond Murphy, CUP
2. *Tales of Life* (Guru Nanak Dev University, Amritsar)

Bachelor of Science (Economics) Semester –II
Session 2026-27
Course Code: BECL-2175
Economics (Macroeconomics)

Course outcomes:

After passing this course, students will be able to:

- CO1:** learn the determination of equilibrium in the economy using Classical and Keynesian models and understand the consumption behaviour of an economy.
- CO2:** understand the investment behaviour of an economy and different theories of the trade cycle.
- CO3:** understand the nature and functions of money and the role of financial markets and institutions in the economy.
- CO4:** understand the causes and solution to the problem of inflation and study the macroeconomic policies.

Bachelor of Science (Economics) Semester –II
Session 2026-27
Course Code: BECL-2175
Economics (Macroeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the 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

Distinction between Micro and Macro Economics; Say's Law of Market and Aggregate Demand and Aggregate Supply, Determination of Income and Employment: Classical and Keynesian Models. Consumption Functions; average (short-run and long-run) and marginal propensity to consume; Keynes' Psychological Law of Consumption, Multiplier: Meaning and its working.

UNIT–II

Investment: Meaning, Investment Demand Schedules and factors affecting investment decisions. Marginal Efficiency of Capital, Accelerator, Multiplier-Accelerator Interaction. Trade cycles- Meaning, Characteristics and Phases,

UNIT–III

Money: Its functions and role. Money and Capital Markets (Introductory); Quantity Theory of Money: Fisher's and Cambridge's Equations, Liquidity Preference Theory.

UNIT–IV

Inflation: Concept, Causes and Cures. Inflation-unemployment Trade-off (only Phillips' contribution). Macroeconomic Policies: Fiscal Policy – meaning, objectives and instruments. Monetary Policy- meaning, objectives and instruments.

Seminar: Monetary and Fiscal Policy of India

Suggested Readings:

1. Shapiro E. (2013), *Macroeconomic Analysis*, Galgotia Publications.
2. Dwivedi D.N. (2018), *Macroeconomics: Theory and Policy*, Tata McGraw-Hill, New Delhi.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics)
Semester –II
Session 2026-27
Course Code: BECL-2453
Quantitative Techniques (Quantitative Techniques–II)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setters:

Two questions, each carrying 14 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.

SECTION–A

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.

SECTION–B

Elements of Analytical Geometry: Straight line; Concepts of combination and permutation, Elements of set theory, union, intersection, difference, symmetric difference, complementation, Venn diagrams.

SECTION–C

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 (ab-initio principle).

SECTION–D

Derivatives (Excluding Trigonometric/ and Inverse Functions): Rules of derivatives; functions of functions rule; derivatives of implicit functions, parametric functions, exponential functions, logarithmic functions (Application in Economics).

Books Recommended

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.

Bachelor of Science (Economics) Semester –II

Session 2026-27

Course Code: BECM-2134

**COMPUTER SCIENCE
(PROGRAMMING IN C)**

Course Outcomes:

After passing this course the student will be able to:

CO1: Comprehend the working of various programming constructs involved in C Programming.

CO2: Apply various operators and control sequence of program using various control statements.

CO3: Apply programming concepts such as arrays, functions and strings to provide solution in different problem domains.

CO4: Work with pointers, structure, union and perform file handling.

Bachelor of Science (Economics) Semester –II

Session 2026-27

Course Code: BECM-2134

**COMPUTER SCIENCE
(PROGRAMMING IN C)**

Time: 3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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: Introduction to Computer Programming, concept of algorithm, flow chart, program structure.

Program Development life cycle: Compiling and executing programs using IDE, command line.

Fundamentals of C Programming: Token, Character set, Identifiers and Key Words, Constants, Variables, Expressions, Statements, Symbolic Constants; Data types, declaring variables, initializing variables, types of integers, types of floats, strings, characters C Preprocessor directives: #define Statement, Conditional Compilation, include Files typedef, enum, Type Casting.

UNIT-II

Operations and Expressions: Arithmetic operators, Unary operators, Relational Operators, Logical Operators, Assignment and Conditional Operators.

Data I/O Functions: Types of I/O function, Formatted & Unformatted console I/O Functions.

Control Statements: Preliminaries, While, Do-while and For statements, Nested loops, If, if-else, ladder-if and nested if statements, Switch, Break – Continue statements.

UNIT-III

Storage Classes: Introduction to various storage classes, scope and lifetime of a variable, advantages and disadvantages.

Arrays: Types of Arrays, One Dimensional and Two-Dimensional Arrays.

Strings: Introduction to Strings and String functions and manipulation, array of strings.

Functions: User Defined & Library Function, Function (Prototype, Declaration, Definition), Methods of passing arguments, local and global functions, Recursion.

UNIT-IV

Pointers: Introduction, Uses of pointers, Limitations of pointers, Difference between void pointer and Null pointer, Pointer arithmetic, operators not allowed on pointers, Types of Pointer, Passing Pointers to function, concept of pointer to pointer, dynamic memory management.

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

File handling in C: Introduction, file input/output function, binary file and text file.

References:

1. E. Balagurusamy, Programming in ANSI C, Tata McGraw-Hill (2002), 5th edition.
2. Stephen G. Kochan, Programming in C, Pearson Education (2015), 4th edition.

3. Rachhpal Singh K.S. Kahlon, Gurvinder Singh, Programming in C, Kalyani Publishers (2011).
4. YashwantKanetkar, Let us C, BPB Publications (2020), 17th edition.
5. R.S. Salari, Application Programming in C, Khanna Book Publishing (2012), 4th edition.
6. Anshuman Sharma, Learn programming in C, Lakhanpal Publishers (2016), 7th edition.

Bachelor of Science (Economics) Semester –II

Session 2026-27

Course Code: BECM-2134

**COMPUTER SCIENCE
(PROGRAMMING IN C)
(PRACTICAL)**

Time: 3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Lab based on Programming in C.

Bachelor of Science (Economics) Semester –II
Session 2026-27
Course Code: BECM-2124
COMPUTER APPLICATIONS (VOCATIONAL)
(INTRODUCTION TO PROGRAMMING USING PYTHON)

Course Outcomes:

After passing this course the student will be able to:

CO1: Comprehend the working of various programming constructs involved in Python Programming.

CO2: Apply various operators and control sequence of program using various control statements.

CO3: Apply programming concepts such as list, tuples, dictionaries, functions and strings to provide solution in different problem domains.

CO4: Perform debugging and exception handling.

Bachelor of Science (Economics) Semester –II
Session 2026-27
Course Code: BECM-2124
COMPUTER APPLICATIONS (VOCATIONAL)
(INTRODUCTION TO PROGRAMMING USING PYTHON)
(THEORY)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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

Problem Solving, Problem Analysis, Concept of writing an algorithm, drawing a flowchart, developing a program.

Introduction to Python: Python's features, Story behind the name, Python versions, Execution environments: the Python Interpreter and IDEs (e.g. PyCharm or VSCode), Getting and Setting up Python.

Python program structure: Writing your first "Hello World" program; creating, saving and executing a program; comments, Indentation.

UNIT II

Data and Expressions: Literal Constants, numbers, strings – immutable strings, quotes, the escape sequence, the format methods. Variables and Identifiers, data-types, object,

Operators & Expressions: shortcuts, evaluation order, Boolean Expressions (Conditions), Logical Operators. User Input/output.

Control Flow: Selection Control, Nested conditions, Loops, break and Continue Statements, Data Structures: list, tuple, dictionary and set; basic operations e.g. creating, indexing, slicing, membership

UNIT III

Functions: defining and calling functions, passing and returning values, local and global variables, recursive functions, Iteration vs. Recursion.

Modules: purpose and usage, the import statement, from – import statement, the __main__ attribute, creating a module and importing, the dir() function.

Handling Exceptions: try..catch and with statements, errors, debugging.

UNIT IV

Files and Strings: Opening Files, Using Text Files, Reading files, Writing files, Understanding read functions, Understanding write functions.

Introduction to numpy and pandas for data processing.

References:

1. Yashavant Kanetkar, Aditya Kanetkar, Let Us Python-6th Edition, BPB Publications.
2. Charles Dierbach, Introduction to Computer Science Using Python: A Computational Problem-Solving Focus, Wiley Publications.

3. Martin C. Brown, Python: The Complete Reference, Indian Edition, McGraw Hill Education (India) Private Limited
4. Mark J. Guzdial, Introduction to Computing and Programming in Python, Pearson Education.

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

Bachelor of Science (Economics) Semester –II
Session 2026-27
Course Code: BECM-2124
COMPUTER APPLICATIONS (VOCATIONAL)
(INTRODUCTION TO PROGRAMMING USING PYTHON)
(PRACTICAL)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Instructions for the examiners: - Two questions of equal marks strictly as per the syllabus and based on the practical exercises covered in the semester. Questions may be subdivided into parts (not exceeding four). Candidates will attempt ONE question, explain their answer by writing on the answer sheet, and then implement the same on the computer. Examiner will evaluate both the answers (theory as well as practical). The viva should also be conducted alongside, and the student is asked viva questions related to the question and the solution he/she is working on during the exam.

Programming exercises based on:

- Use the Python interactive interpreter
- Getting familiar with a Python IDE
- Python fundamentals, data types, operators
- Operators, flow control using if, else and elif, While statement, loops using For, Loop Patterns
- Implementation of different collections like list, tuple and dictionary and their various functions
- Demonstrating creation of functions, passing parameters and return values
- Working with modules
- Handling Exceptions
- Implementation of reading, writing and organizing files
- Basic numpy and pandas functions

Bachelor of Science (Economics) Semester II

Session 2026-27

Skill Enhancement Course

Course Title: Statistical Analysis Using EXCEL

Course Outcomes:

CO 1: Understand the presentation techniques

CO2 : Learn various measures of central tendency and dispersion in EXCEL

CO3 : Understand the various methods of skewness and Kurtosis

CO 4: Learn correlation between variables

Bachelor of Science (Economics) Semester II
Session 2026-27
Skill Enhancement Course
Course Title: Statistical Analysis Using EXCEL

Time: 2 Hours
L-T-P (Credits):
1-0-2

Max. Marks: 100
Theory: 30
Practical: 40
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 6 marks, from each of the 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

Introduction to Statistics, collection of data, presentation of data, tabulation of data, charting of data, Introduction to EXCEL

Unit II

Measures of central tendency-, mean, median- meaning and computation, mode- meaning and computation, weighted average mean
Measures of dispersion, types of dispersion- range, quartile deviation, mean deviation, standard deviation, co-efficient of variation.

Unit-III

Skewness-Karl Pearson co-efficient of skewness and Bowley's co-efficient of skewness and kurtosis

Unit-IV

Correlation, Types of correlation, positive, negative, linear. methods of correlations- Karl Pearson's Co-efficient of correlation, rank correlation coefficient.

BOOKS RECOMMENDED:

1. S.C. Gupta. Fundamentals of Mathematical Statistics, S. Chand Publication, 2000.
2. K. Berk, & P. Carey. Data Analysis with Microsoft Excel, Duxbury Press, 2000.

List of Practicals (using excel)

1. Introduction of basics of excel and functions such as 'sum', 'count', 'countif', 'max', 'min', 'sort' etc.
2. To prepare result from the data on marks and number of credits in a given number of courses of a class based on total marks, marks obtained, percentage of marks obtained, grades, and determine SGPA for each student.
3. Create frequency distribution table; plot histogram, bar chart, pie chart, etc.
4. Plotting two dimensional graphs.
5. To find measures of central tendency for a given data.
6. To find measures of dispersion for a given data.
7. To find measures of skewness and kurtosis for a given data.
8. To find Karl Pearson Coefficient of correlation and rank correlation coefficient for a given data.

BOOKS RECOMMENDED:

K. Berk, & P. Carey. Data Analysis with Microsoft Excel, Duxbury Press, 2000

Bachelor of Science (Economics) Semester III
Session 2026-27
PUNJABI (COMPULSORY)
COURSE CODE: BECL-3421

COURSE OUTCOMES

CO1: 'ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਨਿਬੰਧ' ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਵਾਰਤਕ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ।

CO2: 'ਆਧੁਨਿਕ ਇਕਾਂਗੀ' ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਇਕਾਂਗੀ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਇਸ ਸਾਹਿਤ ਰੂਪ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3: ਸੰਖੇਪ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ। ਦਿੱਤੇ ਪੈਰ੍ਹੇ ਵਿਚੋਂ ਅਸੁੱਧ ਸ਼ਬਦ ਜੋੜਾਂ ਨੂੰ ਸੁੱਧ ਕਰਨ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਪੰਜਾਬੀ ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ :

ਨਾਂਵ ,ਪੜਨਾਂਵ ,ਕਿਰਿਆ, ਸਬੰਧਕ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Science (Economics) Semester III
Session 2026-27
PUNJABI (COMPULSORY)
COURSE CODE- BECL -3421

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P : 4-0-0

Maximum Marks: 100

Theory : 70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਚੋਣਵੇ ਪੰਜਾਬੀ ਨਿਬੰਧ (ਜੋਗਿੰਦਰ ਸਿੰਘ ਪੁਆਰ, ਪਰਮਜੀਤ ਸਿੰਘ ਸਿੱਧੂ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।

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

(ਪਾਠਕ੍ਰਮ ਦਾ ਹਿੱਸਾ ਹਨ)

(ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ/ਕਲਾ ਪੱਖ)

ਯੂਨਿਟ-II

ਆਧੁਨਿਕ ਇਕਾਂਗੀ

(ਸੰਪਾ. ਰੌਸ਼ਨ ਲਾਲ ਆਹੂਜਾ, ਮਨਜੀਤ ਪਾਲ ਕੌਰ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਵਿਸ਼ਾ ਵਸਤੂ/ਪਾਤਰ ਚਿਤਰਨ/ਰੰਗ ਮੰਚੀ ਪੱਖ/ ਸਾਰ

ਯੂਨਿਟ-III

(ੳ) ਸੰਖੇਪ ਰਚਨਾ (ਪ੍ਰੈਸੀ)

(ਅ) ਦਿੱਤੇ ਪੈਰ੍ਹੇ ਵਿਚੋਂ ਅਸੁੱਧ ਸ਼ਬਦ ਜੋੜਾਂ ਨੂੰ ਸੁੱਧ ਕਰਨਾ

ਯੂਨਿਟ-IV

ਪੰਜਾਬੀ ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ :

(ੳ) ਨਾਂਵ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ਅ) ਪੜਨਾਂਵ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ੲ) ਕਿਰਿਆ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ਸ) ਸਬੰਧਕ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

Bachelor of Science (Economics) SEMESTER-III
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE- BECL -3031

Course outcomes

CO1:ਸੰਖੇਪ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ। ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO2:ਕਵਿਤਾ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ।

CO3:ਕਹਾਣੀ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ।

CO4:ਨਿਬੰਧ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।

Bachelor of Science (Economics) Semester-III

Session 2026-27

Basic Punjabi

(In lieu of Punjabi Compulsory)

COURSE CODE- BECL -3031

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory : 70

CA : 30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ

ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰੇ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ

ਯੂਨਿਟ-II

ਕਵਿਤਾਵਾਂ

(ੳ) ਸਮਾਂ (ਭਾਈ ਵੀਰ ਸਿੰਘ)

(ਅ) ਸ਼ੌਰ ਪੰਜਾਬੀ ਦੀ (ਫੀਰੋਜ਼ਦੀਨ ਸ਼ਰਫ਼)

(ੲ) ਅੰਬੀ ਦਾ ਬੂਟਾ (ਪ੍ਰੋ. ਮੋਹਨ ਸਿੰਘ)

(ਸ) ਬਿਰਹੇਂ ਦੀ ਰੜਕ (ਸ਼ਿਵ ਕੁਮਾਰ)

(ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ, ਸਾਰ)

ਯੂਨਿਟ-III

ਕਹਾਣੀਆਂ

(ੳ) ਭੂਆ (ਨਾਨਕ ਸਿੰਘ)

(ਅ) ਦੁੱਧ ਦਾ ਛੱਪੜ (ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ)

(ੲ) ਸਾਂਝੀ ਕੰਧ(ਸੰਤੋਖ ਸਿੰਘ ਧੀਰ)

(ਸ)ਉਹ ਸੋਚਦੀ (ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)

(ਵਿਸ਼ਾ ਵਸਤੂ,ਸਾਰ)

ਯੂਨਿਟ-IV

ਨਿਬੰਧ

(ੳ) ਘਰ ਦਾ ਪਿਆਰ (ਤੇਜਾ ਸਿੰਘ)

(ਅ) ਖੁਸ਼ਾਮਦੀ ਨਾਲ (ਹਰਿੰਦਰ ਸਿੰਘ ਰੂਪ)

(ੲ) ਆਓ, ਗੱਲਾਂ ਕਰੀਏ (ਨਰਿੰਦਰ ਸਿੰਘ ਕਪੂਰ)

(ਸ) ਮਨੁੱਖ ਕੁਦਰਤ ਦੀ ਨੇਕ ਔਲਾਦ ਨਹੀਂ(ਸੁਰਿੰਦਰ ਮੰਡ)

(ਵਿਸ਼ਾ ਵਸਤੂ,ਸਾਰ)

Bachelor of Science (Economics) Semester–III
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE- BECL -3031

Course outcomes

CO1:ਸੰਖੇਪ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ। ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO2:ਕਵਿਤਾ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ।

CO3:ਕਹਾਣੀ ਭਾਗ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਤਾਂ ਕਿ ਉਹ ਆਧੁਨਿਕ ਦੌਰ ਵਿਚ ਚੱਲ ਰਹੀਆਂ ਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰ ਸਕਣ।

CO4:ਨਿਬੰਧ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨ ਇਤਿਹਾਸ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।

Bachelor of Science (Economics) Semester-III

Session 2026-27

Basic Punjabi

(In lieu of Punjabi Compulsory)

Course Code: BECL-3031

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 100

L-T-P

Theory :70

4-0-0

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੈਰਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ

ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰੇ ਦਾ ਪੰਜਾਬੀ ਅਨੁਵਾਦ

ਯੂਨਿਟ-II

ਕਵਿਤਾਵਾਂ

(ੳ) ਸਮਾਂ (ਭਾਈ ਵੀਰ ਸਿੰਘ)

(ਅ) ਸ਼ੈਰ ਪੰਜਾਬੀ ਦੀ (ਫੀਰੋਜ਼ਦੀਨ ਸ਼ਰਫ਼)

(ੲ) ਅੰਬੀ ਦਾ ਬੂਟਾ (ਪ੍ਰੋ.ਮੋਹਨਸਿੰਘ)

(ਸ) ਬਿਰਹੇ ਦੀ ਰੜਕ (ਸ਼ਿਵ ਕੁਮਾਰ)

(ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ, ਸਾਰ)

ਯੂਨਿਟ-III

ਕਹਾਣੀਆਂ

(ੳ) ਭੂਆ (ਨਾਨਕ ਸਿੰਘ)

(ਅ) ਦੁੱਧ ਦਾ ਛੱਪੜ (ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ)

(ੲ) ਸਾਂਝੀ ਕੰਧ(ਸੰਤੋਖ ਸਿੰਘ ਧੀਰ)

(ਸ)ਉਹ ਸੋਚਦੀ (ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)

(ਵਿਸ਼ਾ ਵਸਤੂ,ਸਾਰ)

ਯੂਨਿਟ-IV

ਨਿਬੰਧ

(ੳ) ਘਰ ਦਾ ਪਿਆਰ (ਤੇਜਾ ਸਿੰਘ)

(ਅ) ਖੁਸ਼ਾਮਦੀ ਨਾਲ (ਹਰਿੰਦਰ ਸਿੰਘ ਰੂਪ)

(ੲ) ਆਓ, ਗੱਲਾਂ ਕਰੀਏ (ਨਰਿੰਦਰ ਸਿੰਘ ਕਪੂਰ)

(ਸ) ਮਨੁੱਖ ਕੁਦਰਤ ਦੀ ਨੇਕ ਔਲਾਦ ਨਹੀਂ(ਸੁਰਿੰਦਰ ਮੰਡ)

(ਵਿਸ਼ਾ ਵਸਤੂ,ਸਾਰ)

BACHELOR OF SCIENCE (ECONOMICS) Semester-III

Session 2026-27

ENGLISH LANGUAGE SKILLS-II

Course Code: BECL -3212

(NEP-2020)

COURSE OUTCOMES

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

CO 1: understand fundamental grammatical rules governing tenses, the use of modal verbs and make correct usage in their language through the study of “English Grammar in Use” by Raymond Murphy

CO 2: to develop the art of creative expression by writing an essay on any given topic

CO 3 enhance their reading and analysing power of texts through guided reading by the study of “Making Connections” by Kenneth J. Pakenham

CO 4: enhance their reading abilities, vocabulary and writing expression through guided reading by study of “Making Connections” by Kenneth J. Pakenham

BACHELOR OF SCIENCE (ECONOMICS) Semester-III

Session 2026-27

ENGLISH LANGUAGE SKILLS-II

Course Code: BECL -3212

(NEP-2020)

Examination Time: 3 Hrs.

L-T-P (Credits): 4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Instructions for the Paper Setters:-

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

UNIT-I

English Grammar in Use, 5th Edition by Raymond Murphy, CUP (Units: 98-130)

UNIT-II

Essay Writing and English Grammar in Use (Units: 131-145)

UNIT-III

Making Connections by Kenneth J. Pakenham, 3rd Edn. CUP: Unit-I (Global Health) and Unit II (Multicultural Societies)

UNIT-IV

Making Connections by Kenneth J. Pakenham, 3rd Edn. CUP: Section III (Aspects of Language) and Section IV (Sustaining Planet Earth)

Texts Prescribed:

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

2. *Making Connections* by Kenneth J. Pakenham, 3rd Edn. CUP

Bachelor of Science (Economics) Semester –III

Session 2026-27

Course Code: BECL-3175

Economics (Indian Economy)

Course Outcomes:

After passing this course, students will be able to:

- CO1:** understand the nature, importance and problems of Indian agriculture and new agriculture strategy and WTO agreements related to Indian agriculture.
- CO2:** Critically understand the industrial development in India, the role of the public and private sectors, the cottage and small industries, and the latest industrial policy.
- CO3:** understand the composition, direction, and volume of international trade along with the balance of payment problems and the role of foreign capital MNCs.
- CO4:** understand major economic problems of the Indian economy, Indian Taxation System, and Indian economic planning – its objectives, strategy and evaluation.

Bachelor of Science (Economics) Semester –III
Session 2026-27
Course Code: BECL-3175
Economics (Indian Economy)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the 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

Nature of Indian Economy; Agriculture in India: Nature and Importance of Agriculture, Causes of Decline in Productivity, Sustainable Agricultural Growth, Green Revolution and New Agricultural Strategy

UNIT- II

Industry: Performance and Problems of Industrial Development; Public Sector versus Private Sector, Role of Privatization, Role of Small and Cottage Industries, Latest Industrial Policy.

UNIT- III

Foreign Trade: Direction and Composition of Exports and Imports since 1991; Recent Foreign Trade Policy, Balance of Payment Problem, Foreign Capital and Multinational Corporations in India
Economic Reforms and its implications.

. UNIT- IV

Features of Population Growth in India, Major Problems of the Economy – Inflation, Unemployment, Poverty and Inequality, Current Indian Tax Structure. Role and functions of Niti Ayog

Case Study: Population dynamics and nature of the unemployment problem in Punjab

Suggested Readings:

1. Mishra, S.K. and Puri, V.K. (3019), *Indian Economy*, Himalaya Publication House, Mumbai.
2. Dutt, R. and Sundharam, K.P.M. (3018), *Indian Economy*, S. Chand & Co. Ltd., New Delhi.
3. Aggarwal, A. N. (1975), *Indian Economy*, Vikas Publishing House, Delhi.
4. Wadhwa, C. D. (1970), *Indian Economic Policy*, Tata McGraw Hill, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –III
Session 2026-27
Course Code: BECL-3453
Quantitative Techniques (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 economic concepts like consumer and producer surplus.
- CO3:** explain and use matrix operations to solve the system of equations.
- CO4:** understand the basics of linear programming for the efficient computation of optimal solutions to problems in decision-making.

Bachelor of Science (Economics) Semester –III
Session 2026-27
Course Code: BECL-3453
Quantitative Techniques (Quantitative Techniques–III)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the 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; Cramer'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

Suggested Readings:

1. Rangi, S.S. and Chowdhary, V. (2013), *Mathematical Techniques*, S. Vikas s& Co. Publishing House, India.
2. Allen, R.G.D.(1938), *Mathematical Analysis for Economists*, ELBS and Macmillan Press, New York.
3. Chiang, A.(1967), *Fundamental Methods of Mathematical Economics*, McGraw Hill.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –III

Session 2026-27

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

CO2: comprehend interpolation and numerical integration.

CO3: Calculate different means and deviations using statistical techniques.

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

Bachelor of Science (Economics) Semester –III

Session 2026-27

Course Code: BECM-3134

COMPUTER SCIENCE

(COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS)

Time: 3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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: Numerical methods, Numerical methods versus numerical analysis, Errors and Measures of Errors. Bisection method, false position method and Newton Raphson method.

Simultaneous Solution of Equations: Gauss Elimination Method, Gauss Jordan method

Unit -II

Interpolation: Interpolation and Curve Fitting, Newtons Methods: Forward Difference Method, Backward Difference Method and Divided Difference Method.

Numerical Integration: Trapezoidal Rule, Simpson's 1/3 Rule Simpson's 3/8 Rule.

Unit -III

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

Unit –IV

Correlation: Meaning, Karl Pearson method, Rank correlation.

Regression: Meaning, Linear Regression and its coefficients.

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 2026-27

Course Code: BECM-3134

COMPUTER SCIENCE

**(COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS)
(PRACTICAL)**

Time: 3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Lab exercises using a spread sheet tool for:

1. Iterative Solutions
2. Simultaneous Solution of Equations
3. Interpolation
4. Measure of Central Tendency
5. Measure of dispersion
6. Correlation
7. Regression

Bachelor of Science (Economics) Semester –III
Session 2026-27
Course Code: BECM-3124
COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)

Time: 3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Course Outcomes:

After passing this course the student will be able to:

CO1: Compare different types of operating systems and analyze CPU scheduling algorithms.

CO2: Analyze memory management policies, threads and synchronization processes.

CO3: Comprehend about virtual memory and deadlock along with its prevention and detection.

CO4: Comprehend about disk scheduling, security and protection in Operating System.

Bachelor of Science (Economics) Semester –III
Session 2026-27
Course Code: BECM-3124
COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)
(THEORY)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

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: Definition, Early Systems, Simple Batch system, Multi-programming/Multi-Tasking, Time Sharing Systems, Personal Computer System, Parallel Systems, Distributed Systems, Real-time Systems.

Processes: Process concept, Inter Process communication, Process Scheduling, Threads. CPU-Scheduling: Basic concepts, Scheduling Criteria, Scheduling Algorithms, Algorithm Evaluation.

UNIT-II

Process Synchronization: Critical-section problem, semaphores, classical problem of synchronization. Semaphores

Threads: Multicore Programming, Multithreading Models, Thread Libraries, Implicit Threading, Threading Issues.

Memory Management: Background, Logical v/s Physical address space, swapping, continuous allocation, paging, segmentation.

UNIT-III

Virtual Memory: Background, demand paging, performance of demand paging, page replacement, page replacement algorithms, thrashing.

Deadlocks: System Model, Deadlock characterization, methods for handling deadlocks, Deadlocks Prevention, Deadlock avoidance, Deadlock detection, Recovery from deadlock, combined approach to deadlock handling.

UNIT-IV

Disk Scheduling: Seek Time, Rotational Latency, Transfer Time, Algorithms.

Operating System Security: authentication & authorization, file ownership and user groups, Access Control, password vulnerabilities, strong passwords,

Protection against breaches: Operating System protection from security breaches such as runaway processes (denial of service), memory-access violations, stack overflow violations, the launching of programs with excessive privileges. Protecting against viruses and worms.

CASE STUDY: Windows Operating System, Linux.

References:

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 2026-27
Course Code: BECM-3124
COMPUTER APPLICATIONS (VOCATIONAL)
(OPERATING SYSTEM)
(PRACTICAL)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Practical based on Operating System.

Bachelor of Science (Economics) Semester IV
Session 2026-27
Punjabi (Compulsory)
COURSE CODE: BECL -4421

COURSE OUTCOMES

CO1: ‘ਗਲੀਏ ਚਿਕੜੂ ਦੂਰਿ ਘਰੁ’ (ਸਵੈ ਜੀਵਨੀ) ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਵੈਜੀਵਨੀ ਸਾਹਿਤ ਰੂਪ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ।

CO2: ‘ਫਾਸਲੇ’ (ਨਾਟਕ) ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਨਾਟਕ ਨੂੰ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਨਾਟਕ ਜਗਤ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3: ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਿਯਮ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਿਲ ਕਰਨ ਦਾ ਮਕਸਦ ਵਿਦਿਆਰਥੀਆਂ ਦੁਆਰਾ ਲਿਖਤ ਵਿਚ ਕੀਤੀਆਂ ਜਾਣ ਵਾਲੀਆਂ ਗਲਤੀਆਂ ਨੂੰ ਸੁਧਾਰਨਾ ਹੈ। ਅਖਬਾਰ ਵਿਚ ਇਸ਼ਤਿਹਾਰ ਲਿਖਣਾ ਸਿਖਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ।

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

Bachelor of Science (Economics) Semester IV

Session 2026-27

Punjabi (Compulsory)

COURSE CODE- BECL -4421

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory : 70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਗਲੀਏ ਚਿਕੜ ਦੂਰਿ ਘਰੁ (ਸਵੈਜੀਵਨੀ): ਸ.ਸ.ਵਣਜਾਰਾ ਬੇਦੀ, ਕਸਤੂਰੀ ਲਾਲ ਐਂਡ ਸੰਨਜ਼, ਅੰਮ੍ਰਿਤਸਰ

(ਨਾਇਕ ਬਿੰਬ/ਸਵੈ ਜੀਵਨੀ ਦੇ ਤੌਰ ਤੇ ਪਰਖੋ/ਵਾਰਤਕ ਸ਼ੈਲੀ)

ਯੂਨਿਟ-II

ਫਾਸਲੇ (ਨਾਟਕ) :ਜਤਿੰਦਰ ਬਰਾੜ,

(ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ/ਨਾਟਕ ਕਲਾ)

ਯੂਨਿਟ-III

(ੳ) ਦਿੱਤੇ ਪੈਰ੍ਹੇ ਵਿਚੋਂ ਅਸ਼ੁੱਧ ਸ਼ਬਦ ਜੋੜਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਨਾ

(ਅ) ਅਖ਼ਬਾਰ ਨੂੰ ਇਸ਼ਤਿਹਾਰ (ਨਿੱਜੀ, ਦਫ਼ਤਰੀ)

ਯੂਨਿਟ-IV

(ੳ) ਪੰਜਾਬੀ ਬਬਦ ਸ਼੍ਰੇਣੀਆਂ

(ੳ) ਵਿਸ਼ੇਸ਼ਣ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ਅ) ਕਿਰਿਆ ਵਿਸ਼ੇਸ਼ਣ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ੲ) ਯੋਜਕ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

(ਸ) ਵਿਸਮਕ : ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ

Bachelor of Science (Economics) Semester IV
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE: BECL -4031

Course outcomes

CO1:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦੇ ਵਿਦਿਆਰਥੀ 'ਆਤਮ ਅਨਾਤਮ' (ਕਵਿਤਾ ਭਾਗ) ਦੇ ਨਾਮਵਰ ਕਵੀਆਂ ਮੋਹਨ ਸਿੰਘ, ਜਗਤਾਰ, ਸੁਰਜੀਤ ਪਾਤਰ, ਪਾਸ਼ ਦੀਆਂ ਰਚਨਾਵਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ।

CO2:ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦੇ ਵਿਦਿਆਰਥੀ 'ਆਤਮ ਅਨਾਤਮ' (ਕਵਿਤਾ ਭਾਗ) ਦੇ ਵੱਖੋ ਵੱਖਰੀਆਂ ਧਾਰਾਵਾਂ ਨਾਲ ਸਬੰਧਤ ਮੋਹਨ ਸਿੰਘ, ਜਗਤਾਰ, ਸੁਰਜੀਤ ਪਾਤਰ, ਪਾਸ਼ ਦੀਆਂ ਰਚਨਾਵਾਂ ਦੇ ਸਾਰ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ।

CO3: ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਦੇ ਵਿਦਿਆਰਥੀ 'ਆਤਮ ਅਨਾਤਮ' (ਕਵਿਤਾ ਭਾਗ) ਦੇ ਵੱਖੋ ਵੱਖਰੀਆਂ ਧਾਰਾਵਾਂ ਨਾਲ ਸਬੰਧਤ ਮੋਹਨ ਸਿੰਘ, ਜਗਤਾਰ, ਸੁਰਜੀਤ ਪਾਤਰ, ਪਾਸ਼ ਕਵੀਆਂ ਦੇ ਜੀਵਨ ਅਤੇ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ।

CO4: ਲੇਖ ਰਚਨਾ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ। ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਿਯਮ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਲ ਕਰਨ ਦਾ ਮਕਸਦ ਵਿਦਿਆਰਥੀਆਂ ਦੁਆਰਾ ਲਿਖਤ ਵਿਚ ਕੀਤੀਆਂ ਜਾਣ ਵਾਲੀਆਂ ਗਲਤੀਆਂ ਨੂੰ ਸੁਧਾਰਨਾ ਹੈ।

Bachelor of Science (Economics) Semester IV
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE: BECL -4031

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 100

L-T-P

Theory :70

4-0-0

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਆਤਮ ਅਨਾਤਮ (ਕਵਿਤਾ ਭਾਗ)(ਸੰਪਾਦਕ ਡਾ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਡਾ.ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ

ਯੂਨਿਟ-II

ਆਤਮ ਅਨਾਤਮ (ਕਵਿਤਾ ਭਾਗ)(ਸੰਪਾਦਕ ਡਾ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਡਾ.ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਸਾਰ/ਵਿਸ਼ਾ ਵਸਤੂ)

ਯੂਨਿਟ-III

ਆਤਮ ਅਨਾਤਮ (ਕਵਿਤਾ ਭਾਗ)(ਸੰਪਾਦਕ ਡਾ. ਸੁਹਿੰਦਰ ਬੀਰ ਅਤੇ ਡਾ.ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

(ਕਵੀਆਂ ਦੇ ਜੀਵਨ ਅਤੇ ਰਚਨਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ)

ਯੂਨਿਟ-IV

ਲੇਖ ਰਚਨਾ

ਅਸੁੱਧ ਸ਼ਬਦ ਜੋੜਾਂ ਨੂੰ ਸੁੱਧ ਕਰਕੇ ਲਿਖਣਾ

Bachelor of Science (Economics) Semester-IV
Session 2026-27
APPRECIATING ENGLISH LITERATURE-II
Course Code: BECL -4212
(NEP-2020)

COURSE OUTCOMES

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

CO 1: change the narration and voice of sentences after understanding fundamental grammatical rules governing them through the study of “English Grammar in Use” by Raymond Murphy

CO 2: develop an understanding of the poems taught, relate to the socio-cultural background of England through the study of the poems in the prescribes text “Moments in Time”

CO 3: understand the tone, style and central idea through the study of the poems in the prescribes text “Moments in Time”

CO 4: to enhance the writing skills through Business letters writing and E mail writing

Bachelor of Science (Economics) Semester-IV
Session 2026-27
APPRECIATING ENGLISH LITERATURE-II
Course Code: BECL -4212

Examination Time: 3 Hrs.

L-T-P (Credits): 4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Instructions for the Paper Setters:-

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

UNIT-I

English Grammar in Use, 5th Edition by Raymond Murphy, CUP (Revision of Units: 26-37, 42-48, 92-97, 113-120)

UNIT-II

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

UNIT-III

Moments in Time: Poems at Sr. No. 7-12

UNIT-IV

Paragraph writing, Business Letters, Writing Emails

Texts Prescribed:

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

2. *Moments in Time*

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECL-4175
Economics (International Economics)

Course outcomes:

After studying this course, students will be able to:

CO1: understand the theories of trade and terms of trade .

CO2: understand the tariff and non-tariff barriers

CO3: understand the basic concept of BOP and methods to correct disequilibrium

CO4: understand the determination of exchange rate and working of international organizations

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECL-4175
Economics (International Economics)

Time: 3 Hours

L-T-P (Credits): 4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the 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

Theories of International Trade: Theories of absolute advantage, comparative advantage and Heckscher-Ohlin theory of trade: assumptions and main features, Terms of trade and offer curve.

UNIT–II

Commercial Policy: Tariff barriers; Definition and its types and non-tariff barriers to trade (quota, voluntary export restraints, export subsidies, dumping and international cartel); Tariff and quota (partial equilibrium analysis).

Unit-III

Balance of Trade and Balance of Payments: Meaning, Concepts and components of balance of payments; causes and various measures to correct deficit in the balance of payment (Devaluation, Absorption and Monetary approaches)

Unit- IV

Rate of Exchange: Meaning, concept of equilibrium exchange rate and determination; Fixed versus flexible exchange rates. International Monetary System and International Institutions: World Bank and IMF; Objectives and functions

Seminar: India's EXIM Policy

Suggested Readings:

1. Sodersten, B.O. (1970), *International Economics*, Macmillan, London.
2. Salvatore, D. and Reed, G. (1983), *International Economics*, Macmillan Publishing Company, New York.
3. Yeagre (1976), *International Monetary Relations, Theory, History and Policy*, Harper and Row, New York, 1976.
4. International Economics, Vikas Publishing House Pvt.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –IV
Session: 2026-27
Course Code: BECL-4453
Quantitative Techniques (Quantitative Techniques–IV)

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand the concept of correlation and regression and learn how to apply these statistical techniques in practice
- CO2:** understand the axiomatic formulation of modern probability theory and think of random variables as an intrinsic need for the analysis of random phenomena.
- CO3:** recognize the connection between theory and applications by appropriately fitting, assessing and interpreting the results/ outcomes
- CO4:** understand the basic principles underlying survey design and estimation.

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECL-4453
Quantitative Techniques (Quantitative Techniques–IV)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

Multiple Linear Regression: Concepts, Estimation and Applications (without derivations). Partial and Multiple Correlation. Non-Linear Regression: Quadratic and Exponential; Estimation of Fitting of Various Growth Curves (Modified Exponential, Gompertz).

UNIT–II

Probability: Definition, Additive & Multiplicative Laws and their Applications, Bayes Theorem, Concept of Random Variable, Probability Mass Function & Density Function, Mathematical Expectation (meaning and properties), Moments, Moment Generating Function and Characteristic Function.

UNIT–III

Theoretical Probability Distributions: Derivations of the properties of Binomial (with numerical), Poisson (with numerical), Normal (with numerical), Beta and Gamma Distributions.

UNIT–IV

Sampling: Various concepts – Population, Sampling Units, Complete Enumeration sample Surveys, Concept of an Estimator and The Standard Error, Standard Error of Estimates. Features of a Good Sample, Random and Subjective Sampling, Simple Random Sampling (with and without replacement), and Stratified Random Sampling (applications only).

Practical: Correlation and Regression with Statistical Softwares

Bachelor of Science (Economics) Semester –IV

Session 2026-27

Course Code: BECM-4134

**COMPUTER SCIENCE
(DATA STRUCTURES USING C++)**

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend various concepts of Object Oriented Programming.

CO2: Analyze complexity of algorithms to determine their efficiency and comprehend array and Linked List as base data structures.

CO3: Comprehend various hashing method, sorting and searching algorithms as well as operations of queue and stack data structures.

CO4: Comprehend advanced data structures such as tree and graph

Bachelor of Science (Economics) Semester –IV

Session 2026-27

Course Code: BECM-4134

COMPUTER SCIENCE

(DATA STRUCTURES USING C++)

Time: 3+3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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 OOPs: Object Oriented Programming (OOP) v/s Procedural Programming, Encapsulation, Inheritance, Polymorphism, Abstraction.

Classes and Objects: Constructors and Destructors; Access Specifiers (public, private, protected).

Inheritance: class hierarchies, Public & Private inheritance, Levels of inheritance, Overloading v/s overriding; virtual functions, Friend Functions and Friend Classes.

UNIT-II

Data Structures: Introduction to elementary data organization, Common Operation on Data Structures, Algorithm Complexity, Big O Notation, Time-Space Tradeoff between Algorithms. Multi-Dimensional arrays.

Linked Lists: Types of Linked Lists, representing linked list in memory, advantages of using linked lists over arrays, various operations of linked lists, doubly linked List.

UNIT-III

Stacks: Description of stack structure, Implementation of stack, using arrays and linked lists, application of stack-converting, arithmetic expression from infix notation to polish notation and their subsequent evaluation, quicksort technique.

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

Sorting and Searching: Sorting Algorithms, bubble sort, selection sort, insertion sort, quick sort, merge sort, heap sort, searching Algorithms, linear search and binary search, hashing.

UNIT-IV

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

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

Files: File Organization Techniques (Sequential, Indexed).

References / Textbooks:

1. Seymour Lipschutz, Data Structures with C (Schaum's Outline Series), McGraw Hill Education (2017), 1st Edition
2. Reema Thareja, Data Structures Using C, Oxford Publication (2014), 2nd Edition

3. Sahni Horowitz, Fundamentals of Data Structures in C (2008), 2nd Edition
4. Narasimha Karumanchi, Data Structures and Algorithms made easy, Careermonk Publications (2016), 5th Edition
5. S.K. Srivastava and Deepali Srivastava, Data Structures through C, BPB Publications (2004)
6. Yedidyah Langsam, Augenstein and Tanenbaum, Data Structures using C and C++, Pearson Education India (2015), 2nd Edition

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECM-4134
COMPUTER SCIENCE
(DATA STRUCTURES USING C++)
(PRACTICAL)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Lab Exercises based on Implementation of Data Structures using C++:

- Classes and Objects, constructors and destructors
- Data types
- Control statements
- Arrays & Strings in C++
- Searching (binary search, linear search)
- Sorting: Bubble Sort, selection sort, insertion sort, quick sort, merge sort, heap sort.
- Linked list
- Stacks (Using Arrays)
- Queues (Using Arrays)
- Trees – Traverse the BST
- Graphs-transversal, finding the shortest path
- File handling

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECM-4124
COMPUTER APPLICATIONS (VOCATIONAL)
(DATABASE MANAGEMENT SYSTEMS)

Course Outcomes:

After passing course the student will be able to:

CO1: Understand data, database and database models.

CO2: Gain knowledge of keys, normalization and relational algebra.

CO3: Create, manage, access and recover databases.

CO4: Comprehend strategies for backup and recovery of databases.

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECM-4124
COMPUTER APPLICATIONS (VOCATIONAL)
(DATABASE MANAGEMENT SYSTEMS)
(THEORY)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

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 Databases: Overview of databases and DBMS, History and evolution of database systems.

Types of Databases: Relational, NoSQL, Object-oriented. Relational model concepts: tables, rows, columns. Comparison of database models (Hierarchical, Network, Relational). Entity-Relationship (ER) Modeling: Introduction to ER diagrams, Entities, attributes, relationships, designing a database using ER model.

UNIT–II

Relational Database Design: Converting ER diagrams to relational schemas. Relational integrity constraints.

Understanding keys: Primary, Foreign, Composite.

Normalization: 1NF, 2NF, 3NF, BCNF.

Relational Algebra: operators like selection, projection, cartesian product, join and write queries using them.

UNIT–III

SQL Statements: DDL, DML, DCL, TCL, constraints, Join methods & Sub query, Union, Intersection, Built in Functions, View, and Security amongst users, indexing object and Common Table Expressions (CTEs).

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.

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

UNIT–IV

Database Security: Understanding database security concepts, User roles and permissions, Data encryption and access control measures.

Backup, Recovery, and Maintenance: Strategies for database backup and recovery, Disaster recovery planning, Regular maintenance practices for databases.

References:

1. Silberschatz, Korth&Sudarshan, Database Systems Concepts, McGraw-Hill Inc.(2020), 7th edition.

2. C.J. Date, An Introduction of Database System, Addison-Wesley Publishing co. (2003), 8th edition.
3. Anshuman Sharma, Fundamentals of DBMS, Lakhanpal Publishers (2016), 4th edition.
4. Ivan Bayross, SQL/PL/SQL. The Programming Language of Oracle, BPB Publications(2010), 4th edition.
5. RamezElmasri and ShamkantNavathe, Fundamentals of Database Systems, Pearson Education (2015), 7th edition.
6. P.S. Gill, Database Management Systems, Dreamtech Press (2019), 2th edition.

Bachelor of Science (Economics) Semester –IV
Session 2026-27
Course Code: BECM-4124
COMPUTER APPLICATIONS (VOCATIONAL)
(DATABASE MANAGEMENT SYSTEMS)
(PRACTICAL)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Practical on Database Management System.

Bachelor of Arts/Bachelor of Science (Economics) Semester IV
Session 2026-27
Skill Enhancement Course
Course Title: Contemporary Indian Economic Policies and Issues

Course Outcomes:

After passing this course, students will be able to:

CO1: Understand the nature and importance of agriculture and industrial policies

CO2: Learn the working of credit and insurance schemes

CO3: Examine the benefits and challenges in the implementation of various schemes

CO4: Understand the instruments of monetary and fiscal policies

Bachelor of Science (Economics) Semester IV
Session 2026-27
Skill Enhancement Course
Course Title: Contemporary Indian Economic Policies and Issues

Time: 3 Hours
L-T-P (Credits):3-0-0

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

Note: Instructions for the Paper Setter:

Two questions, each carrying 10 marks, from each of the 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

Agriculture: Recent agriculture price policy with special focus on MSP.
Recent industrial policy and its benefits to various stakeholders.

Unit -II

Efficacy of credit and insurance schemes by banks and financial institutions, with a special focus on agriculture (PMFBY, KCC), industry (MUDRA Scheme, MSME scheme), and education loan schemes.

Unit-III

Women-centric Schemes for Empowerment: Beti Bachao Beti Padhao, Mahila Shakti Kendra, Mahila Kisan Sashaktikaran Pariyojna, Rastriya Mahila Kosh, Pradhan Mantri Matru Vandana Yojna, Janani Suraksha Yojna, Mission Saksham Anganwadi, and Poshan 2.

Welfare Schemes for Poverty Alleviation: Mahatma Gandhi National Rural Employment Guarantee Act(VB-G RAM G) , Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Kaushal Vikas Yojana, Pradhan Mantri Jan Dhan Yojana, Swarna Jayanti Shahari Rozgar Yojana.

Unit-IV

Current monetary and fiscal policies and their interaction.

Practical

Students can choose any one topic for the Case Study

MSP of various crops in the local area and its implications for farmers

Analysis of the credit and insurance schemes mentioned above in the local area.

Efficacy of any women-centric scheme in the local area.

Analysis of trends in the inflation rate and union budget

Suggested Readings:

1. Mishra, S.K. and Puri, V.K. (2019), *Indian Economy*, Himalaya Publication House, Mumbai.
2. Dutt, R. and Sundharam, K.P.M. (2018), *Indian Economy*, S. Chand & Co. Ltd., New Delhi.

3. Aggarwal, A. N. (1975), *Indian Economy*, Vikas Publishing House, Delhi.
4. Wadhwa, C. D. (1970), *Indian Economic Policy*, Tata McGraw-Hill, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester V
Session 2026-27
PUNJABI (COMPULSORY)
COURSE CODE: BECL -5421

COURSE OUTCOMES

CO1:ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਹਾਣੀਆਂ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ।

CO2:ਨਾਵਲ 'ਏਹੁ ਹਮਾਰਾ ਜੀਵਣਾ'(ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਲ ਕਰਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਨਾਵਲ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਇਸ ਸਾਹਿਤ ਰੂਪ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3: ਪੈਰ੍ਹਾ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ।ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO4: ਵਿਆਕਰਨਕ ਇਕਾਈਆਂ : ਭਾਵੇਂਸ਼, ਉਪਵਾਕ ਅਤੇ ਵਾਕ (ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ),ਵਾਕਾਤਮਕ ਜੁਗਤਾਂ : ਮੇਲ ਤੇ ਅਧਿਕਾਰ,ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸੰਬੰਧ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Science (Economics) Semester V
Session 2026-27
PUNJABI (COMPULSORY)
COURSE CODE: BECL -5421

ਸਮਾਂ : 3 ਘੰਟੇ

Maximum Marks: 100

L-T-P

Theory: 70

4-0-0

CA: 30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿੱਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿੱਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਇੱਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿੱਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿੱਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ

(ਸੰਪਾ.ਡਾ.ਰਮਿੰਦਰ ਕੌਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ, 2018)

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ/ਪਾਤਰ ਚਿਤਰਨ)

ਯੂਨਿਟ-II

ਨਾਵਲ : ਏਹੁ ਹਮਾਰਾ ਜੀਵਣਾ(ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)

(ਵਿਸ਼ਾ-ਵਸਤੂ/ਸਾਰ /ਬਿਰਤਾਂਤਕ ਜੁਗਤਾਂ)

ਯੂਨਿਟ-III

ਲੇਖ ਰਚਨਾ (ਸਮਾਜਕ, ਸਭਿਆਚਾਰਕ, ਇਤਿਹਾਸਕ ਅਤੇ ਵਿਦਿਅਕ ਸਰੋਕਾਰਾਂ ਸਬੰਧੀ)

ਸਰਲ ਅੰਗਰੇਜ਼ੀ ਪੈਰ੍ਹੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ

ਯੂਨਿਟ-IV

ਵਿਆਕਰਣ :

(ੳ) ਵਿਆਕਰਨਕ ਇਕਾਈਆਂ : ਭਾਵੇਂਸ਼, ਉਪਵਾਕ ਅਤੇ ਵਾਕ (ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਵਰਗੀਕਰਨ)

(ਅ) ਵਾਕਾਤਮਕ ਜੁਗਤਾਂ : ਮੇਲ ਤੇ ਅਧਿਕਾਰ

(ੲ) ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸਬੰਧ

Bachelor of Science (Economics) SEMESTER–V
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE- BECL -5031

COURSE OUTCOMES

CO1: ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਅਤੇ ਲੋਕ ਸਾਹਿਤ, ਲੋਕ ਕਾਵਿ, ਲੋਕ ਵਾਰਤਕ ਬਿਰਤਾਂਤ ਦੀ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਬਾਰੇ ਜਾਣ ਸਕਣਗੇ।

CO2: ਵਿਦਿਆਰਥੀ ਸੁਹਾਗ, ਘੋੜੀਆਂ, ਸਿੱਠਣੀਆਂ ਦੀ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਬਾਰੇ ਜਾਣ ਸਕਣਗੇ।

CO3: ਵਿਦਿਆਰਥੀ ਗਿੱਧਾ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਭੰਗੜਾ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਝੂਮਰ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਬਾਰੇ ਜਾਣ ਸਕਣਗੇ।

CO4: ਵਿਦਿਆਰਥੀ ਲੋਕ ਖੇਡਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਲੋਕ ਤਮਾਸ਼ੇ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ), ਲੋਕ ਕਲਾਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ) ਦਾ ਵਿਹਾਰਕ ਅਧਿਐਨ ਕਰ ਸਕਣ ਦੇ ਸਮਰੱਥ ਹੋ ਸਕਣਗੇ।

Bachelor of Science (Economics) SEMESTER-V

Session 2026-27

Basic Punjabi

(In lieu of Punjabi Compulsory)

COURSE CODE- BECL -5031

ਸਮਾਂ: 3 ਘੰਟੇ

Maximum Marks : 100

L-T-P

Theory :70

4-0-0

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਸਾਹਿਤ ਅਤੇ ਲੋਕ ਸਾਹਿਤ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਲੋਕ ਕਾਵਿ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਲੋਕ ਵਾਰਤਕ ਬਿਰਤਾਂਤ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਸੁਹਾਗ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਘੋੜੀਆਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਸਿੱਠਣੀਆਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਯੂਨਿਟ-III

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਗਿੱਧਾ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਭੰਗੜਾ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਝੂਮਰ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

ਯੂਨਿਟ-IV

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
ਲੋਕ ਖੇਡਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)
ਲੋਕ ਤਮਾਸ਼ੇ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)
ਲੋਕ ਕਲਾਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ)

Bachelor of Science (Economics) Semester-V
Session 2026-27
ENGLISH LANGUAGE SKILLS-III
Course Code: BECL -5212
(NEP-2020)

COURSE OUTCOMES

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

CO 1: analyze and appreciate the dramatic technique, plot development and art of characterisation in the prescribed play, “All My Sons” by Arthur Miller

CO 2: widen their knowledge about various literary devices used in poetry through the study of prescribed poems from the text “Poems of Nature and Culture”

CO 3: analyse tone, style, imagery, figures of speech, symbolism etc. through the study of prescribed poems from the text “Poems of Nature and Culture”

CO 4: will develop skills for writing job application and suitable resume along with.

Bachelor of Science (Economics) Semester-V
Session 2026-27
ENGLISH LANGUAGE SKILLS-III
Course Code: BECL -5212
(NEP-2020)

Examination Time: 3 Hrs.
L-T-P (Credits): 4-0-0

Max. Marks: 100
Theory: 70
CA: 30

Instructions for the Paper Setters:-

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

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"
Robert Browning: "Meeting at Night"
Mathew Arnold: "Dover Beach"
WB Yeats: "Words"
Wilfred Owen: "Strange Meeting"

Unit III

Robert Graves: "The Portrait"
W.H. Auden: "The Unknown Citizen"
Dylan Thomas: "Do not go Gentle into that Good Night"
Ted Hughes: "The Thought-Fox"
Sylvia Plath: "Mirror"
Seamus Heaney: "Honeymoon Flight"
Rabindranath Tagore: "False Religion"
Nissim Ezekiel: "Night of Scorpion"

Unit IV

Formal letter and Application Writing, Resume Writing and Precis 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 2026-27
Course Code: BECL-5175
Economics (Economics of Development)

Course outcomes:

After passing this course, students will be able to:

- CO1:** learn the measurement of economic development and understand the economic problems of developing and least developed countries
- CO2:** examine the models of growth critically and recognize the importance of their underlying assumptions
- CO3:** analyze the different strategies of economic development and policy implications of export promotion and import substitution strategies
- CO4:** understand the role of planning and contribution of capital formation and choice of techniques in the development of UDCs and their changing landscape after globalization and liberalization

Bachelor of Science (Economics) Semester –V
Session 2026-27
Course Code: BECL-5175
Economics (Economics of Development)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

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

UNIT–II

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

UNIT–III

Rostow's theory of 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 Techniques

Role of Planning in Under Developed Countries, Need, Objective, Strategy

Case Study: Growth Models for the development of different areas of Punjab

Suggested Readings:

1. Meier, G.M.(1995), *Leading Issues in Economic Development*, Oxford University Press, 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
5. Jhingan, M.L.(2011), *The Economics of Development and Planning*, Vrinda Publications Pvt. Ltd., Delhi

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester–V
Session 2026-27
Course Code: BECL-5453
Quantitative Techniques (Quantitative Techniques–V)

Course outcomes:

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

CO1: understand the basics of methods of estimation and the process of formulation and of testing the hypothesis.

CO2: understand the theoretical details of sampling distributions

CO3: understand the basic applications of sampling distributions.

CO4: understand ANOVA to split and analyze the variations in economic phenomenon.

Bachelor of Science (Economics) Semester–V
Session 2026-27
Course Code: BECL-5453
Quantitative Techniques (Quantitative Techniques–V)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

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 the 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.

Practical: t-test and one way ANOVA with any Statistical Software

Suggested Readings:

1. Gupta and Kapoor(2014) , *Fundamentals of Mathematical Statistics* , Sultan Chand & Sons, New Delhi
2. Rangi S.S.(2016), *Statistical Techniques*, S. Vikas &Co. (Publishing House) India.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –V

Session: 2026-27

Course Title: Mathematics (Statics and Dynamics)

Course Code: BECL -5333

Course Outcomes

CO1: Students will be able to analyze systems of coplanar forces using laws of composition and resolution, and determine conditions of equilibrium.

CO2: Students will be able to apply concepts of moments and friction to solve problems involving equilibrium on rough planes and parallel force systems.

CO3: Students will be able to apply Newton's laws of motion to analyze linear and curvilinear motion, including projectile motion and connected particle systems.

CO4: Students will be able to analyze motion using concepts of work, energy, and simple harmonic motion, and apply the principle of conservation of energy.

Bachelor of Science (Economics) Semester –V

Session: 2026-27

Course Title: Mathematics (Statics and Dynamics)

Course Code: BECL -5333

Examination Time: 3 Hours

Max. Marks: 100

L T P

Theory: 70

4 0 0

CA: 30

Instructions for the Paper Setter:

Eight questions of equal marks (14 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

Composition and resolution of forces, parallelogram law, triangle law, polygon law, Lami's Theorem and its converse, (λ - μ) theorem, Resultant of a number of coplanar forces, Condition of equilibrium of a number of coplanar forces.

Unit II

Parallel forces, Moment of a force about a point, Varignon's theorem of moments, Friction, Kinds of Friction, Laws of friction, Problems of a body placed on a rough inclined plane, Equilibrium of a particle on a rough plane.

Unit III

Definition of velocity and acceleration, Newton's laws of motion. Weight carried by a lift, Motion of two particles connected by a string, Motion of two bodies connected by a string. Curvilinear motion of particle in a plane, Projectile and its equation of motion, time of flight, horizontal range, greatest height attained.

Unit IV

Simple Harmonic Motion, Work, Power and Energy; work done in stretching an elastic string, Conservative forces, Kinetic energy, Potential energy, Work done against gravity, Potential energy of a gravitational field, Principle of work and energy, Principle of conservation of energy

Text Books:-

1. R. S. Varma. A Text Book on Statics, Pothishala, 1962.
2. M. Ray & G.C. Sharma. A Text Book on Dynamics, S. Chand Publishers, 2005

Bachelor of Science (Economics) Semester –V

Session: 2026-27

Course Title: Statics and Dynamics Laboratory

Course Code: BECP -5333

Course Outcomes

CO1: Students will be able to simulate particle motion under various forces using Newton's second law and analyze changes in acceleration and trajectory.

CO2: Students will be able to model and analyze oscillatory motion of a simple pendulum and study the effect of parameters like length and amplitude.

CO3: Students will be able to evaluate equilibrium conditions and compute moments (torque) for systems of forces acting on bodies.

CO4: Students will be able to simulate and analyze dynamic systems using numerical methods and predict projectile motion under given initial conditions.

Bachelor of Science (Economics) Semester –V

Session: 2026-27

Course Title: Statics and Dynamics Laboratory

Course Code: BECP -5333

Examination Time: 3 Hours

Max. Marks: 50

Practical: 35

CA: 15

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List of Practicals (using any package)

1. To simulate the motion of a particle under various forces using Newton's second law $F=ma$ (Students can input different forces and masses to see how the particle's acceleration and trajectory change).
2. Create a simulation that analyzes the motion of a simple pendulum (Students can explore how the period and amplitude of oscillation vary with different parameters).
3. Calculate the equilibrium of forces acting on an object. (Given the forces' magnitudes, directions, and points of application, determine whether the object is in equilibrium or not).
4. Calculate the moment of force (torque) around a specified point. (Input the force magnitude, distance from the point, and direction. Compute the resulting moment).
5. Simulate the motion of particles or rigid bodies using numerical integration methods (e.g., Euler's method). (Input initial conditions (position, velocity, mass) and external forces. Observe the dynamic behavior over time).
6. Predict the trajectory of a projectile given initial conditions such as angle, velocity, and height. (This can include air resistance and show the path of the projectile in real-time.)

Text Books:-

1. R. P. Adrian. Statics and Dynamics with Background Mathematics, Cambridge University Press, 2003.
2. C. Gomez, C. Bunks, J.P. Chancelier, F. Delebecque, M. Goursat, R. Nikoukhah, and S. Steer. Engineering and Scientific Computing with Scilab, Springer Verlag New York Inc., 1999.

Bachelor of Science (Economics) Semester –V
Session 2026-27
Course Code: BECM-5134
COMPUTER SCIENCE
(DATA BASE MANAGEMENT SYSTEMS)

Course Outcomes:

After passing this course the student will be able to:

CO1: Understand data, database and database models.

CO2: Gain knowledge of keys, normalization and relational algebra.

CO3: Create, manage, access and recover databases.

CO4: Comprehend strategies for backup and recovery of databases.

Bachelor of Science (Economics) Semester –V

Session 2026-27

Course Code: BECM-5134

COMPUTER SCIENCE

(DATA BASE MANAGEMENT SYSTEMS)

Time: 3+3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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 Databases: Overview of databases and DBMS, History and evolution of database systems.

Types of Databases: Relational, NoSQL, Object-oriented. Relational model concepts: tables, rows, columns. Comparison of database models (Hierarchical, Network, Relational). Entity-Relationship (ER) Modeling: Introduction to ER diagrams, Entities, attributes, relationships, designing a database using ER model.

UNIT-II

Relational Database Design: Converting ER diagrams to relational schemas. Relational integrity constraints.

Understanding keys: Primary, Foreign, Composite.

Normalization: 1NF, 2NF, 3NF, BCNF.

Relational Algebra: operators like selection, projection, cartesian product, join and write queries using them.

UNIT-III

SQL Statements: DDL, DML, DCL, TCL, constraints, Join methods & Sub query, Union, Intersection, Built in Functions, View, and Security amongst users, indexing object and Common Table Expressions (CTEs).

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.

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

UNIT-IV

Database Security: Understanding database security concepts, User roles and permissions, Data encryption and access control measures.

Backup, Recovery, and Maintenance: Strategies for database backup and recovery, Disaster recovery planning, Regular maintenance practices for databases.

References/Textbooks:

1. C. J. Date, An Introduction to Database Systems, Pearson Education 2000.
2. 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 2026-27

Course Code: BECM-5134

COMPUTER SCIENCE

(DATA BASE MANAGEMENT SYSTEMS)

(PRACTICAL)

Time: 3+3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Lab on database management system.

Bachelor of Science (Economics) Semester –V
Session 2026-27
Course Code: BECM-5124
COMPUTER APPLICATIONS (VOCATIONAL)
(Web Designing and Development)
(PRACTICAL)

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend the basics of web designing and development through application of HTML.

CO2: Apply CSS and Bootstrap for generating web pages with responsive design.

CO3: Apply JavaScript to add dynamicity to the webpages.

CO4: comprehend advanced JavaScript concepts and process of web optimization.

Bachelor of Science (Economics) Semester –V
Session 2026-27
Course Code: BECM-5124
COMPUTER APPLICATIONS (VOCATIONAL)
(Web Designing and Development)
(THEORY)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

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

Introduction to Web Design and Development: Overview of web technologies and the web development process, Understanding the difference between web design and development. Introduction to HTML: Basics: Structure of an HTML document, Common HTML elements (headings, paragraphs, lists, links, images, Tables, Linking, Frames, Forms), Semantic HTML and its importance, Introduction to DOM.

UNIT-II

CSS Fundamentals: Introduction to CSS and its role in web design, CSS selectors, properties, and values, Box model, layout techniques (flexbox, grid).

Responsive Design: Principles of responsive web design, Media queries and breakpoints, using frameworks like Bootstrap for responsive layouts.

UNIT-III

JavaScript Basics: Introduction to JavaScript and its role in web development.

Basic Programming Techniques & Constructs: Variables, data types, functions, and control structures, Operators, Functions, GET/POST Methods, DOM Manipulation & Event handling.

UNIT-IV

Forms Validation, Cookies, Inter-page communication and form data handling using JavaScript.

Web Performance Optimization: Techniques for optimizing website performance, using tools to analyze website performance, Importance and usage of SEO (Search Engine Optimization).

References/Textbooks:

1. Jon Duckett, HTML and CSS: Design and Build Websites
2. Jon Duckett, JavaScript and J Query: Interactive Front-End Web Development"
3. Jennifer Niederst Robbins, Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics
4. Ben Frain, Responsive Web Design with HTML5 and CSS
5. Ethan Brown, Web Development with Node and Express
6. Terry Felke-Morris, Web Development and Design Foundations with HTML5, McGraw Hill
7. Jon Duckett, Beginning HTML, XHTML, CSS, and JavaScript, Cengage 8. Luke Welling and Laura Thomson, PHP and MySQL Web Development, Pearson Education

Bachelor of Science (Economics) Semester –V
Session 2026-27
Course Code: BECM-5124
COMPUTER APPLICATIONS (VOCATIONAL)
(Web Designing and Development)
(PRACTICAL)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Programming exercises based on:

- Exploring Web Technologies and Setting up the Development Environment (e.g. Visual Studio Code)
- Creating HTML Documents using headings, paragraphs, lists, links, and images
- Advanced HTML Elements (create forms), applying CSS styles, understanding Box model, Layout techniques
- Integrate Bootstrap into the project and use its grid system to create a responsive layout
- Basic JavaScript programming: GET/POST methods, DOM Manipulation, Event handling, Form validation, working with cookies
- Analyze the performance of the developed webpage using tools like Google Page Speed Insights and Understanding basic SEO

Bachelor of Science (Economics) Semester VI

Session 2026-27

PUNJABI (COMPULSORY)

COURSE CODE- BECL -6421

COURSE OUTCOMES

CO1: 'ਕਾਵਿ ਗੌਰਵ'ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਕਵਿਤਾਵਾਂ ਪ੍ਰਤੀ ਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ।

CO2: 'ਧਰਤੀਆਂ ਦੇ ਗੀਤ'(ਸਫ਼ਰਨਾਮਾ)ਨੂੰ ਸਿਲੇਬਸ ਵਿਚ ਸ਼ਾਮਲ ਕਰਕੇ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਫ਼ਰਨਾਮਾ ਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾ ਕਰਨਾ ਹੈ ਅਤੇ ਇਸ ਸਾਹਿਤ ਰੂਪ ਨਾਲ ਜੋੜਣਾ ਹੈ।

CO3:ਲੇਖ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ। ਸਾਹਿਤ ਰੂਪਾਂ ਕਵਿਤਾ, ਕਹਾਣੀ, ਨਾਵਲ, ਨਾਟਕ, ਇਕਾਂਗੀ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਾਰ ਤੇ ਤੱਤ ਨਾਲ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ। ਸਾਹਿਤ ਰੂਪਾਂ ਨੂੰ ਸਿਲੇਬਸ ਵਿੱਚ ਸ਼ਾਮਲ ਕਰਨ ਦਾ ਮਕਸਦ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਨ੍ਹਾਂ ਸਾਹਿਤ ਰੂਪਾਂ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਅਤੇ ਤੱਤਾਂ ਤੋਂ ਬਾਰੀਕੀ ਨਾਲ ਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।

CO4:ਵਿਆਕਰਨਕ ਸ਼੍ਰੇਣੀਆਂ : ਲਿੰਗ, ਵਚਨ,ਕਾਰਕ ਕਿਰਿਆ ਵਾਕੰਸ਼ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਬਣਤਰ ਤੇ ਪ੍ਰਕਾਰ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ-ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Science (Economics) Semester VI

Session 2026-27

PUNJABI (COMPULSORY)

COURSE CODE- BECL -6421

ਸਮਾਂ : 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks: 100

Theory: 70

CA: 30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ ਅਤੇ ਪਾਠ ਪੁਸਤਕਾਂ

ਯੂਨਿਟ-I

ਕਾਵਿ ਗੌਰਵ (ਪਹਿਲੇ ਛੇ ਕਵੀ)(ਸੰਪਾ.ਬਿਕਰਮ ਸਿੰਘ ਘੁੰਮਣ, ਕਰਮਜੀਤ ਕੌਰ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ,
(ਸ਼ੇਖ ਫਰੀਦ, ਸ਼ਾਹ ਹੁਸੈਨ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ, ਵਾਰਿਸ ਸ਼ਾਹ, ਸ਼ਾਹ ਮੁਹੰਮਦ)
(ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ/ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ)

ਯੂਨਿਟ-II

ਧਰਤੀਆਂ ਦੇ ਗੀਤ(ਸਫਰਨਾਮਾ), ਬਰਜਿੰਦਰ ਸਿੰਘ ਹਮਦਰਦ, ਨਾਨਕਸਿੰਘ ਪੁਸਤਕ ਮਾਲਾ, ਅੰਮ੍ਰਿਤਸਰ
(ਸਮਾਜ ਸਭਿਆਚਾਰ ਪਰਿਪੇਖ/ਸਫਰਨਾਮੇ ਦੇ ਤੌਰ ਤੇ ਪਰਖ)

ਯੂਨਿਟ-III

(ੳ) ਲੇਖ ਰਚਨਾ (ਵਿਗਿਆਨ, ਤਕਨਾਲੋਜੀ ਅਤੇ ਚਲੰਤ ਮਸਲਿਆਂ ਸਬੰਧੀ)
(ਅ) ਆਧੁਨਿਕ ਸਾਹਿਤ ਰੂਪ : ਕਵਿਤਾ, ਕਹਾਣੀ, ਨਾਵਲ, ਨਾਟਕ, ਇਕਾਂਗੀ

ਯੂਨਿਟ-IV

ਵਿਆਕਰਣ :

(ੳ) ਵਿਆਕਰਨਕ ਸ਼੍ਰੇਣੀਆਂ : ਲਿੰਗ, ਵਚਨ, ਕਾਲ ਅਤੇ ਵਾਚ
(ਅ) ਵਿਆਕਰਨਕ ਇਕਾਈਆਂ : ਨਾਂਵ ਵਾਕੰਸ਼ ਅਤੇ ਕਿਰਿਆ ਵਾਕੰਸ਼ (ਪਰਿਭਾਸ਼ਾ, ਬਣਤਰ ਤੇ ਪ੍ਰਕਾਰ)

Bachelor of Science (Economics) Semester VI
Session 2026-27
Basic Punjabi
(In lieu of Punjabi Compulsory)
COURSE CODE- BECL -6031

COURSE OUTCOMES

CO1: ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦਾ ਪਿਛੋਕੜ, ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੀ ਭੂਗੋਲਿਕ ਸਥਿਤੀ, ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਨਿਖੜਵੇਂ ਲੱਛਣ ਦਾ ਅਧਿਐਨ ਕਰਨਗੇ।

CO2: ਪੰਜਾਬ ਦੇ ਮੇਲੇ, ਪੰਜਾਬ ਦੇ ਤਿਉਹਾਰ, ਪੰਜਾਬ ਦੇ ਪ੍ਰਮੁੱਖ ਧਾਰਮਿਕ ਸਥਾਨ ਬਾਰੇ ਜਾਣ ਸਕਣਗੇ।

CO3: ਜਨਮ ਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ, ਵਿਆਹ ਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ, ਮੌਤ ਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ ਬਾਰੇ ਜਾਣ ਸਕਣਗੇ।

CO4: ਪੰਜਾਬ ਦਾ ਖਾਣ ਪੀਣ, ਪੰਜਾਬ ਦਾ ਪਹਿਰਾਵਾ, ਪੰਜਾਬ ਦੇ ਲੋਕ ਵਿਸ਼ਵਾਸ ਦਾ ਅਧਿਐਨ ਕਰਨਗੇ।

Bachelor of Science (Economics) Semester VI

Session 2026-27

Basic Punjabi

(In lieu of Punjabi Compulsory)

COURSE CODE- BECL -6031

ਸਮਾਂ: 3 ਘੰਟੇ

L-T-P

4-0-0

Maximum Marks :100

Theory :70

CA :30

ਅੰਕ ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ

1. ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਦੇ ਚਾਰ (A-D) ਸੈਕਸ਼ਨ ਹੋਣਗੇ। ਸੈਕਸ਼ਨ A-D ਤੱਕ ਦੇ ਪ੍ਰਸ਼ਨ ਕ੍ਰਮਵਾਰ ਯੂਨਿਟ I-IV ਵਿਚੋਂ ਪੁੱਛੇ ਜਾਣਗੇ। ਹਰ ਯੂਨਿਟ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
2. ਵਿਦਿਆਰਥੀ ਨੇ ਕੁੱਲ ਪੰਜ ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹਨ। ਹਰ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਲਾਜ਼ਮੀ ਹੈ। ਪੰਜਵਾਂ ਪ੍ਰਸ਼ਨ ਕਿਸੇ ਵੀ ਸੈਕਸ਼ਨ ਵਿਚੋਂ ਕੀਤਾ ਜਾ ਸਕਦਾ ਹੈ।
3. ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 14 ਅੰਕ ਹਨ।
4. ਪੇਪਰ ਸੈੱਟ ਕਰਨ ਵਾਲਾ ਜੇਕਰ ਚਾਹੇ ਤਾਂ ਪ੍ਰਸ਼ਨਾਂ ਦੀ ਵੰਡ ਅੱਗੋਂ ਵੱਧ ਤੋਂ ਵੱਧ ਚਾਰ ਉਪ ਪ੍ਰਸ਼ਨਾਂ ਵਿਚ ਕਰ ਸਕਦਾ ਹੈ।

ਪਾਠਕ੍ਰਮ

ਯੂਨਿਟ-I

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦਾ ਪਿਛੋਕੜ

ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੀ ਭੂਗੋਲਿਕ ਸਥਿਤੀ

ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਨਿਖੱੜਵੇਂ ਲੱਛਣ

ਯੂਨਿਟ-II

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਪੰਜਾਬ ਦੇ ਮੇਲੇ

ਪੰਜਾਬ ਦੇ ਤਿਉਹਾਰ

ਪੰਜਾਬ ਦੇ ਪ੍ਰਮੁੱਖ ਧਾਰਮਿਕ ਸਥਾਨ

ਯੂਨਿਟ-III

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ

(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

ਜਨਮ ਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ

ਵਿਆਹ ਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ

ਮੌਤਨਾਲ ਸੰਬੰਧਿਤ ਰੀਤਾਂ ਰਸਮਾਂ

ਯੂਨਿਟ-IV

ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਅਤੇ ਸਭਿਆਚਾਰ
(ਡਾ. ਮਨਜਿੰਦਰ ਸਿੰਘ, ਡਾ. ਹਰਿੰਦਰ ਕੌਰ ਸੋਹਲ)
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
ਪੰਜਾਬ ਦਾ ਖਾਣਪੀਣ
ਪੰਜਾਬ ਦਾ ਪਹਿਰਾਵਾ
ਪੰਜਾਬ ਦੇ ਲੋਕ ਵਿਸ਼ਵਾਸ

Bachelor of Science (Economics) (Semester VI)
Session 2026-27
APPRECIATING ENGLISH LITERATURE-III
Course Code: BECL -6212
(NEP-2020)

COURSE OUTCOMES

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

CO 1: comprehend, appreciate and critically analyse a novel through the story of the novel *The Guide* by R.K. Narayan

CO 2: analyze and appreciate the dramatic technique and plot development through the study of the prescribed plays from the book *Glimpses of Theatre*

CO 3: understand art of characterisation and themes through the study of the prescribed plays from the book *Glimpses of Theatre*

CO 4: enhance their writing skills by writing essay on any given topics well as to write report on any incident witnessed

Bachelor of Science (Economics) Semester V
Session 2026-27
APPRECIATING ENGLISH LITERATURE-III
Course Code: BECL -6212
(NEP-2020)

Examination Time: 3 Hrs.

L-T-P (Credits): 4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Instructions for the Paper Setters:-

Eight questions are to be set, two from each of the four Units (I-IV). 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. Each question will carry 14 marks. (14x5=70)

Unit I

Study of the novel, *The Guide* by R.K. Narayan

Unit II

One Act Plays from *Glimpses of Theatre*:

- i) *The Will*
- ii) *Villa for Sale*
- iii) *Progress*

Unit III

One Act Plays from *Glimpses of Theatre*:

- iv) *The Monkey's Paw*
- v) *Sorry, Wrong Number*
- vi) *No eggs! No eggs!*

Unit IV

Essay Writing, Business Letter Writing, Report Writing

Texts Prescribed:

1. *The Guide* by R.K. Narayan
2. *Glimpses of Theatre*, Guru Nanak Dev University Amritsar

Bachelor of Science (Economics) Semester –VI
Session 2025-26
Course Code: BECL-6175
Economics (Quantitative Methods for Economists)

Course outcomes:

After passing this course, students will be able to:

CO1: learn basic techniques of mathematics and their applications in economics

CO2: analyze data by using means of central tendency and dispersion.

CO3: understand the shapes of the curve and the relationship between variables by using techniques of skewness, correlation and learn prediction and forecasting by using regression

CO4: calculate relative changes in the magnitude of related variables using index numbers and also missing values within the data using interpolation

Bachelor of Science (Economics) Semester –VI
Session 2025-26
Course Code: BECL-6175
Economics (Quantitative Methods for Economists)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

Sets, Relations and Functions, Limits and Continuity (Basic Concepts), Derivative of simple functions only (excluding log & exponential functions). Maxima/Minima for single variable functions.

UNIT-II

Measures of Central Tendency — Mean, Mode, Median, and Geometric Mean; Measures of Dispersion.

UNIT-III

Concepts and Measures of Skewness: Boyle's & Karl Pearson's Measures. Simple Correlation & Regression (ungrouped & grouped data). Difference between the properties of correlation and regression coefficients

UNIT-IV

Interpolation: Concepts and Methods — Binomial expansion, Newton and Lagrange's Method (with emphasis on missing values only). Price Index Numbers—Weighted and Unweighted Index Numbers, various formulae and consistency tests.

Case Study – Real-Life Examples Based on Central Tendency and Dispersion

Suggested Readings

1. Gupta, S.P. (2014), *Statistical Methods*, Sultan Chand & Sons, New Delhi.
2. Gupta, S.C. (2018), *Fundamentals of Statistics*, Himalaya Publishing House, New Delhi
3. Elhance, D.N. and Elhance, V. (2018), *Fundamentals of Statistics*, Kitab Mahal, Allahabad
4. Croxton, F.E., Cowden, D.J., and Klein. S. (1973), *Applied General Statistics*, 3rd. Ed., Prentice Hall of India, New Delhi.
5. Nagar, A.L. and Das, R.K. (1976), *Basic Statistics*, Oxford University Press, Bombay.
6. Aggarwal, C.S and Joshi, S.C.(2017) ,*Mathematics for Students of Economics*, New Academic Publishing Co., Jalandhar

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester–VI
Session 2025-26
Course Code: BECL-6453
Quantitative Techniques (Quantitative Techniques–VI)

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand the nature and methodology of econometrics.
- CO2:** understand the OLS procedure of estimation of the model and tests of significance.
- CO3:** understand the nature and solutions of problems associated with the estimation of regression
- CO4:** understand the basics of dummy variables and estimation of models with lags.

Bachelor of Science (Economics) Semester–VI
Session 2026-27
Course Code: BECL-6453
Quantitative Techniques (Quantitative Techniques–VI)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the 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

Definition, Scope and Nature of Econometrics. Simple Linear Regression Model (OLS method) with applications

Unit – II

General Linear Regression Model: assumptions, properties (BLUE). Gauss-Markov Theorem (Two Variable and K-variable). Concepts of R^2 and Adjusted R^2 , Test of Significance (Stress on Numericals)

Unit – III

Econometric Problems of Heteroscedasticity and Multicollinearity in the Regression Analysis: Sources, Consequences, Tests and Remedial Measures. Specification Bias.

Unit – IV

Problem of Auto-Correlation in the Regression Analysis: Sources, Consequences, Tests and Remedial Measures. Distributed Lag Models and Auto-Regressive Models (Introductory). Dummy Variable Technique and its uses.

Practical: Defining Variables and Entering Data, Estimation of Regression with statistical software

Suggested Readings:

1. Madnani GMK, (2015), *Introduction of Econometrics*, Oxford and IBH Publishing, N. Delhi.
2. Koutsoyiannis, A, (2001), *Theory of Econometrics*, The Macmillan Press Ltd., London.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –VI

Session: 2026-27

Course Title: Mathematics (Multivariate Calculus)

Course Code: BECL -6333

Course Outcomes

CO1: Students will be able to analyze functions of several variables, evaluate limits and continuity, and apply partial differentiation and Taylor's theorem to study differentiability and homogeneous functions.

CO2: Students will be able to compute double and triple integrals over various regions, apply change of variables, and use these integrals to determine area, volume, surface area, and center of mass.

CO3: Students will be able to analyze vector fields by computing gradient, divergence, and curl, and apply line and volume integrals to solve problems involving work, mass, and circulation.

CO4: Students will be able to apply major integral theorems such as Green's theorem, Stokes' theorem, and the Divergence theorem to evaluate integrals and solve physical problems.

Bachelor of Science (Economics) Semester –VI

Session: 2026-27

Course Title: Mathematics (Multivariate Calculus)

Course Code: BECL -6333

Examination Time: 3 Hours

Max. Marks: 100

L T P

Theory: 70

4 0 0

CA: 30

Instructions for the Paper Setter:

Eight questions of equal marks (14 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

Functions of several variables, limit and continuity of functions of two variables Partial differentiation, Differentiability of real valued functions of two variables, Total differentiability, sufficient condition for differentiability, Schwarz's Theorem, Young's Theorem, Euler's Theorem on homogeneous functions of two variables, Euler's Theorem on homogeneous functions of three variables, Taylor's theorem for functions of two variables.

Unit II

Double integration over rectangular and non-rectangular region, Change of variables in double integrals, Triple integrals, Triple integral over a parallelepiped and solid regions, Change of variables in triple integrals, Area by use of double integrals, Volume by use of triple integration, Surface Area by use of double integrals, Centre of Gravity (or Centre of Mass) in R^2 , Centre of Mass in R^3

Unit III

Definition of vector field, divergence and curl, directional derivatives, Divergence of a vector point function, Solenoidal Vector, Irrotational Vector, Physical interpretation of Curl of a vector point function, Laplacian operator, Integration of Vectors, the gradient, Tangential Line integrals, Applications of line integrals: Mass and Work, conservative vector fields, Circulation, Volume Integral .

Unit IV

The Divergence theorem, Green's theorem in a plane, Stoke's theorem and problems based on these theorems.

Text Books:-

1. G.B. Thomas and R.L. Finney. Calculus, 9th Ed., Pearson Education, Delhi, 2005.
2. M.J. Strauss, G.L. Bradley, and K. J. Smith. Calculus, 3rd Ed., Dorling Kindersley (India) Pvt. Ltd. (Pearson Education), Delhi, 2007.
3. E. Marsden, A.J. Tromba, and A. Weinstein. Basic Multivariable Calculus, Springer (SIE), Indian reprint, 2005.
4. J. Stewart. Multivariable Calculus Concepts and Contexts, 2nd Ed., Brooks /Cole, Thomson Learning, USA, 2001

Reference Books:-

1. S.R. Ghorpade & B.V. Limaye. A Course in Multivariable Calculus and Analysis, Springer, 2020.
2. M. Fitzpatrick. Advanced Calculus, American Mathematical Society, 2006.

3. T.M. Apostol. Calculus-II: An Indian Adaptation, Wiley India, 2023

Bachelor of Science (Economics) Semester –VI

Session: 2026-27

Course Title: Multivariate Calculus Laboratory

Course Code: BECP -6333

Course Outcomes

CO1: Students will be able to determine and visualize maxima and minima of functions of two variables and plot surfaces $z=f(x,y)$.

CO2: Students will be able to approximate areas and volumes using double integrals.

CO3: Students will be able to approximate triple integrals for evaluating volumes and related quantities.

CO4: Students will be able to represent and analyze vector fields in a plane graphically.

Bachelor of Science (Economics) Semester –VI

Session: 2026-27

Course Title: Multivariate Calculus Laboratory

Course Code: BECP -6333

Examination Time: 3 Hours

Max. Marks: 50

Practical: 35

CA: 15

L T P
0 0 1

List of Practicals (using any package)

1. Finding and visualizing extremes of function of two variables.
2. Approximating area and volume using double integration.
3. Plotting graph of the surface $z=f(x, y)$.
4. Approximating triple Integrals.
5. Draw vector fields in plane.

Text Books:-

1. G.B. Thomas and R.L. Finney. Calculus, 9th Ed., Pearson Education, Delhi, 2005.
2. M.J. Strauss, G.L. Bradley, and K. J. Smith. Calculus, 3rd Ed., Dorling Kindersley (India) Pvt. Ltd. (Pearson Education), Delhi, 2007.
3. E. Marsden, A.J. Tromba, and A. Weinstein. Basic Multivariable Calculus, Springer (SIE), Indian reprint, 2005.
4. J. Stewart. Multivariable Calculus, Concepts and Contexts, 2nd Ed., Brooks /Cole, Thomson Learning, USA, 2001.

Bachelor of Science (Economics) Semester –VI

Session 2026-27

Course Code: BECM-6134

COMPUTER SCIENCE

(Web Designing and Development)

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend the basics of web designing and development through application of HTML.

CO2: Apply CSS and Bootstrap for generating web pages with responsive design.

CO3: Apply JavaScript to add dynamicity to the webpages.

CO4: comprehend advanced JavaScript concepts and process of web optimization.

Bachelor of Science (Economics) Semester –VI

Session 2026-27

Course Code: BECM-6134

COMPUTER SCIENCE

(Web Designing and Development)

Time: 3+3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Instructions for Paper Setter -

Eight questions of equal marks (08 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 Web Design and Development: Overview of web technologies and the web development process, Understanding the difference between web design and development.

Introduction to HTML: Basics: Structure of an HTML document, Common HTML elements (headings, paragraphs, lists, links, images, Tables, Linking, Frames, Forms), Semantic HTML and its importance, Introduction to DOM.

UNIT-II

CSS Fundamentals: Introduction to CSS and its role in web design, CSS selectors, properties, and values, Box model, layout techniques (flexbox, grid).

Responsive Design: Principles of responsive web design, Media queries and breakpoints, using frameworks like Bootstrap for responsive layouts.

UNIT-III

Basic Programming Techniques & Constructs: Variables, data types, functions, and control structures, Operators, Functions, GET/POST Methods, DOM Manipulation & Event handling.

UNIT-IV

Forms Validation, Cookies, Inter-page communication and form data handling using JavaScript.

Web Performance Optimization: Techniques for optimizing website performance, using tools to analyze website performance, Importance and usage of SEO (Search Engine Optimization).

References/Textbooks:

1. Jon Duckett, HTML and CSS: Design and Build Websites
2. Jon Duckett, JavaScript and J Query: Interactive Front-End Web Development"
3. Jennifer Niederst Robbins, Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics
4. Ben Frain, Responsive Web Design with HTML5 and CSS
5. Ethan Brown, Web Development with Node and Express
6. Terry Felke-Morris, Web Development and Design Foundations with HTML5, McGraw Hill
7. Jon Duckett, Beginning HTML, XHTML, CSS, and JavaScript, Cengage
8. Luke Welling and Laura Thomson, PHP and MySQL Web Development, Pearson Education

Bachelor of Science (Economics) Semester –VI

Session 2026-27

Course Code: BECM-6134

**COMPUTER SCIENCE
(Web Designing and Development)
(PRACTICAL)**

Time: 3+3 Hours

L-T-P (Credits):3-0-1

Max. Marks: 100

Theory: 40

Practical: 30

CA: 30

Programming exercises based on:

- Exploring Web Technologies and Setting up the Development Environment (e.g. Visual Studio Code)
- Creating HTML Documents using headings, paragraphs, lists, links, and images
- Advanced HTML Elements (create forms), applying CSS styles, understanding Box model, Layout techniques
- Integrate Bootstrap into the project and use its grid system to create a responsive layout
- Basic JavaScript programming: GET/POST methods, DOM Manipulation, Event handling, Form validation, working with cookies
- Analyze the performance of the developed webpage using tools like Google Page Speed Insights and Understanding basic SEO

Bachelor of Science (Economics) Semester –VI
Session 2026-27
Course Code: BECM-6124
COMPUTER APPLICATIONS (VOCATIONAL)
(E-BUSINESS and Digital Marketing)

Course Outcomes:

After passing course the student will be able to:

CO1: Identify applications and models of E-Business.

CO2: Comprehend the role of CRM in E-Commerce.

CO3: Develop and analyze strategies in E-Business as well as understand process of procurement and payment.

CO4: Comprehend about ethical, legal and social issues of E-Business.

Bachelor of Science (Economics) Semester –VI
Session 2026-27
Course Code: BECM-6124
COMPUTER APPLICATIONS (VOCATIONAL)
(E-BUSINESS and Digital Marketing)
(THEORY)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

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

Introduction to E-Business and E-Commerce: Definition and scope of e-business, Evolution and history of e-business, Introduction to E-commerce, Difference between e-business and e-commerce, Advantages and challenges of e-business.

E-Business Models: B2B, B2C, C2C, C2B, B2G. Case studies of successful e-business models. Revenue models in e-business (advertising, subscription, transaction fee, sales, affiliate).

E-Business Applications: E-Tourism, Employment and Job Market Online, Online Real Estate, Online Publishing and e-Books, Online Banking and Personal Finance, On-Demand Delivery Systems and E- Grocers, Online Delivery of Digital Products.

UNIT-II

E-Marketing and Customer Relationship Management (CRM): Digital marketing strategies for E-business, SEO, SEM, and online advertising, Social media marketing and content marketing, Email marketing and customer engagement, CRM systems and their role in e-business.

E-Marketplaces: Introduction, Functions and features, types of e-Marketplaces. Auctions, characteristics and various types of auctions. Benefits, limitations and impacts of auctions. E-Commerce in the wireless environment. E-commerce platforms and tools (Shopify, Magento, Woo Commerce, etc.)

M-Commerce: Definition, advantages, types, examples and market trends.

UNIT-III

E-Business Strategy and Planning: Developing an E-business strategy, E-business planning process, SWOT analysis for e-business, E-business project management, Metrics and KPIs for e-business performance.

E-Procurement and E-Payment Systems: E-Procurement definition, processes, methods and benefits, Categories and users of smart cards, Payment methods, Payment gateways and online payment systems, Security issues in e-business.

UNIT-IV

Legal, Ethical, and Social Issues in E-Business: Legal aspects of e-business (contracts, consumer protection, data privacy), Ethical issues in e-business (intellectual property, digital rights management), Social implications of e-business (digital divide, impact on employment), Case studies of legal and ethical dilemmas in E-business. Future Trends in E-Business.

References / Textbooks:

- Turban, E. et al., Electronic Commerce: A Managerial Perspective, Prentice Hall.
- Dave Chaffey, Electronic Business and Electronic Commerce Management, 2nd edition, Prentice Hall
- Horton and Horton, E-Learning Tools and Technologies, Wiley Publishing.
- Kamlesh K. Bajaj & Debjani Nag, E – Commerce – The Cutting Edge of Business
- Meier, & H. Stormer, E-Business & e-Commerce: managing the digital value chain, Springer Science & Business Media.

Bachelor of Science (Economics) Semester –VI
Session 2026-27
Course Code: BECM-6124
COMPUTER APPLICATIONS (VOCATIONAL)
(E-BUSINESS and Digital Marketing)
(PRACTICAL)

Time: 3+3 Hours
L-T-P (Credits):3-0-1

Max. Marks: 100
Theory: 40
Practical: 30
CA: 30

Lab exercises based on:

1. Set up a basic website using Word Press and Optimize website content for SEO (Meta tags, keyword research, URL optimization , Header tags etc.).
2. Analyze website performance using Google Analytics. Conduct keyword research using tools like Google Keyword Planner, Chat GPT, Keyword Generator, Google Search Console, Google Trends. Perform an SEO audit for a website and recommending improvements.
3. Set up a Google Ads campaign (App, Display, Local, Performance Max, Search, Smart, Shopping, and Video).Create compelling ad copy and selecting relevant keywords. Analyze PPC campaign performance and adjusting bidding strategies like Target Cost Per Acquisition (CPA), Maximize Conversions, Enhanced Cost Per Click (ECPC), Maximize Clicks .
4. Develop a social media advertising campaign on Facebook with a social media post and perform facebook promotion using banners. Analyze the engagement metrics such as Activation rate, Number of active users, Retention rate, Churn rate, Conversion rate.
5. Create a YouTube channel for marketing.
6. Choose Mail chimp as the Email marketing platform, Build a contact list in Mail Chimp, Create a Campaign and build an Email, Develop the Header and body of email campaign, Enable Auto Responder performance and Tracking, Conduct A/B Testing of Emails and Start the E-Mail Marketing campaign.

Bachelor of Science (Economics) Semester VI
Session 2026-27
Skill Enhancement Course
Course Title: DATA HANDLING THROUGH SPSS

Course outcomes

Students will be able to learn

CO 1: Understand the basics of SPSS

CO 2: Learn the presentation techniques

CO 3: Understand the relevance of T-test and ANOVA

CO 4: Learn the correlation and regression techniques

Bachelor of Science (Economics) Semester VI
Session 2026-27
Skill Enhancement Course
Course Title: DATA HANDLING THROUGH SPSS

Time: 2 Hours
L-T-P (Credits): 1-0-2

Max. Marks: 100
Theory: 30
Practical: 40
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 8 marks, from each of the 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

Getting started and Data Management: Introduction to SPSS, Menus, Tool Bar, creating a data file, defining variables, entering the data, opening and saving data files, inserting cases and variables, Sorting Cases, splitting file, Merging a file. Data Transformation: Computing a new variable, Recoding variables: into same variables and different variables, Rank cases, Visual binning. Data Normalization: Outlier Detection, Missing Value Analysis, Checking Normality of Data.

Unit-II

Summarizing Data Graphically: Different types of Charts: Line, pie, bar, Plots: Box, P-P, Q-Q, Scatter Diagram, Chart builder, Data Tabulation Summarizing data Numerically Frequencies, Descriptive statistics, Cross-tabs

Unit-III

Testing of Hypothesis Parametric tests: T-Tests: One Sample, Independent sample, Paired t-test, One way ANOVA with post-hoc comparisons, Repeated Measures ANOVA.

Unit-IV

Correlation with Nominal, Ordinal and Scale data
Regression Analysis: Simple and Multiple

Suggested Readings:

1. Pandya, K., Bulsari, S. and Sinha, S., SPSS in Simple Steps, Kogent Learning Solutions, dreamtech Press, New Delhi, 2012.
2. Kirkpatrick, L.A. and Feeney, B.C., A Simple Guide to IBM SPSS Statistics, Cengage Learning, 2012.
3. Coakes, S.J., SPSS Analysis without Anguish, John Wiley and Sons, Australia, 2005.

List of Practicals (using SPSS)

1. Introduction to SPSS, defining variables and data transformation
2. Plotting Line, pie, bar, Plots: Box, P-P, Q-Q, Scatter Diagram and cross tabs
3. To perform one-way Anova and t-test
4. To find Karl Pearson Coefficient of correlation and regression

