

**Maharaja Ranjit Singh Punjab Technical University
Bathinda-151001**



FACULTY OF SCIENCES

SYLLABUS

FOR

B.A. (COMPUTER SCIENCE)

(3 YEARS PROGRAMME)

2023 BATCH ONWARDS

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**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

SEMESTER 1st		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-101	General English - I	4	0	0	40	60	100	4
BACSS1-102	General Punjabi – I	4	0	0	40	60	100	4
BACSS1-103	Introduction Information Technology And Office Automation	4	0	0	40	60	100	4
BACSS1-104	Introduction Information Technology And Office Automation (Lab)	0	0	4	40	60	100	2
Department Elective Subjects (Any Two)								
BACSD1-111	History – I	4	0	0	40	60	100	4
BACSD1-112	Political Science – I	4	0	0	40	60	100	4
BACSD1-113	Mathematics – I	4	0	0	40	60	100	4
BACSD1-114	Physical Education – I	4	0	0	40	60	100	4
BACSD1-115	Elective English – I	4	0	0	40	60	100	4
BACSD1-116	Economics – I	4	0	0	40	60	100	4
BACSD1-117	Elective Punjabi - I	4	0	0	40	60	100	4
BACSD1-118	Sociology - 1	4	0	0	40	60	100	4
BACSD1-119	Elective Computer - I	4	0	0	40	60	100	4
Total		20	0	4	240	360	600	22

SEMESTER 2nd		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-201	General English - II	4	0	0	40	60	100	4
BACSS1-202	General Punjabi – II	4	0	0	40	60	100	4
BACSS1-203	Trends in IT and Office automation	4	0	0	40	60	100	4
BACSS1-204	Trends in IT and Office automation (Lab)	0	0	4	40	60	100	2
Department Elective Subjects (Any Two)								
BACSD1-211	History – II	4	0	0	40	60	100	4
BACSD1-212	Political Science – II	4	0	0	40	60	100	4
BACSD1-213	Mathematics (Algebra) - II	4	0	0	40	60	100	4
BACSD1-214	Physical Education – II	4	0	0	40	60	100	4
BACSD1-215	Elective English – II	4	0	0	40	60	100	4
BACSD1-216	Economics – II	4	0	0	40	60	100	4
BACSD1-217	Elective Punjabi – II	4	0	0	40	60	100	4
BACSD1-218	Sociology - II	4	0	0	40	60	100	4
BACSD1-219	Elective Computer - II	4	0	0	40	60	100	4
Total		20	0	4	240	360	600	22

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SEMESTER 3 rd		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-301	General English – III	4	0	0	40	60	100	4
BACSS1-302	General Punjabi – III	4	0	0	40	60	100	4
BACSS1-303	Computer networks and internet applications	4	0	0	40	60	100	4
BACSS1-304	Computer networks and internet applications (Lab)	0	0	4	40	60	100	2
Department Elective Subjects (Any Two)								
BACSD1-311	History – III	4	0	0	40	60	100	4
BACSD1-312	Political Science – III	4	0	0	40	60	100	4
BACSD1-313	Mathematics (Calculus) - III	4	0	0	40	60	100	4
BACSD1-314	Physical Education – III	4	0	0	40	60	100	4
BACSD1-315	Elective English – III	4	0	0	40	60	100	4
BACSD1-316	Economics – III	4	0	0	40	60	100	4
BACSD1-317	Elective Punjabi – III	4	0	0	40	60	100	4
BACSD1-318	Sociology - III	4	0	0	40	60	100	4
BACSD1-319	Elective Computer - III	4	0	0	40	60	100	4
Total		20	0	4	240	360	600	22

SEMESTER 4 th		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-401	General English – IV	4	0	0	40	60	100	4
BACSS1-402	General Punjabi – IV	4	0	0	40	60	100	4
BACSS1-403	Multimedia & its applications	4	0	0	40	60	100	4
BACSS1-404	Multimedia & its applications (Lab)	0	0	4	40	60	100	2
BMNCC0-052	The Maharaja of People	2	0	0	100	0	100	0
Department Elective Subjects (Any Two)								
BACSD1-411	History – IV	4	0	0	40	60	100	4
BACSD1-412	Political Science – IV	4	0	0	40	60	100	4
BACSD1-413	Mathematics (Analytical Geometry) - IV	4	0	0	40	60	100	4
BACSD1-414	Physical Education – IV	4	0	0	40	60	100	4
BACSD1-415	Elective English – IV	4	0	0	40	60	100	4
BACSD1-416	Economics – IV	4	0	0	40	60	100	4
BACSD1-417	Elective Punjabi – IV	4	0	0	40	60	100	4
BACSD1-418	Sociology - IV	4	0	0	40	60	100	4
BACSD1-419	Elective Computer – IV	4	0	0	40	60	100	4
Total		22	0	4	340	360	700	22

**MRSPTU B.A. (COMPUTER SCIENCE)
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SEMESTER 5th		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-501	General English – V	4	0	0	40	60	100	4
BACSS1-502	General Punjabi – V	4	0	0	40	60	100	4
BACSS1-503	Software Engineering	4	0	0	40	60	100	4
BACSS1-504	Software Engineering (Lab)	0	0	4	40	60	100	2
Department Elective Subjects (Any Two)								
BACSD1-511	History – V	4	0	0	40	60	100	4
BACSD1-512	Political Science – V	4	0	0	40	60	100	4
BACSD1-513	Mathematics (Differential Geometry) - V	4	0	0	40	60	100	4
BACSD1-514	Physical Education – V	4	0	0	40	60	100	4
BACSD1-515	Elective English – V	4	0	0	40	60	100	4
BACSD1-516	Economics – V	4	0	0	40	60	100	4
BACSD1-517	Elective Punjabi – V	4	0	0	40	60	100	4
BACSD1-518	Sociology - V	4	0	0	40	60	100	4
BACSD1-519	Elective Computer – V	4	0	0	40	60	100	4
Total		20	0	4	240	360	600	22

SEMESTER 6th		Contact Hrs.			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BACSS1-601	General English – VI	4	0	0	40	60	100	4
BACSS1-602	General Punjabi – VI	4	0	0	40	60	100	4
BACSS1-603	Introduction to Computer Network and Internet Programming	4	0	0	40	60	100	4
BACSS1-604	Introduction to Computer Network and Internet Programming (Lab)	0	0	4	40	60	100	2
BACSS1-605	Human Values and Professional Ethics	3	0	0	40	60	100	3
Department Elective Subjects (Any Two)								
BACSD1-611	History – VI	4	0	0	40	60	100	4
BACSD1-612	Political Science – VI	4	0	0	40	60	100	4
BACSD1-613	Mathematics (Analysis) - IV	4	0	0	40	60	100	4
BACSD1-614	Physical Education – VI	4	0	0	40	60	100	4
BACSD1-615	Elective English – VI	4	0	0	40	60	100	4
BACSD1-616	Economics – VI	4	0	0	40	60	100	4
BACSD1-617	Elective Punjabi – VI	4	0	0	40	60	100	4
BACSD1-618	Sociology - VI	4	0	0	40	60	100	4
BACSD1-619	Elective Computer – VI	4	0	0	40	60	100	4
Total		23	0	4	280	420	700	25

**MRSPTU B.A. (COMPUTER SCIENCE)
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Semester	Marks	Credits
Semester – 1 st	600	22
Semester – 2 nd	600	22
Semester – 3 rd	600	22
Semester – 4 th	600	22
Semester – 5 th	600	22
Semester – 6 th	700	25
Total	3700	135

PROGRAM OUTCOMES (POS)

- PO1. The program enables the students to acquire communication efficacy which would help them to communicate effectively with the community as well as society.
- PO2. The students acquire knowledge in the field of social sciences, literature and humanities. Which make them sensitive and sensible enough?
- PO3. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.
- PO4. The program enables the students to acquire the knowledge with human values.
- PO5. The students will be kindled enough to think and act over for the solution of various issues prevailed in the human life.
- PO6. Programme provides the base to be the responsible citizen.

SEMESTER - I

**MRSPTU B.A. (COMPUTER SCIENCE)
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GENERAL PUNJABI - I

Subject Code: BACSS1-102

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Language Skills: Enhance reading, writing, listening, and speaking skills in Punjabi	3	1	2			
CO2	Vocabulary and Grammar: Learn essential Punjabi vocabulary and grammar rules	3		2			
CO3	Writing Skills: Learn to write short essays, paragraphs, and simple compositions in Punjabi	3		2		1	
CO4	Reading Comprehension: Improve the ability to read and understand Punjabi Poems	2		1	2		

ਪਾਠਕ੍ਰਮ

1. ਅਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ
2. ਲੇਖ ਰਚਨਾ
3. ਵਿਆਕਰਨ: ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ

ਯੂਨਿਟ – I (15 Hrs)

(ੳ) ਕਾਵਿ ਸੁਮੇਲ ਪੁਸਤਕ ਵਿਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ।
(ਅ) ਕਵਿਤਾ ਦਾ ਕੇਂਦਰੀ ਭਾਵ।

ਯੂਨਿਟ – II (15 Hrs)

ਲੇਖ ਰਚਨਾ 500 ਸ਼ਬਦਾਂ ਵਿੱਚ ਚਲੰਤ ਮਸਲਿਆਂ ਤੇ।

ਯੂਨਿਟ – III (15 Hrs)

ਵਿਆਕਰਨ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਮਹੱਤਵ।

ਯੂਨਿਟ – IV (15 Hrs)

ਵਿਹਾਰਕ ਪ੍ਰਸ਼ਨ।

• Recommended Books:-

- (i) ਕਾਵਿ-ਸੁਮੇਲ (ਸੰਪਾਦਕ) ਡਾ. ਕਰਮਜੀਤ ਸਿੰਘ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ।
 - (ii) ਸੁਹਾਇਕ ਪੁਸਤਕਾਂ : ਬਰਾੜ, ਬੁਟਾ ਸਿੰਘ (ਡਾ.), ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਸਿਧਾਂਤ ਅਤੇ ਵਿਹਾਰ ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ ਲੁਧਿਆਣਾ 2008।
 - (iii) ਮਨਜੀਤ ਕੌਰ, ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਵਰਤੋਂ ਤੇ ਬਣਤਰ, ਲੋਕ ਗੀਤ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
1. ਜੱਸਲ ਕੰਵਰਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁਝ ਪੱਖ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ ਨਹਾਲ ਬਜਾਰ ਅਮ੍ਰਿਤਸਰ 2012

**MRSPTU B.A. (COMPUTER SCIENCE)
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GENERAL ENGLISH- I

Subject Code: BACSS1-101

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Language Proficiency: Develop proficiency in the English Language	3	2	2		1	
CO2	Vocabulary and Grammar: Learn essential English vocabulary and grammar rules	3		2			
CO3	Writing Skills: Learn to write paragraphs in English	3		2		1	
CO4	Reading Comprehension: Improve the ability to read and understand English Poetry and Prose	2		1	2		

UNIT-1 Peotry (15 Hrs.)

1. Song 36 from Gitanjali – Rabindernath Tagore.
2. Pippa's song - Robert Browning.
3. women's rights annie lennox walker.
4. The soul's prayer - Sarojini naidu.

UNIT-2 Prose (15 Hrs.)

1. Spoken English and broken English – G.B shaw.
2. Garif – Antor Chekov.
3. Uncle podger hangs a picture -Jerome k Jerome.
4. The doll's house - Katherine Mansfield.

UNIT-3 (15 Hrs.)

1. Paragraph writing –Discriptive & Narrative?
2. Comprehension of passage prose text.

UNIT-4 (15 Hrs.)

- i.) Grammer →voice, Determiner, modals, antonyms.
- ii.) Translation→ from vernacular to English (four out of six sentences)

Textbook:-

- i.) The poetic palate (orient blackswan, for-1/2Sem Second edition, 2016)
- ii.) Prose parables (orient black swan,2013)
- iii.) English at work (selection from poetry & prose Vijay kumar, B.T. Seetha, A.V Suresh Kumar, Y.L. Srinivas, New Delhi; Macmillan, India Ltd.2012 (Punjab University) revised edition.

**MRSPTU B.A. (COMPUTER SCIENCE)
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INTRODUCTION INFORMATION TECHNOLOGY AND OFFICE AUTOMATION

Subject Code: BACSS1-103

L T P C
4 0 0 4

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	IT Fundamentals: Introduce students to the basic principles and concepts of information technology like hardware, software, networks, Input devices and output devices			3		2	
CO2	Office Automation Tools: Familiarize students with commonly used office automation tools such as word processors, spreadsheets and email applications			2		3	
CO3	Internet and Web Browsing: Acquaint students to internet usage and web browsing	1		3		3	

UNIT-I (15 Hrs.)

Computer Fundamentals: Block diagram of a Computer, Characteristics of Computers, Hardware, Software, Machine Language, Assembly Language and Assembler, High Level Language and Compiler v/s Interpreter.

Computer software: Types of software, application software and system software.

Input Devices: Keyboard, Mouse, Joystick, Track Ball, Touch Screen, Light Pen, Digitizer, Scanners, monitors, printers, plotters.

Output Devices: Monitors, Impact Printers - Dot matrix, Character and Line printer, non-impact Printers – DeskJet and Laser printing, Plotter

UNIT-II (15 Hrs.)

Memories: Memories: Main Memories - RAM ROM and Secondary Storage Devices - Hard Disk, Compact Disk and DVD.

File Manipulation: Creating, Deleting, copying, renaming file.

Introduction to Internet: Evolution of Internet, Internet Applications, WWW, E-mail, FTP, TELNET, Web Browsers.

UNIT-III (15 Hrs.)

Word Processing Tool: Salient features of Word Processing, File, Edit, View, Insert, Format, Tools, Tables, Window, help options and all of their features, Options and Sub Options etc.,

Windows: Windows concept, Features, Desktop, Windows, And Accessories: Paint, Notepad, WordPad etc, Window Explorer, And Organization of data in Windows.

UNIT-IV (15 Hrs.)

Presentation Tool: Making Presentations, Inserting Objects, and Animations.

Spreadsheet Tool: Excel Worksheet, Data Entry, Editing, Cell Addressing ranges, Commands, Menus, Copying & Moving Cell Content, Inserting and Deleting Rows and Column, Column formats, Cell Protection, Printing, Creating, Displaying and Printing Graphs, Statistical Functions.

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Recommended Books:

1. V. Rajaraman, 'Fundamentals of Computers', 5th Edn., PHI, 2010.
2. Satish Jain, 'Information Technology Concepts', ns, 4th Edn., BPB Publications, 2006.
3. Turban, Mclean and Wetherbe, 'Information Technology for Management', 4th Edn., John Wiley & Sons, 2006.
4. G. Courter, 'Mastering MS Office 2000 Professional', 3rd Edn., BPB Publication, 2006.
5. Steve Sagman, 'MS Office 2000 For Windows', 3rd Edn., Addison Wesley, 2008.

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**MRSPTU B.A. (COMPUTER SCIENCE)
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HISTORY – I

Subject Code: BACSD1-111

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Chronological Understanding: Develop a chronological understanding of Ancient Indian History		2	3		1	
CO2	Civilizations and Empires: Study the rise and fall of significant ancient civilizations and empires in India, such as the Indus Valley Civilization, Maurya Empire, Gupta Empire, etc.		1		1	1	
CO3	Cultural and Religious Heritage: Explore contribution of different religions like Jainism and Buddhism				1	1	1

UNIT– I (15 Hrs.)

Ancient Indian History and its Importance, Physical Features and Impact, Sources of Early Indian History.

ਪ੍ਰਾਚੀਨ ਭਾਰਤ ਦਾ ਇਤਿਹਾਸ ਅਤੇ ਮਹੱਤਵ, ਭਾਰਤ ਦੀਆਂ ਭੂਗੋਲਿਕ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਪ੍ਰਭਾਵ, ਪ੍ਰਾਚੀਨ ਭਾਰਤ ਦੇ ਸੋਮੇ।

UNIT– II (15 Hrs.)

Indus Valley Civilizations or Harappa Culture, The Early Vedic Age, Later Vedic Age.

ਸਿੰਧੂ ਘਾਟੀ ਦੀ ਸਭਿਅਤਾ ਜਾਂ ਹੜੱਪਾ ਸੰਸਕ੍ਰਿਤੀ, ਮੁੱਢਲਾ ਵੈਦਿਕ ਕਾਲ, ਉੱਤਰ ਵੈਦਿਕ ਕਾਲ।

UNIT– III (15 Hrs.)

Jainism and Buddhism, Alexander's Invasion of India, The Maurya Empire, The Kushana Empire, The Gupta Empire

ਜੈਨ ਧਰਮ ਅਤੇ ਬੁੱਧ ਧਰਮ, ਸਿੰਕਦਰ ਦਾ ਭਾਰਤ ਉੱਤੇ ਹਮਲਾ, ਮੌਰੀਆ ਸਾਮਰਾਜ, ਕੁਸ਼ਾਣ ਸਮਰਾਜ, ਗੁਪਤ ਸਮਰਾਜ।

UNIT– IV (15 Hrs.)

Harsha Vardhana and His Time, Principal Dynasties of South India, Origin and Rise of the Rajputs.

ਹਰਸ਼ਵਰਧਨ ਅਤੇ ਉਸਦਾ ਸਮਾਂ, ਦੱਖਣੀ ਭਾਰਤ ਦੇ ਮਹੱਤਵਪੂਰਣ ਰਾਜਵੰਸ਼, ਰਾਜਪੂਤਾਂ ਦੀ ਉਤਪੱਤੀ ਅਤੇ ਉਥਾਨ।

Books: -

ਪ੍ਰਾਚੀਨ ਭਾਰਤ ਦਾ ਇਤਿਹਾਸ (Ancient History of India) Writer Dr. A.C. Arora
A.D. : - (Starting to 1200 CE)

**MRSPTU B.A. (COMPUTER SCIENCE)
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POLITICAL SCIENCE - I

Subject Code: BACSD1-112

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Introduction: Familiarize students with the discipline of political science, theories of origin of states		2	3			1
CO2	Political Thinkers: To acquaint students to the concepts of various political thinkers and philosophers		2	2	1		1
CO3	Political Theories and Ideologies: Explore major political theories and ideologies			3	1	1	

UNIT – I (15 Hrs.)

- Political Theory – Ancient, Traditional and Modern - Distinction between Political Theory and Political Science.
- Relationship of Political Science with Social Sciences.

UNIT – II (15 Hrs.)

- The State : Meaning and Its Elements - distinction Between State and society.
- Theories of the origin of State: - Social Contract theory and Historical Evolutionary Theory.

UNIT – III (15 Hrs.)

- Liberal, Maximalist and Gandhian View of State function of state - Socialist Perspective
- Functions of state: Liberal Theory Welfare State : Concept and functions

UNIT – IV (15 Hrs.)

- Sovereignty Meaning - Sovereignty and Its Monistic Theory, Austin theory of Sovereignty
- Pluralistic Theory of Sovereignty and Political Systems: Main Element of Political System, Main Structure of Political System.

Recommended Books:

1. Political Theory – J.S. Badyal, Raj Publications
2. Comparative Political System and International Politics – J.S. Badyal

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

MATHEMATICS -I

Subject Code: BACSD1-113

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Graphing and Functions: Develop an understanding of graphing techniques and functions to visualize and analyze mathematical relationships			3		2	
CO2	Probability and Statistics: Introduce students to probability theory and basic analysis and interpretation		1	2		3	
CO3	Calculus Concepts: Introduce fundamental concepts of calculus			2		2	

UNIT-I (15 Hrs.)

Set Theory: Sets, Type of sets, set operations, Principle of Inclusion-Exclusion, Cartesian product of sets, Partitions.

Logic: Propositions, Implications, Precedence of logical operators, Truth table, Arguments and validity of arguments, equivalence and implication laws of logic, Principle of Mathematical induction.

Relations: Relations and diagraph, n-ary relations and their applications, properties of relations, representing relations, closure of relation, equivalence relation, operation on relations, partial ordering. Functions: Functions, One-to-one Functions, Onto Functions, Inverse and Composition of Functions, Floor Function, Ceiling Function.

UNIT-II (15 Hrs.)

Integration by Partial fractions, integration of rational and irrational functions, Properties of definite integral, Reduction formulae for integrals of rational, trigonometric, exponential and logarithmic function and of their combinations.

UNIT-III(15 Hrs.)

Graph Theory. Graphs: Introduction to Graph, Graph terminology, Representing graphs and Graph Isomorphism, Connectivity, Euler Paths and Circuits, Hamiltonian paths and circuits, Shortest Path Problems, Planar Graphs.

Trees: Trees, labeled trees, Tree Traversal, Undirected trees, Spanning Trees, Minimum spanning trees.

UNIT-IV(15 Hrs.)

Probability: Definition, Addition law of Probability, Multiplication law, Binomial Distribution, Poisson distribution, Normal Distribution

Statistics and Applications of Logarithms: Introduction to Statistics, Measures of Central Tendency- Mean, Median and Mode, Measures of Dispersion, Mean Deviation, Standard Deviation and Coefficient of Variation. Problems related to Compound Interest, Depreciation and Annuities.

**MRSPTU B.A. (COMPUTER SCIENCE)
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PHYSICAL EDUCATION - I

Subject Code: BACSD1-114

L T P C

Duration: 60 Hrs.

4 0 0 4

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Physical Fitness: Improve the understanding of Physical Fitness concepts and practice			2		3	1
CO2	Motor Skills Development: Enhance the students' motor skills like running, jumping, throwing, catching, kicking and other fundamental movement			2		2	
CO3	Teamwork and Cooperation: Promote teamwork, cooperation, and sportsmanship through various sports and group activities	1		2		1	1
CO4	Health Awareness: Raise awareness about the importance of regular physical activity for maintaining overall health			1		3	
CO5	Physical Education and Lifelong Activity: Foster an understanding of the importance of lifelong		1			1	1

(THEORY – 60 MARKS)

UNIT – I (15 Hrs.)

- **Physical Education:** Introduction, Objectives, Scope and Importance of Physical Education in the modern society.
- **Health Education:** Introduction, Aim & objectives, Principles and its Importance.
- **Olympic Games:** Introduction, Organization, Administration and Ceremonies of Ancient and Modern Olympic Games.
- **Asian & Commonwealth Games:** Introduction, Ceremonies, Venues.

UNIT – II(15 Hrs.)

- **Growth and Development:** Introduction, Difference, Development Characteristics at Different stages of Development and factors affecting growth & Development.
- **Heredity and Environment:** Introduction, Effect of Heredity & Environment on Growth & development, Chronological age, Anatomical age and Physiological age.
- **Personal Hygiene:** Introduction, Personal Cleanliness, Rest, Relaxation and Sleep.

UNIT – III(15 Hrs.)

- **Terminologies of Physical Education:** Kinesiology, Anatomy, Physiology Exercise Physiology, Bio Mechanics, Anthropometry and Sports Medicine.
- **Cell:** Structure, Parts and its Function.
- **Digestive System** : Introduction, Structure, Organs & Functions of Digestive System

UNIT – IV(15 Hrs.)

- **Athletics:** Introduction, Classification of Events, General Rules of Track Events and Types of Start & Finish.
- **Football:** History, Laws of the Game, Major tournaments and Arjuna Awardees.
- **Volleyball:** History, Layout, General Rules and Regulation, Officials, Major Tournaments and Arjuna Awardees.

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PRACTICAL (40 MARKS)

VOLLEYBALL, FOOTBALL AND SPRINTS (ATHLETICS)

Evaluation will be based on skill test, Performance, Practical file and Viva Voce.

Recommended Books:

1. Dr. Nishan Singh Deol (1980): Text Book of Physical Education & Sports. (AP Publishers, Jalandhar)
2. Singh Ajmer et al (2000): Modren Text book of Physical Edcation, Health and Sports, Kalyani Publishers, Ludhiana.

**MRSPTU B.A. (COMPUTER SCIENCE)
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ELECTIVE ENGLISH – I

Subject Code: BACSD1-115

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Improving Language Proficiency: Enhance overall language skills, including speaking, listening, reading, and writing, to communicate effectively in English			2		3	1
CO2	Grammar and Vocabulary: Develop a solid understanding of English grammar rules			2		2	
CO3	Writing Skills: Develop the ability to write clear, coherent, and organized letters	1		2		1	1

UNIT-I (15 Hrs.)

- Literary Terms: ballad ode, sonnet. Dramatic Monologue, Interior Monologue, Blank verse, free verse, Mock Epic. Metaphysical Conceit, Negative capability, Egotistical sublime, fancy, imagination, Irony, Paradox, Ambiguity, Alliteration, Assonance, Imagery.

UNIT-II (15 Hrs.)

- letter writing- official
- Applied Grammar - Voice, Direct Indirect

UNIT-III (15 Hrs.)

- Transformation of Sentences- Simple compound complex,
- Articles, Proposition, conjunctions
- Vocabulary - Antonyms/Synonym,
- Uses of words Phrases in English.

UNIT-IV (15 Hrs.)

- Text Prescribed from Fluency in English.
 - (a) Inzy Lets things Flow over Him. - Kadamba Murali
 - (b) Haroun and the sea of stories. : Salman Rushdil.
 - (c) Sisters-Poem : Saleem Peeradina
 - (d) Understanding Satire - A Ten Day Test: Harishanker Passai
 - (e) Go, kiss the world- Subroto Bagachi
 - (f) Amaltanti : Nirendranath Chakrabarti
 - (g) Hitting Downy for a six- Kalpana Sharma
 - (h) Chocolate : Manju Kapur
 - (i) Ref Book :

Fluency in English: Ed Promodini Verma, Mukti Sanyal, Tulika Prasad, New Delhi- Macmillan India, 2009 .

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SYLLABUS 2023 BATCH ONWARDS**

ECONOMICS -I

Subject Code: BACSD1-116

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	To provide students with an overview of the economics concepts, theories and models related to micro economics		2	2		3	1
CO2	To understand the fundamental principles of supply and demand and how they determine market prices and quantities		2	2	1	2	
CO3	To study firm behavior, production theory, cost analysis and how firms make production and pricing decisions in different market structures		2	2		3	1

UNIT – I (15 Hrs.)

Introduction: Definition, Meaning, Nature and scope of Economics.

Theory of Demand and Consumer Behaviour Utility Analysis & Indifference Curve Analysis, Law of Demand & Exceptions. Elasticity of Demand its Measurement consumer surplus & its measurement.

UNIT – II (15 Hrs.)

Theory of production and costs: Concept, law of variable proportions & Law of Return to scale. Cost concept.

Market forms and Revenue: Behaviour of Average Revenue and Marginal Revenue under perfect competition. Relationship Between Average Revenue, Marginal Revenue.

UNIT – III (15 Hrs.)

Price and Output Determination: Determination of the firm & industry under perfect competition, monopoly – In short and long seen.

UNIT – IV (15 Hrs.)

Distribution: Marginal productivity and modern theories of wage determination.

Theory of interest, risk and uncertainty theories of profit.

Ref Books:

(a) *Microeconomics – TR Jain ,Mukesh Trehan ,AS Sandhu*

(b) *Microeconomics- Chopra P.N , Theory & welfare economics ,Kalyani Publishers ,New Delhi.*

(c) *Microeconomics- Chopra P.N ,Singh Joginder & Grewal ,PS (Punjabi Medium) Latest edition Price Theory & Distribution ,Kalyani Publishers ,Ludhiana.*

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ਪੰਜਾਬੀ ਇਲੈਕਟਿਵ - I

Subject Code: BACSD1-117

L T P C
4 0 0 4

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Language Skills: Enhance reading, writing, listening, and speaking skills in Punjabi	3	1	2			
CO2	Writing Skills: Learn to write story in Punjabi	3		2		1	
CO3	Reading Comprehension: Improve the ability to read and understand Punjabi text written by famous authors, poems by Punjabi poets	2		1	2		

ਪਾਠਕ੍ਰਮ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ
2. ਭਾਸ਼ਾ ਤੇ ਪੰਜਾਬੀ (ਭਾਸ਼ਾ)
3. ਸਾਹਿਤ ਦੇ ਰੂਪ

ਯੂਨਿਟ – I (15Hrs)

(ੳ) ‘ਨਕਸ਼ਨੁਹਾਰ’ ਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ।
(ਅ) ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ।

ਯੂਨਿਟ – II (15Hrs)

ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਮਹੱਤਵ

ਯੂਨਿਟ – III (15Hrs)

ਸਾਹਿਤ ਦੇ ਰੂਪ : ਕਵਿਤਾ , ਗੀਤ , ਗਜਲ।

ਯੂਨਿਟ – IV (15Hrs)

ਇਕਾਂਗੀ , ਕਹਾਣੀ (ਸਾਹਿਤ ਦੇ ਰੂਪ), ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ।

• **ਕੋਰਸ**

‘ਨਕਸ਼ਨੁਹਾਰ’ (ਸੰਪਾਦਕ) ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ (1901 ਈ. ਤੋਂ 2000 ਈ. ਤੱਕ)।
ਸਹਾਇਕ ਪੁਸਤਕਾਂ: (ਨਿਰਧਾਰਿਤ ਕਵੀ: ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਤ੍ਰਕ, ਪ੍ਰੋ. ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਬਾਵਾ ਬਲਵੰਤ, ਸ਼ਿਵ ਕੁਮਾਰ ਬਟਾਲਵੀ, ਡਾ. ਹਰਭਜਨ ਸਿੰਘ, ਡਾ. ਜਗਤਾਰ।)

1. ਬਰਾੜ, ਬੂਟਾ ਸਿੰਘ (ਡਾ.) ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਸ਼੍ਰੇਣੀ ਤੇ ਸਰੂਪ ਵਾਰਿਸ਼ ਸ਼ਾਹ ਫਉਡੇਸ਼ਨ, ਅੰਮ੍ਰਿਤਸਰ 2012।
2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਆਧੁਨਿਕ ਕਾਲ) ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ ਪਟਿਆਲਾ।

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SOCIOLOGY - I

Subject Code: BACSD1-118

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Articulate a sociological perspective. Apply sociological theories to understand social phenomena.		2	3			1
CO2	Critically evaluate explanations of human behavior and social phenomena		2	2	1		1
CO3	Use sociological knowledge to inform policy debates and promote public understanding.			3	1	1	

UNIT- I (15 Hrs.)

- Introduction to Sociology:- ਸਮਾਜ ਵਿਗਿਆਨ ਦੀ ਭੂਮਿਕਾ, ਸਮਾਜ ਵਿਗਿਆਨ ਦਾ ਜਨਮ ਤੇ ਵਿਕਾਸ
- ਸਮਾਜ ਵਿਗਿਆਨ ਦੀ ਪ੍ਰਕਿਰਤੀ, ਸਮਾਜ ਵਿਗਿਆਨ ਦੀ ਅਸਲ ਪ੍ਰਕਿਰਤੀ।

UNIT- I (15 Hrs.)

- ਮਨੁੱਖੀ ਸਮਾਜ, ਸਮਾਜ ਦਾ ਆਮ ਸਰੂਪ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਵਿਅਕਤੀ ਅਤੇ ਸਮਾਜ
- ਸਮਾਜਿਕ ਸਮੂਹ

UNIT- I (15 Hrs.)

- ਸੰਸਕ੍ਰਿਤੀ, ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਸੰਸਕ੍ਰਿਤੀ ਦੇ ਕਾਰਜ ਕਿਸਮਾਂ, ਸੰਸਕ੍ਰਿਤਕ ਪਛੜਾਪਨ, ਸੰਸਕ੍ਰਿਤੀ ਤੇ ਸੱਭਿਅਤਾ।

UNIT- I (15 Hrs.)

- ਸਮਾਜੀਕਰਣ:- ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ ਤੇ ਸਾਧਨ
- ਸਮਾਜਿਕ ਨਿਯੰਤਰਣ:- ਅਰਥ ਪਰਿਭਾਸ਼ਾ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਲੋੜ, ਸਾਧਨ

Recommended Books:

1. ਸਮਾਜ ਵਿਗਿਆਨ ਨਾਲ ਜਾਣ-ਪਛਾਣ (ਡੋਕੀ ਐਂਜਲਾ)
2. ਸਮਾਜ ਸ਼ਾਸਤਰ ਦਾ ਪਾਠਕ (ਮਧੁਰਿਮਾ)
3. ਸਮਾਜਿਕ ਸੰਸਥਾਵਾਂ (ਡਾ. ਸੁਕੱਨਿਆ ਦਾਸ)
4. Bhushan Vidya & Sachdeva D.D (2014): An Introduction of Sociology Kilab Maal Allahabad

**MRSPTU B.A. (COMPUTER SCIENCE)
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ELECTIVE COMPUTER-I

Subject Code: BACSD1-119

L T P C

Duration: 60 Hrs

4 0 0 4

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Understand, analyze and create web pages using HTML			3		2	
CO2	Understand, analyze and build interactive web applications			2		3	
CO3	Students should be able to design and implement a basic website.	1		3		3	

UNIT - I

Basic Terminology: Introduction to web programming, Website, Webpage, Static Website, Dynamic Website, Internet, Intranet, Extranet, WWW, URL, client server architecture, internet domains.

Introduction to HTML: Basics of HTML5, difference between HTML & HTML5, Structure of an HTML program, understanding document tags.

UNIT - II

HTML5 formatting: Formatting tags e.g. font, Bold, italic, super script, subscript, delete, mark etc.

Lists: Unordered List, Ordered Lists, Definition lists.

Adding Images: Img element using Border, Width, Height, Align, ALT Attributes

UNIT - III

Introduction to LINK: anchor element, internal linking and external linking, attribute of anchor tag.

Tables: Caption Tag, Width, Border, Cell padding, Cell spacing, BGCOLOR, COLSPAN and ROWSPAN Attribute

UNIT - IV

HTML Frames: Introduction to frameset tag, frame tag, iframes and respective attributes.

Forms: Attributes of Form element, Input element: Text Element, Password, Button, SubmitButton, Reset Button, The Checkbox, Radio, Text Area, Select and Option.

**Faculty members can take practical sessions during the lectures.*

Recommended Books:

1. Kogent Learning Solutions Inc., "HTML 5 in simple steps", Dreamtech Press.
2. Murray, Tom/Lynchburg, "Creating a Web Page and Web Site", 2002.
3. Steven M. Schafer, "HTML, XHTML, and CSS Bible, 5ed", Wiley India.

SEMESTER - II

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL PUNJABI - II

Subject Code: BACSS1-202

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Language Skills: Enhance reading, writing, listening, and speaking skills in Punjabi	3	1	2			
CO2	Vocabulary and Grammar: Learn essential Punjabi vocabulary and grammar rules	3		2			
CO3	Writing Skills: Learn to write Notices	3		2		1	
CO4	Reading Comprehension: Improve the ability to read, understand and summarize Punjabi stories	2		1	2		

ਪਾਠਕ੍ਰਮ

1. ਪੰਜਾਬੀ ਕਹਾਣੀਆ ਦਾ ਅਧਿਐਨ
2. ਮੁਹਾਵਰੇ
3. ਸੂਚਨਾ ਹਿੱਤ ਨੋਟਿਸ

ਯੂਨਿਟ – I (15 Hrs)

ਕਥਾ ਕਹਾਣੀ ਪੁਸਤਕ ਵਿੱਚੋਂ ਕਿਸੇ ਇੱਕ ਕਹਾਣੀ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ।

ਯੂਨਿਟ – II (15 Hrs)

ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿੱਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।

ਯੂਨਿਟ – III (15 Hrs)

ਮੁਹਾਵਰੇ : ਅਰਥ ਦਸ ਕੇ ਵਾਕ ਬਣਾਉਣੇ।

ਯੂਨਿਟ – IV (15 Hrs)

ਸੂਚਨਾ ਹਿੱਤ ਨੋਟਿਸ (ਸਾਹਿਤਕ, ਸੱਭਿਆਚਾਰਕ ਤੇ ਖੇਡ ਖੇਤਰ ਨਾਲ ਸੰਬੰਧਿਤ)

• **ਕੋਰਸ**

ਕਥਾ ਕਹਾਣੀ ਪੁਸਤਕ (ਸੰਪਾਦਕ) ਡਾ. ਧਨਵੰਤ ਕੌਰ, ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ .1 : ਅਗਨੀ ਹੇਤਰੀ, ਵੇਦ, ਪਰਿਚਾਇਕ, ਭਾਸ਼ਾ ਵਿਗਿਆਨ, ਦੀ ਪਕਪਬਲਿਕੇਸ਼ਨ ਜਲੰਧਰ 1981

।

2. ਜੱਸਲ ਕੰਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁੱਝ ਪੱਖ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨਹਾਲ, ਬਾਜ਼ਾਰ ਅਮ੍ਰਿਤਸਰ 2012।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL ENGLISH - II

Subject Code: BACSS1-201

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Language Proficiency: Develop proficiency in the English Language	3	2	2		1	
CO2	Vocabulary and Grammar: Learn essential English vocabulary and grammar rules	3		2			
CO3	Writing Skills: Learn and practice letter writing and unseen passage	3		2		1	
CO4	Reading Comprehension: Improve the ability to read and understand English Poetry and Prose	2		1	2		

UNIT -1 (Poetry) (15 Hrs.)

- i.) I know why the caged bird sings - Maya Angelou.
- ii.) From homecoming – R.Parthasarathy.
- iii.) Where the mind is without fear - Rabindranath tagore.
- iv.) Goodbye party for Miss Pushpa T.S - Nissim Ezekiel.

UNIT -2 (Prose) (15 Hrs.)

- i.) Principles of good writing - L.A. Hill.
- ii.) The doctor's word – R.K. Narayan.
- iii.) The eyes are not here - Ruskin bond.
- iv.) The conjurer's revenge - Stephen leacock.

UNIT-3 (15 Hrs.)

- i.) Letter writing (Personal only).
- ii.) Comprehension of unseen Passage.

UNIT- 4 (15 Hrs.)

- i.) Grammar → Narration, Preposition, conjunction, synonyms.
- ii.) Translation from Hindi to English (four out of six sentences) Idiom Based.

Textbook:-

1. The poetic palate (orient blackswan, for-1/2Sem Second edition, 2016)
2. Prose parables (orient black swan,2013)
3. English at work (selection from poetry & prose Vijay kumar, B.T. Seetha, A.V Suresh Kumar, Y.L. Srinivas, New Delhi; Macmillan, India Ltd.2012 (Punjab University) revised edition.

**MRSPTU B.A. (COMPUTER SCIENCE)
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TRENDS IN IT AND OFFICE AUTOMATION

Subject Code: BACSS1-203

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	IT Trends: Introduce students to recent trends of information technology like mobile internet, 4G, cloud technology and social media trends			3		2	
CO2	Office Automation Tools: Familiarize students with word processing software, editing and formatting text			2		3	
CO3	Networking and Software: Introduce the students to soft computing, software process models and IOT	1		3		3	

UNIT-I (15 Hrs.)

- Trends in IT:** Mobile Internet, GPS, 3G, 4G, Wi-Fi, Bluetooth, Cloud Technology, Virtual LAN Technology, Firewall, Nanotechnology, online shopping, Social media, You tube, Face book, Twitter, Goggle+ .

IT ਵਿੱਚ ਰੁਝਾਨ: ਮੋਬਾਈਲ ਇੰਟਰਨੈੱਟ, GPS, 3G, 4G, Wi-Fi, ਬਲੂਟੂਥ, ਕਲਾਉਡ ਟੈਕਨਾਲੋਜੀ, ਵਰਚੁਅਲ LAN ਤਕਨਾਲੋਜੀ, ਫਾਇਰਵਾਲ, ਨੈਨੋ ਤਕਨਾਲੋਜੀ, ਔਨਲਾਈਨ ਖਰੀਦਦਾਰੀ, ਸੋਸ਼ਲ ਮੀਡੀਆ, ਯੂਟਿਊਬ, ਫੇਸਬੁੱਕ, ਟਵਿੱਟਰ, ਗੋਗਲ+।

UNIT-II (15 Hrs.)

- E-mail:-**Introduction, Advantages and disadvantages, Structure of an Email message, working of Email(Sending and receiving message, managing E-mail(creating new folder, deleting messages, forwarding messages, filtering messages), Telnet, HTTP, TCP/IP, HTML, DHTML.

- Mail merge:** Creating merged envelopes, creating merged mailing labels

ਈ-ਮੇਲ:-ਜਾਣ-ਪਛਾਣ, ਫਾਇਦੇ ਅਤੇ ਨੁਕਸਾਨ, ਈਮੇਲ ਸੰਦੇਸ਼ ਦੀ ਬਣਤਰ, ਈਮੇਲ ਦਾ ਕੰਮ (ਸੁਨੇਹੇ ਭੇਜਣਾ ਅਤੇ ਪ੍ਰਾਪਤ ਕਰਨਾ, ਈ-ਮੇਲ ਦਾ ਪ੍ਰਬੰਧਨ ਕਰਨਾ (ਨਵਾਂ ਫੋਲਡਰ ਬਣਾਉਣਾ, ਸੰਦੇਸ਼ਾਂ ਨੂੰ ਮਿਟਾਉਣਾ, ਸੰਦੇਸ਼ਾਂ ਨੂੰ ਅੱਗੇ ਭੇਜਣਾ, ਸੁਨੇਹਿਆਂ ਨੂੰ ਫਿਲਟਰ ਕਰਨਾ), ਟੈਲਨੈੱਟ, HTTP, TCP /IP, HTML, DHTML।

ਮੇਲਮਰਜ਼: ਵਿਲੀਨ ਲਿਫਾਫੇ ਬਣਾਉਣਾ, ਵਿਲੀਨਮੇਲਿੰਗ ਲੇਬਲ ਬਣਾਉਣਾ।

UNIT – III (15 Hrs.)

- Word Processing Software:** Basics of Word Processing: creating, opening, saving, and printing document, Menu Toolbars.

- Editing Text:** Copy, Paste, Delete, Move etc., Finding and Replacing Text, Spell Check, Autocorrect feature, language setting and thesaurus

- Formatting:** Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns

ਵਰਡ ਪ੍ਰੋਸੈਸਿੰਗ ਸੌਫਟਵੇਅਰ: ਵਰਡ ਪ੍ਰੋਸੈਸਿੰਗ ਦੀਆਂ ਮੂਲ ਗੱਲਾਂ: ਦਸਤਾਵੇਜ਼ ਬਣਾਉਣਾ, ਖੋਲ੍ਹਣਾ, ਸੇਵ ਕਰਨਾ ਅਤੇ ਪ੍ਰਿੰਟਿੰਗ ਕਰਨਾ, ਮੀਨੂ ਟੂਲਬਾਰ।

ਟੈਕਸਟ ਨੂੰ ਸੰਪਾਦਿਤ ਕਰਨਾ: ਕਾਪੀ ਕਰੋ, ਪੇਸਟ ਕਰੋ, ਮਿਟਾਓ, ਮੂਵ ਕਰੋ ਆਦਿ, ਟੈਕਸਟ ਲੱਭਣਾ ਅਤੇ ਬਦਲਣਾ, ਸਪੈਲਚੈੱਕ, ਸਵੈ-ਸੁਧਾਰ ਵਿਸ਼ੇਸ਼ਤਾ, ਭਾਸ਼ਾ ਸੈਟਿੰਗ ਅਤੇ ਥੀਸੌਰਸ

ਫਾਰਮੈਟਿੰਗ: ਅੱਖਰ, ਪੈਰਾਗ੍ਰਾਫ ਅਤੇ ਪੰਨਾ ਫਾਰਮੈਟਿੰਗ, ਇੰਡੈਂਟਸ ਦੇ ਨਾਲ ਕੰਮ ਕਰਨਾ, ਬੁਲੇਟਡ ਅਤੇ ਨੰਬਰ ਵਾਲੀਆਂ ਸੂਚੀਆਂ, ਸਿਰਲੇਖ ਅਤੇ ਫੁੱਟਰ ਜੋੜਨਾ, ਕਈ ਕਾਲਮ ਸਥਾਪਤ ਕਰਨਾ।

UNIT-IV (15 Hrs.)

7. **Soft Computing:**-Introduction to Neural Network-intelligence, Neurons, artificial neural networks, application scope of neural network, brain Vs computer.
8. **Software Process Models:** Software Development Life Cycle, Waterfall Life Cycle Model, Prototype Model, Spiral Model, Introduction to Agile Models.
9. **IOT architecture:** - Topologies, edge routers, client-server architecture, P2P, M2M.

ਸਾਫਟ ਕੰਪਿਊਟਿੰਗ:- ਨਿਊਰਲ ਨੈੱਟਵਰਕ-ਇੰਟੈਲੀਜੈਂਸ, ਨਿਊਰੋਨਸ, ਆਰਟੀਫਿਸ਼ੀਅਲ ਨਿਊਰਲ ਨੈੱਟਵਰਕ, ਨਿਊਰਲ ਨੈੱਟਵਰਕ ਦਾ ਐਪਲੀਕੇਸ਼ਨ ਸਕੋਪ, ਦਿਮਾਗ ਬਨਾਮ ਕੰਪਿਊਟਰ ਦੀ ਜਾਣ-ਪਛਾਣ।

ਸਾਫਟਵੇਅਰ ਪ੍ਰੋਸੈਸ ਮਾਡਲ: ਸਾਫਟਵੇਅਰ ਡਿਵੈਲਪਮੈਂਟ ਲਾਈਫ ਸਾਈਕਲ, ਵਾਟਰ ਫਾਲਲਾਈ ਫਸਾਈਕਲ ਮਾਡਲ, ਪ੍ਰੋਟੋ ਟਾਈਪ ਮਾਡਲ, ਸਪਾਈਰਲ ਮਾਡਲ, ਐਗਾਇਲ ਮਾਡਲਾਂ ਦੀ ਜਾਣ-ਪਛਾਣ।

IOT ਆਰਕੀਟੈਕਚਰ: - ਟੋਪੋਲੋਜੀਜ਼, ਐਜਰਾਊਟਰ, ਕਲਾਇੰਟ-ਸਰਵਰਆਰਕੀਟੈਕਚਰ, P2P, M2M

Recommended Books:

1. Peter Nortorn's, 'Introduction to Computer', Tata McGraw Hill, 2004.
2. R.K. Taxali, 'Introduction to Software Package', Galgotia Publications.
3. P.K. Sinha, 'Introduction to Computer

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TRENDS IN IT AND OFFICE AUTOMATION (LAB)

Subject Code: BACSS1-204

**L T P C
0 0 4 2**

Duration: 30 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	IT Trends: Introduce students to recent trends of information technology like mobile internet, 4G, cloud technology and social media trends			3		2	
CO2	Office Automation Tools: Familiarize students with word processing software, editing and formatting text			2		3	
CO3	Networking and Software: Introduce the students to soft computing, software process models and IOT	1		3		3	

This laboratory course will comprise as exercises to supplement what is learnt under paper BACSS1-203

Introduction to Trends in IT and OFFICE Automation. The students will do the following sequence of practicals:

1. Familiarizing with PC and WINDOWS commands,
2. File creation,
3. Editing
4. Directory creation.
5. Mastery of DOS internal & external commands.
6. Learning to use MS Office: MS WORD, MS EXCEL & MS PowerPoint

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HISTORY - II

Subject Code: BACSD1-211

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Historical Timeline: To provide students with a chronological overview of Sikh history		2	3		1	
CO2	Guru Tradition: To explore the lives and teachings of Sikh Gurus and their contribution to shaping Sikhism's Principles and practices			2	3	2	1
CO3	Key Events and Turning Points: To identify and analyze significant events and turning points in Sikh History, such as the establishment of the Khalsa, Sikh rulers, British rule and Freedom struggle				1	1	1

UNIT – I (15 Hrs.)

Shri Guru Nanak Dev Ji, Expansion and consolidation of Sikhism, Shri Guru Arjun Dev Ji
ਸ਼੍ਰੀ ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਸਿੱਖ ਧਰਮ ਦਾ ਵਿਕਾਸ, ਸ਼੍ਰੀ ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ

UNIT – II (15 Hrs.)

Development of Sikhism, Creation of The Khasla, Banda Singh Bahadur
ਸਿੱਖ ਧਰਮ ਦਾ ਵਿਕਾਸ, ਖਾਲਸਾ ਦੀ ਸਿਰਜਨਾ, ਬੰਦਾ ਸਿੰਘ ਬਹਾਦਰ

UNIT – III (15 Hrs.)

Punjab Under Maharaja Ranjit Singh, British Rule, Socio-Religious reform Movements
ਮਾਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦੇ ਅਧੀਨ ਪੰਜਾਬ, ਅੰਗਰੇਜ਼ੀ ਰਾਜ ਸਮਾਜਿਕ ਅਤੇ ਧਾਰਮਿਕ ਸੁਧਾਰ ਅੰਦੋਲਨ

UNIT – IV (15 Hrs.)

Phase of the Freedom Struggle, Development after Independence
ਸਵਤੰਤਰਤਾ ਸੰਗਰਾਮ ਦੀ ਅਵਸਥਾ, ਸਵਤੰਤਰਤਾ ਬਾਅਦ ਦਾ ਵਿਕਾਸ।

Books: -

History of Punjab M.S. Mann (1469-1966)

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POLITICAL SCIENCE - II

Subject Code: BACSD1-212

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Introduction: Familiarize students with the discipline of political science, theories of power and authority		2	3			1
CO2	Rights and Duties: Awareness about rights and duties		2	2	1		1
CO3	Political Concepts: Study about concept of liberty, equality, legitimacy			3	1	1	

UNIT – I (15 Hrs.)

- Concept of Power: Meaning and Definition of Power, Characteristic of Power, Sources of Power. Different forms of Power Criticism the concept of Power.
- Concept of Authority - Meaning and Definitions of Authority, Characteristics of Authority kinds of Authority and Its Basis.

UNIT – II (15 Hrs.)

- Concept of legitimacy: Meaning and its legitimacy, Characteristics of legitimacy kinds of legitimacy, Crisis of legitimacy. Importance of legitimacy.
- Political Culture:- Meaning and Definitions of Political, Characteristics of Political Culture components of Political Culture, kinds of Political culture.

UNIT – III (15 Hrs.)

- Political Specialisation - Meaning and Its Definition, Characteristic of Political Socialisation Types of political Socialisation , Agents of Political specialisation, and Its Importance.
- Rights and Duties - Meaning and Definitions of Rights, Nature the characteristics of Rights, Classification of Rights, duties & Classification. Relationship between Rights and Duties.

UNIT – IV (15 Hrs.)

- Liberty: - Meaning and Definition of Liberty and its Characteristics Different forms or kind of liberty, main supporters of this theory.
- Concept of Equality: Meaning and its - Definitions characteristics of Equality. Various dimensions of Equality. Relationship Between Liberty and Equality.

Recommended Books:

1. Political Theory – J.S. Badyal, Raj Publications
2. Comparative Political System and International Politics – J.S. Badyal

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MATHEMATICS (ALGEBRA) - II

Subject Code: BACSD1-213

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Basic Operations: To understand and apply the fundamental operations in algebra			3		2	
CO2	Solving Equations: To learn how to solve linear and quadric equations		1	2		3	
CO3	Systems of Equations: To solve systems of linear equations using various methods			2		2	

UNIT-I (15 Hrs.)

Matrices, Row and Column Space of Matrix, Row reduction and echelon forms, Rank, Systems of linear equations, Gaussian elimination, Determinants and their properties, Cramer's rule, Vector equations, The matrix equation $AX = B$, Solution sets of linear systems (Homogeneous & Non-homogeneous), Applications of linear systems.

UNIT -II (15 Hrs.)

Eigen values, Eigenvectors, Characteristic polynomial, Minimal polynomial, Characteristic equation of a matrix, Cayley-Hamilton theorem and its use in finding the inverse of a matrix, Diagonalization, Linear transformations, Representation of linear transformations by matrices, Change of basis, Rank-nullity theorem, Minimal polynomial.

UNIT-III (15 Hrs.)

Binary space, Definition of group, Ring and field, Vector space, Subspace, Linear combination, linear span, Dimension of vector space, direct sum of spaces, Quotient space, Homomorphism & Isomorphism of vector space.

UNIT-IV (15 Hrs.)

Linear Transformation, Null space, Range space, Product of linear transformation, Singular and nonsingular transformation, Canonical forms, Jordan forms, Triangular forms, Rank-nullity theorem, Eigen value & Eigen vectors of linear transformation

Recommended Books:

1. Trigonometry & matrices – Precise Publication
2. Group theory – Precise Publication
3. linear transformation – Precise Publication

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PHYSICAL EDUCATION - II

Subject Code: BACSD1-214

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Physical Fitness: Improve the understanding of Physical Fitness concepts and practice			2		3	1
CO2	Motor Skills Development: Enhance the students' motor skills like running, jumping, throwing, catching, kicking and other fundamental movement			2		2	
CO3	Teamwork and Cooperation: Promote teamwork, cooperation, and sportsmanship through various sports and group activities	1		2		1	1
CO4	Health Awareness: Raise awareness about the importance of regular physical activity for maintaining overall health			1		3	
CO5	Physical Education and Lifelong Activity: Foster an understanding of the importance of lifelong		1			1	1

(THEORY – 60)

UNIT – I (15 Hrs.)

- **Children and Sports:** Introduction, Stages of Motor Development in Children, Benefits of Exercise for Children, Weight Training and their Advantages or Disadvantages for Children.
- **Body Types:** Introduction, Sheldon and Kretschmer's Classification.
- **Communicable Diseases :** Introduction, Classification, Causes, Symptoms, Prevention and Control of Communicable Disease (Cholera, Typhoid, Tuberculosis, AIDS, Hepatitis A & B, Rabies and Malaria)

UNIT – II (15 Hrs.)

- **Sports Terminologies:** Isometric, Isotonic, Isokinetic, Reflex Action, Over Load, Recovery and Motor Ability.
- **Skeleton System:** Introduction, Types, Functions and various Bones of Body.
- **Joints :** Introduction, Classification of various Joints of Human Body and Kinds of Joint Movements

UNIT – III (15 Hrs.)

- **Description of the following:**
 (a) N.S.N.I.S. (Netaji Subhash National Institute of Sports)
 (b) S.A.I (Sports Authority of India)
 (c) I.O.A. (Indian Olympic Association)
 (d) I.A.A.F. (International Association of Athletic Federation)
- **Drugs:** Introduction, Causes, Symptoms, Harmful Effects and its Prevention.
Doping: Introduction, Types, Prohibited Substances & Methods and its Effects.
- **Warming up and Cooling Down :** Introduction, Method type of Warm Up, Significance and Guidelines.

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UNIT – IV(15 Hrs.)

- **Long Jump** : Introduction, Rules, Layout, Techniques and Arjuna Awardees.
- **Hockey & Basketball**: History, Layout, General Rules and Regulations, Officials, Major tournaments and Arjuna Awardees.
- **Sports Awards**:
 - (a) Maharaja Ranjit Singh
 - (b) Arjuna Award
 - (c) Dronacharya Award
 - (d) MAKA Trophy
 - (e) Rajiv Gandhi Khel Ratan Award

PRACTICAL (40 MARKS)

BASKETBALL, HOCKEY AND LONG JUMP

Evaluation will be based on skill test, Performance, Practical file and Viva Voce.

*****END*****

References:

- (a) *Dr. Nishan Singh Deol (1980)* : *Text book of Physical Education & Sports. (AP Publishers, Jalandhar).*
- (b) *Singh Ajmer et al (2000)* : *Modern Text Book of Physical Education, Health and Sports”, Kalyani Publishers, Ludhiana*

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ELECTIVE ENGLISH - II

Subject Code: BACSD1-215

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Improving Language Proficiency: Enhance overall language skills, including speaking, listening, reading, and writing, to communicate effectively in English			2		3	1
CO2	Grammar and Vocabulary: Develop a solid understanding of English grammar rules			2		2	
CO3	Writing Skills: Develop the ability paragraph writing	1		2		1	1

UNIT – I (15 Hrs.)

- literary Terms : Prose, Essay, Expository Essay, Analytical essay, Lyrical essay, Descriptive Essay, Imaginative Essay, Philosophical Essay, short Story, Long story, Drama Dramatic plot, Character, Incident, setting, Structure Tragedy, Comedy, Tragi - comedy.

UNIT – II (15 Hrs.)

- Paragraph writing. (based on outline, a situation a string of questions etc).
- Applied Grammar
 - (a) Corrections.
 - (b) Use of the same words as different Parts of speech.

UNIT – III (15 Hrs.)

- Translation from vernacular into English
- Antonyms / Synonyms

UNIT – IV (15 Hrs.)

A Collection of essays, short stories & one acts plays: Ed RK Kaushik & SC Bhatia ,New Delhi ,OUP ,2006

Recommended Books:

1. A Collection of essays, short stories & one act plays, Ed R.K Kawhik & SC Bhatia New Delhi, oup,2006
2. Super Grammar & Composition for B.A Part – I
3. A Glossary and literary Terms –The Oxford M.H. Abrams
4. Dictionary of literary Teams.

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ECONOMICS - II

Subject Code: BACSD1-216

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	To provide students with an overview of the economics concepts, theories and models related to macro economics		2	2		3	1
CO2	To understand the fundamental principles of Money and Banking; income and employment		2	2	1	2	
CO3	To study inflation, theories of inflation, policies for stabilization of inflation		2	2		3	1

UNIT – I (15 Hrs.)

Introduction: Nature, Meaning and Scope of Macro Economics.

Consumption Function: Average and Marginal Propensity to consume.

Investment Function: Types of Investment, Investment Demand Schedule and factors affecting investment decisions.

UNIT – II (15 Hrs.)

Determination of income & employment: Classical & Keynesian theories of income output & employment, says's law of market.

UNIT – III (15 Hrs.)

Money – Definition, function, role Quantity theory of money – fishers's equation Keynesian liquidity preference theory

Banking: Major function & meaning of commerce banks.

UNIT – IV (15 Hrs.)

Inflation and macro economics polices: Cost push and demand pull theories of inflation.

Monetary & fiscal policies for stabilization.

Reference Books:

(a) *Macro Economics : Sharma ,OP (Punjabi Medium)*

(b) *Macro Economics – TR Jain, Ashok Gupta.*

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ਪੰਜਾਬੀ ਇਲੈਕਟਿਵ - II

Subject Code: BACSD1-217

L T P C
4 0 0 4

Duration: 60 Hrs.

COs	Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	Language Skills: Enhance reading, writing, listening, and speaking skills in Punjabi	3	1	2			
CO2	Writing Skills: Learn to write story in Punjabi	3		2		1	
CO3	Reading Comprehension: Improve the ability to read and understand Punjabi text written by famous authors, poems by Punjabi poets	2		1	2		

ਪਾਠਕ੍ਰਮ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ
2. ਭਾਰਤੀਕਾ ਵਿਸ਼ਾਸ਼ਤਰ
3. ਸਾਹਿਤ ਆਲੋਚਨਾ

ਯੂਨਿਟ – I (Hrs)

ਓ (ਨਕਸ਼ਾ-ਨੁਹਾਰ) ਕਾਵਿ ਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ।
ਅ (ਕਾਵਿ ਸੰਗ੍ਰਹਿ) ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ-ਵਸਤੂ।

ਯੂਨਿਟ – II (Hrs)

ਪੁਨੀ ਸੰਪਰਦਾਇ।

ਯੂਨਿਟ – III (Hrs)

ਅਲੰਕਾਰ ਸੰਪਰਦਾਇ ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ।

ਯੂਨਿਟ – IV (Hrs)

ਸਾਹਿਤ ਆਲੋਚਨਾ : ਸਾਹਿਤ ਦੀ ਪ੍ਰੀਭਾਸ਼ਾ, ਪ੍ਰਕ੍ਰਿਤੀ ਅਤੇ ਤੱਤ।

• **ਕੋਰਸ**

‘ਨਕਸ਼ਾ ਨੁਹਾਰ’ (ਸੰਪਾਦਕ) ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ (1901 ਈ. ਤੋਂ 2000 ਈ. ਤੱਕ) ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ: (ਨਿਰਧਾਰਿਤ ਕਵੀ: ਪਾਸ਼, ਸੰਤ ਰਾਮ ਉਦਾਸੀ, ਸੁਰਜੀਤ ਪਾਤਰ, ਜਸਵੰਤ ਦੀਦ, ਨਵਤੇਜ ਭਾਰਤੀ, ਸੁਖਵਿੰਦਰ ਅਮਿੰਤ, ਦਰਸ਼ਨ ਬੁਲੰਦਵੀ, ਜਸਵਿੰਦਰ, ਸੁਖਪਾਲ)।

1. ਜੱਗੀ, ਰਤਨ ਸਿੰਘ (ਡਾ.) ਸਾਹਿਤ ਦੇ ਰੂਪ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ ਪਟਿਆਲਾ।
2. ਪਾਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਆਧੁਨਿਕਕਾਲ) ਭਾਸ਼ਾ ਵਿਭਾਗ, ਪਟਿਆਲਾ।

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SOCIOLOGY –II

Subject Code: BACSD1-218

**L T P C
4 0 0 4**

Duration: 60 Hrs.

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Articulate a sociological perspective. Apply sociological theories to understand social phenomena.		2	3			1
CO2	Critically evaluate explanations of human behavior and social phenomena.		2	2	1		1
CO3	Use sociological knowledge to inform policy debates and promote public understanding.			3	1	1	

ਯੂਨਿਟ - I (15 Hrs.)

- ਸਮਾਜਿਕ ਸਤਰੀਕਰਣ : ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਕਾਰਜ, ਆਧਾਰ
- ਸਮਾਜਿਕ ਅਸਮਾਨਤਾਵਾਂ : ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਆਧਾਰ

ਯੂਨਿਟ - II (15 Hrs.)

- ਕਾਰਲ ਮਾਰਕਸ : ਸੰਘਰਸ਼ ਦਾ ਸਿਧਾਂਤ
- ਮੈਕਸ ਵੈਬਰ : ਬਹੁ ਆਯਾਮੀ ਸਿਧਾਂਤ

ਯੂਨਿਟ - III (15 Hrs.)

- ਜਾਤ : ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ
- ਜਮਾਤ : ਅਰਥ, ਪਰਿਭਾਸ਼ਾ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ

ਯੂਨਿਟ - IV (15 Hrs.)

- ਸਮਾਜਿਕ ਗਤੀਸ਼ੀਲਤਾ : ਅਰਥ, ਕਾਰਨ, ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਕਿਸਮਾਂ

Recommended Books:

1. Ghurya G.S. (1983) : Cast, Class and occupation, Bombay Popular Prakashan
2. Bendix, RS Lipset, SM (1974) : Class, Status, Power, Social Stratification in comparative perspective, London, Routledge & Kegan Paul

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Elective Computer – II

Subject Code: BACSD1-219

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Prerequisite - Elective Computer – I

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Describe basic knowledge of DHTML and CSS			3		2	
CO2	Analyze the utility of different tools in web designing for different applications			2		3	
CO3	Students should be able to design and implement a basic website.	1		3		3	

UNIT - I

Introduction to DHTML: Basics of DHTML, difference between HTML & DHTML, Structure of an DHTML program, client-side script and server-side script.

UNIT - II

CSS: introduction to CSS3, ways to Insert CSS in HTML document (External Style Sheet, Internal Style Sheet, Inline Styles), CSS id and class, div and span tag.

UNIT - III

CSS background: background color, background image (repeat horizontally or vertically, set position and no-repeat)

CSS Text: text color, text alignment, text decoration

CSS Font: style, family, Size CSS lists, CSS Links

UNIT - IV

CSS Tables: Table borders, collapse borders, table width and height, table text alignment, table padding, table color.

CSS border: style, width, color

CSS margin: margin, padding

**Faculty members can take practical sessions during the lectures.*

Recommended Books:

1. Kogent Learning Solutions Inc., "HTML 5 in simple steps", Dreamtech Press.
2. Murray, Tom/Lynchburg, "Creating a Web Page and Web Site", 2002.
3. Steven M. Schafer, "HTML, XHTML, and CSS Bible, 5ed", Wiley India.

SEMESTER - III

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL PUNJABI - III

Subject Code: BACSS1-302

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To develop a bonding with the mother tongue of the student.

CO2: To gain knowledge and understanding of the rich folk and cultural heritage of Punjab.

CO3: Knowledge and understanding of the various intricacies of the grammar and literature of Punjabi.

CO4: The program connects the students to their roots.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		3	3			2					
CO2	3		3	3			2		3	3		
CO3	3		3	3			2					
CO4	3		3	3			2		3	3		

ਪਾਠਕ੍ਰਮ

1. ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ ਬਾਰੇ ਨਿਬੰਧਾਂ ਦਾ ਅਧਿਐਨ
2. ਚਿੱਠੀ-ਪੱਤਰ
3. ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. (ੳ) 'ਪੰਜ - ਆਬ' ਪੁਸਤਕ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਨਿਬੰਧ ਦਾ ਵਿਸ਼ਾ ਦੱਸ ਕੇ ਸਾਰ ਲਿਖਣਾ।
(ਅ) 'ਪੰਜ - ਆਬ' ਪੁਸਤਕ ਵਿੱਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।
2. ਚਿੱਠੀ ਪੱਤਰ (ਦਫ਼ਤਰੀ, ਵਪਾਰਕ, ਸਮਾਜਿਕ, ਸੱਭਿਆਚਾਰਕ ਮਸਲਿਆਂ ਬਾਰੇ ਸੰਪਾਦਕ ਨੂੰ ਪੱਤਰ।
3. ਵਿਆਕਰਨ : ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ

ਸ਼ਬਦ ਤੇ ਸ਼ਬਦ ਰਚਨਾ : ਪਰਿਭਾਸ਼ਾ ਤੇ ਵਰਗੀਕਰਨ
ਭਾਵੰਸ਼ : ਬੰਦ ਤੇ ਖੁੱਲ੍ਹੇ

• **ਕੋਰਸ**

'ਪੰਜ - ਆਬ' ਪੁਸਤਕ (ਸੰਪਾਦਕ) ਪ੍ਰੋ. ਭੁਪਿੰਦਰ ਸਿੰਘ ਖਹਿਰਾ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ :

1. ਹਰਕੀਤਰਸਿੰਘ) ਡਾ (ਕਾਲਜ ਪੰਜਾਬ ਵਿਆਕਰਨ ,ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ , ਚੰਡੀਗੜ੍ਹ 1999 ।

2. ਜੱਸਲ ਕੰਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁੱਝ ਪੱਖ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ ਹਾਲ, ਬਾਜਾਰ ਅਮ੍ਰਿਤਸਰ 2012 ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL ENGLISH - III

Subject Code: BACSS1-301

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To demonstrate awareness of English language and literature in various contexts.

CO2: To get basic knowledge of the English grammar when they acquire their degree.

CO3: To communicate and present the ideas and use of sources accurately and efficiently.

CO4: To acquaint the students with cultural and behavioral approaches for global competence.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1	3		3	3			2					
CO2	3		3	3			2					
CO3	3		3	3			2					
CO4	3		3	3			2		3	3		

UNIT- 1 (Poetry) (15 Hrs.)

- i.) Ode to autumn - John Keats.
- ii.) The road not taken - Robert Frost.
- iii.) Money madness – D.H. Lawrence.
- iv.) I, Too - Langston Hughes.

UNIT -2 (prose) (15 Hrs.)

- i.) On letter writing - A.G. Gardiner.
- ii.) Not Just Oranges - Isai Tobolsky.
- iii.) Film-making - Satyajit Ray.
- iv.) Work brings solace – A.P.J. Abdul Kalam.

UNIT-3(15 Hrs.)

- i.) Note – making (one out of two is to attempted).
- ii.) Do as dissected (based on transformation of sentences).

UNIT- 4(15 Hrs.)

- i.) Non- five verbs.
- ii.) Punctuation (A short paragraph).

Test prescribed for 3, 4 Semester English for empowerment, eds, G. Damoda. D.Venkateshwarlu, M.Narendra, M.Sarat Babu, G.M. Sundera valli, Hydrabad; orient black swan, 2009.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

COMPUTER NETWORKS AND INTERNET APPLICATIONS

Subject Code: BACSS1-303

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: The ability to understand analyze and develop computer program in the areas related to algorithms, system software, multimedia web design, application program, database, graphics and networking for efficient design of computer based system of varying complexities.

CO2: To inculcate knowledge on graphics and multimedia concepts.

CO3: To get sufficient knowledge on various system resources.

CO4: To support automation and digitization in all walks of life.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1		3	3			2					2	2
CO2						2					3	2
CO3			3			2						
CO4						3					3	

UNIT-I (15 Hrs.)

Introduction: Internet and its working, Business use of Internet, Services offered by Internet, Evaluation of Internet, Internet Service Provider (ISP), Windows environment for dial up networking (connecting to Internet), Audio on Internet, Internet Addressing (DNS) and IP addresses).

ਜਾਣ-ਪਛਾਣ: ਇੰਟਰਨੈਟ ਅਤੇ ਇਸਦਾ ਕੰਮਕਾਜ, ਇੰਟਰਨੈਟ ਦੀ ਵਪਾਰਕ ਵਰਤੋਂ, ਇੰਟਰਨੈਟ ਦੁਆਰਾ ਪੇਸ਼ ਕੀਤੀਆਂ ਜਾਂਦੀਆਂ ਸੇਵਾਵਾਂ, ਇੰਟਰਨੈਟ ਦਾ ਮੁਲਾਂਕਣ, ਇੰਟਰਨੈਟ ਸੇਵਾ ਪ੍ਰਦਾਤਾ (ISP), ਡਾਇਲਅੱਪ ਨੈਟਵਰਕਿੰਗ (ਇੰਟਰਨੈਟ ਨਾਲ ਜੁੜਨਾ), ਇੰਟਰਨੈਟ ਤੇ ਆਡੀਓ, ਇੰਟਰਨੈਟ ਐਡਰੈਸਿੰਗ (DNS) ਅਤੇ IP ਪਤੇ।

UNIT-II (15 Hrs.)

Introduction to Computer networks and applications: Network Structure and Architecture, Network Hardware and Software (protocol hierarchies, design issues for layers, interfaces and services: connection oriented and connection less), Network structure and architecture-point to point, multicast, broadcast, Classification of networks on the basis of Geographical Span (PAN, LAN, MAN and WAN), LAN topologies (Bus, Ring, Star, Mesh, Tree and Hybrid). Network Connecting Devices: Repeaters, Hubs, Bridges, Routers, Gateways and Switches, Network Reference models: OSI model, TCP / IP model. Comparison between OSI and TCP/IP.

ਕੰਪਿਊਟਰ ਨੈਟਵਰਕਾਂ ਅਤੇ ਐਪਲੀਕੇਸ਼ਨਾਂ ਦੀ ਜਾਣ-ਪਛਾਣ: ਨੈਟਵਰਕ ਢਾਂਚਾ ਅਤੇ ਆਰਕੀਟੈਕਚਰ, ਨੈਟਵਰਕ ਹਾਰਡਵੇਅਰ ਅਤੇ ਸੌਫਟਵੇਅਰ (ਪ੍ਰੋਟੋਕੋਲ ਲੜੀ, ਲੇਅਰਾਂ, ਇੰਟਰਫੇਸ ਅਤੇ ਸੇਵਾਵਾਂ ਲਈ ਡਿਜ਼ਾਈਨ ਮੁੱਦੇ: ਕੁਨੈਕਸ਼ਨ ਓਰੀਐਂਟਡ ਅਤੇ ਕੁਨੈਕਸ਼ਨ ਘੱਟ), ਨੈਟਵਰਕ ਬਣਤਰ ਅਤੇ ਆਰਕੀਟੈਕਚਰ-ਪੁਆਇੰਟ ਟੂ ਪੁਆਇੰਟ, ਮਲਟੀ ਕਾਸਟ, ਪ੍ਰਸਾਰਣ, ਵਰਗੀਕਰਨ। ਭੂਗੋਲਿਕ ਸਪੈਨ (PAN, LAN, MAN ਅਤੇ WAN), LAN ਟੌਪੋਲੋਜੀਜ਼ (ਬੱਸ,

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ਰਿੰਗ, ਸਟਾਰ, ਜਾਲ, ਰੁੱਖ ਅਤੇ ਹਾਈਬ੍ਰਿਡ) ਦੇ ਆਧਾਰ 'ਤੇ ਨੈੱਟਵਰਕਾਂ ਦਾ। ਨੈੱਟਵਰਕ ਕਨੈਕਟ ਕਰਨ ਵਾਲੇ ਯੰਤਰ: ਰੀਪੀਟਰ, ਹੱਬ, ਬ੍ਰਿਜ, ਰਾਊਟਰ, ਗੇਟਵੇ ਅਤੇ ਸਵਿੱਚ, ਨੈੱਟਵਰਕ ਰੈਫਰੈਂਸ ਮਾਡਲ: OSI ਮਾਡਲ, TCP/IP ਮਾਡਲ। OSI ਅਤੇ TCP/IP ਵਿਚਕਾਰ ਤੁਲਨਾ।

UNIT-III (15 Hrs.)

Internet Protocol - Introduction, File transfer protocol (FTP), Gopher, Telnet, other protocols like HTTP and TCP/IP.

Application Layer: World Wide Web (WWW), Domain Name System (DNS), E-mail, File Transfer Protocol (FTP), Introduction to Network security.

ਇੰਟਰਨੈੱਟ ਪ੍ਰੋਟੋਕੋਲ - ਜਾਣ-ਪਛਾਣ, ਫਾਈਲ ਟ੍ਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ (FTP), ਗੋਫਰ, ਟੇਲਨੈੱਟ, HTTP ਅਤੇ TCP/IP ਵਰਗੇ ਹੋਰ ਪ੍ਰੋਟੋਕੋਲ।

ਐਪਲੀਕੇਸ਼ਨ ਲੇਅਰ: ਵਰਲਡਵਾਈਡ ਵੈੱਬ (WWW), ਡੋਮੇਨ ਨੇਮ ਸਿਸਟਮ (DNS), ਈ-ਮੇਲ, ਫਾਈਲ ਟ੍ਰਾਂਸਫਰ ਪ੍ਰੋਟੋਕੋਲ (FTP), ਨੈੱਟਵਰਕ ਸੁਰੱਖਿਆ ਦੀ ਜਾਣ-ਪਛਾਣ।

UNIT-IV (15 Hrs.)

Search Engine: About search engine, Component of search engine, working of search engine, Difference between search engine and web directory.

Intranet and Extranet - Introduction, Application of Intranet, Business value of Intranet, working of Intranet, Role of Extranet, working of Extranet, Difference between Intranet and Extranet.

ਖੋਜ ਇੰਜਣ: ਖੋਜ ਇੰਜਣ ਬਾਰੇ, ਖੋਜ ਇੰਜਣ ਦਾ ਹਿੱਸਾ, ਖੋਜ ਇੰਜਣ ਦਾ ਕੰਮ, ਖੋਜ ਇੰਜਣ ਅਤੇ ਵੈੱਬ ਡਾਇਰੈਕਟਰੀ ਵਿੱਚ ਅੰਤਰ।

ਇੰਟਰਨੈੱਟ ਅਤੇ ਐਕਸਟਰਨੈੱਟ - ਜਾਣ-ਪਛਾਣ, ਇੰਟਰਨੈੱਟ ਦੀ ਵਰਤੋਂ, ਇੰਟਰਨੈੱਟ ਦਾ ਵਪਾਰਕ ਮੁੱਲ, ਇੰਟਰਨੈੱਟ ਦਾ ਕੰਮ ਕਰਨਾ, ਐਕਸਟਰਨੈੱਟ ਦੀ ਭੂਮਿਕਾ, ਐਕਸਟਰਨੈੱਟ ਦਾ ਕੰਮ ਕਰਨਾ, ਇੰਟਰਨੈੱਟ ਅਤੇ ਐਕਸਟਰਨੈੱਟ ਵਿਚਕਾਰ ਅੰਤਰ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

COMPUTER NETWORKS AND INTERNET APPLICATIONS (LAB)

Subject Code: BACSS1-304

**L T P C
0 0 4 2**

Duration: 60 Hrs.

Course Outcomes:

CO1: Ability to configure and manage network connections, including dial-up networking and LAN setups using Ethernet cables.

CO2: Proficiency in web technologies, demonstrated through effective use of web browsers, FTP software for file transfer, and analysis of HTTP requests/responses using developer tools.

CO3: Understanding of network infrastructure essentials, such as the functions of routers, switches, hubs, DNS resolution, and domain-to-IP translation.

CO4: Practical skills in creating and sharing HTML-based intranet pages within local networks, alongside proficient use of search engines for information retrieval and evaluation.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3					2		2			
CO2							2					
CO3			3									
CO4											3	

This laboratory course will comprise as exercises to supplement what is learnt under paper BACSS1-303 Computer Networks and Internet Applications. The students will do the following sequence of practicals:

1. Connect a computer to the Internet using dial-up networking in a Windows environment.

ਵਿੰਡੋਜ਼ ਵਾਤਾਵਰਣ ਵਿੱਚ ਡਾਇਲ-ਅੱਪ ਨੈੱਟਵਰਕਿੰਗ ਦੀ ਮਦਦ ਨਾਲ ਇੰਟਰਨੈੱਟ ਨੂੰ ਕਨੈਕਟ ਕਰੋ।

2. Learn to use a web browser to access and navigate different websites on the Internet.

ਵੈੱਬ ਬਰਾਊਜ਼ਰ ਦੀ ਵਰਤੋਂ ਕਰਨਾ ਅਤੇ ਇੰਟਰਨੈੱਟ 'ਤੇ ਵੱਖ-ਵੱਖ ਵੈੱਬਸਾਈਟਾਂ ਤੱਕ ਪਹੁੰਚ ਅਤੇ ਨੇਵੀਗੇਟ ਕਰਨਾ ਸਿੱਖੋ।

3. Use command-line tools to find and understand IP addresses of various websites.

ਵੱਖ-ਵੱਖ ਵੈੱਬਸਾਈਟਾਂ ਦੇ IP ਪਤੇ ਲੱਭਣਾ ਅਤੇ ਸਮਝਣ ਲਈ ਕਮਾਂਡ-ਲਾਈਨ ਸੰਦਾਰਭ ਦੇ ਵਰਤੋਂ ਕਰੋ।

4. Set up a basic LAN network using Ethernet cables and connect computers to share files.

ਈਥਰਨੈੱਟ ਕੇਬਲਾਂ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਇੱਕ ਬੇਸਿਕ LAN ਨੈੱਟਵਰਕ ਸੈੱਟ ਅਪ ਕਰੋ ਅਤੇ ਫਾਈਲਾਂ ਸਾਂਝੀ ਕਰਨ ਲਈ ਕੰਪਿਊਟਰਾਂ ਨੂੰ ਜੋੜੋ।

5. Identify and understand the functions of network devices such as routers, switches, and hubs.

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SYLLABUS 2023 BATCH ONWARDS**

ਰਾਊਟਰ, ਸਵਿੱਚਸ, ਅਤੇ ਹੱਥਾਂ ਜਿਵੇਂ ਨੈੱਟਵਰਕ ਯੰਤਰਾਂ ਦੀ ਫੰਕਸ਼ਨਾਂ ਨੂੰ ਪਛਾਣਨਾ ਅਤੇ ਸਮਝਣਾ।

6. Use FTP software to transfer files between your computer and a remote server.

ਆਪਣੇ ਕੰਪਿਊਟਰ ਅਤੇ ਦੂਰਸਥ ਸਰਵਰ ਵਿੱਚ ਫਾਈਲਾਂ ਭੇਜਣ ਲਈ FTP ਸੌਫਟਵੇਅਰ ਦੀ ਵਰਤੋਂ ਕਰੋ।

7. Use a web browser's developer tools to examine HTTP requests and responses.

ਵੈੱਬ ਬਰਾਊਜ਼ਰ ਦੇਵੈਲਪਰ ਟੂਲ ਦੀ ਵਰਤੋਂ ਕਰਕੇ HTTP ਬਿੰਦੂਆਂ ਅਤੇ ਜਵਾਬਾਂ ਨੂੰ ਜਾਂਚਣਾ।

8. Use command-line tools to understand DNS resolution and how domain names translate to IP addresses.

DNS ਦੇ ਸੰਦਰਭ ਦੇ ਵਰਤੋਂ ਨਾਲ ਡੋਮੇਨ ਨਾਮਾਂ ਦੇ IP ਪਤੇ 'ਤੇ ਕਿਵੇਂ ਬਦਲਦੇ ਹਨ ਨੂੰ ਸਮਝਣਾ।

9. Create a basic intranet page using HTML and share it within a local network.

HTML ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਇੱਕ ਬੇਸਿਕ ਇੰਟਰਨੈੱਟ ਪੇਜ ਬਣਾਓ ਅਤੇ ਇਸਨੂੰ ਲੋਕਲ ਨੈੱਟਵਰਕ ਵਿੱਚ ਸਾਂਝਾ ਕਰੋ।

10. Use a search engine to perform searches, understand indexing, and evaluate search results.

ਖੋਜ ਇੰਜਣ ਦੇ ਵਰਤੋਂ ਨਾਲ ਖੋਜਾਂ ਕਰਨ ਲਈ ਸਰਚ ਇੰਜਣ ਵਰਗੇ ਕੰਮਾਂ ਨੂੰ ਸਮਝਣਾ ਅਤੇ ਖੋਜ ਨਤੀਜਿਆਂ ਨੂੰ ਮੁਲਾਂਕਣ ਕਰਨਾ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

HISTORY - III

Subject Code: BACSD1-311

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To identify and analyze contemporary issues and concerns and find solutions.

CO2: To develop the ability of critical and logical thinking, select relevant facts, establish relationships and draw inferences and conclusions.

CO3: Acquaint with range of issues related to Indian history that span distinct eras.

CO4: Think and argue historically and critically in writing and discussion.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					3		3	1	2			
CO2							3	3	3			
CO3									3			
CO4	3		3					2				

UNIT – I (15 Hrs.)

Foundation of Muslim Rule in India-Invention of Mehmud Ghaznavi and Mohammad Ghori, Establishment of Delhi Sutanate, Rise and Growth of The Khilji's, Tuqhlac Dyansty, Vijay Nagar Empire.

ਭਾਰਤ ਵਿੱਚ ਮੁਸਲਿਮ ਸ਼ਾਸਨ ਦੀ ਸਥਾਪਨਾ, ਖਿਲਜੀ ਵੰਸ਼, ਤੁਗਲਕ ਵੰਸ਼, ਵਿਜੇਨਗਰ ਸਾਮਰਾਜ

UNIT – II (15 Hrs.)

Babar (1526-30 A.D.), Humayun (1530-40), (1555-56 A.D.), Shershah Suri, (1540-45 A.D.) Akbar The Great, (1556-1605 A.D.) Mughal Government.

ਬਾਬਰ 30-1526 ਈ., ਹੁਮਾਯੂੰ 56-1555, 40-1530 ਈ., ਸ਼ੇਰਸ਼ਾਹ ਸੂਰੀ 45-1540 ਈ., (ਅਕਬਰ ਮਹਾਨ-1556) 45A.D.), ਮੁਗਲ ਸ਼ਾਸਨ ਵਿਵਸਥਾ।

UNIT – III (15 Hrs.)

Jahangir 1605-27 A.D., Shah Jahan 1627-58 A.D., Aurangzeb 1658-1707 A.D., Rise and Establishment of Maratha Power, Deccan Policy of Mughals.

ਜਹਾਂਗੀਰ 27-1605 ਈ., ਸ਼ਾਹਜਹਾਂ 58-1627 ਈ., ਔਰੰਗਜ਼ੇਬ 1707-1658 ਈ., ਮਰਾਠਾ ਸ਼ਕਤੀ ਦੀ ਸਥਾਪਨਾ, ਮੁਗਲਾਂ ਦੀਆਂ ਉੱਤਰ-ਪੱਛਮੀ ਸੀਮਾਂ ਨੀਤੀ।

UNIT – IV (15 Hrs.)

Society and Economy in 16th and 17th CE Literature Art and Architecture under the Mughals, Bhakti Movement and Sufisim Rajputs and Religious Policies of the Mughals causes of decline of Mughal Empire.

16ਵੀਂ-17ਵੀਂ ਸਦੀ ਘਾਂ ਵਿੱਚ ਸਮਾਜ ਦੀ ਅਰਥਿਕ ਵਿਵਸਥਾ ਮੁਗਲਾਂ ਅਧੀਨ ਸਹਿਤ ਕਲਾ ਅਤੇ ਭਵਨ ਨਿਰਮਾਣ ਕਲਾ, ਭਾਰਤੀ ਅੰਦੋਲਨ ਅਤੇ ਸੂਫੀ ਮੱਤ, ਮੁਗਲ ਸਮਰਾਟਾਂ ਦੀਆਂ ਰਾਜਪੂਤ ਅਤੇ ਧਾਰਮਿਕ ਨੀਤੀਆਂ, ਮੁਗਲ ਸਾਮਰਾਜ ਦੇ ਪਤਨ ਦੇ ਕਾਰਨ।

Books: -

History of Medieval India (From 1000 A.D. to 1750 A.D.)

ਮੱਧਕਾਲੀਨ ਭਾਰਤ ਦਾ ਇਤਿਹਾਸ) 1000 ਈ. ਤੋਂ 1750 ਈ.)

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

POLITICAL SCIENCE - III

Subject Code: BACSD1-312

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Get a comprehensive overview of polity and the various stages through which it evolved in the world.

CO2: Gain understanding of the intricacies of democratic system of the states and center level in India.

CO3: Get to know of the important notes and concepts of various political thinkers and philosophers of the world.

CO4: To observe and think critically of the politically events of the country and abroad.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			3		2			2	1			
CO2			3		2			2				
CO3			3		2			2				
CO4					2			2				

UNIT – I (15 Hrs.)

- United Notices which Human Rights Provisions, Nature and Characteristics of Human Rights Preamble of the Human Rights.
- Philosophy of the Declaration of Human Rights: Philosophy of Human Rights, classification of the Rights Included in Declaration.

UNIT – II (15 Hrs.)

- Environment - Meaning and Definition, forms of Environment, Types of Environment. Need of Environment Protection.
- Environment Protection is a Global Issue and Efforts Made at National level and efforts Made at International Level.

UNIT – III (15 Hrs.)

- Theories of Negative and Positive Liberty. Supporters of liberty Theory. Included positive and Negative and criticism of Positive Theory of liberty.
- Safeguard of liberty: Relationship between Authority to leave and liberty.

UNIT – IV (15 Hrs.)

- Meaning of Equality - Characteristics of Equality Definitions of Equality, Various Dimensions of Equality.
- Facts Responsible for the Growth of Negative Liberalism or Individualism - Main supporters of Negative liberalism. Criticisms of Negative liberalism,

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

MATHEMATICS (CALCULUS) – III

Subject Code: BACSD1-313

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Apply critical thinking skills to solve applied problems.

CO2: Use knowledge skill necessary for immediate employment and acceptance into a graduate program.

CO3: Apply mathematical concepts and principles to perform computation.

CO4: Maintain a core of mathematical and technical knowledge that is adoptable to changing technologies and provide a solid foundation for future learning.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1					2			2				3
CO2			2									3
CO3			3									3
CO4			2									3

UNIT-I (15 Hrs.)

Basic concept of limit and continuity, Properties of limit and classification of discontinuities, Properties of continuous functions, Differentiability and differentials, Successive differentiation and Leibnitz theorem, Derivatives of higher order, nth derivative of well-known functions.

UNIT-II (15 Hrs.)

Concavity, Convexity, Points of inflexion, Increasing and decreasing function, Asymptotes, Polar curves, Multiple points, Tracing of Cartesian curves, Idea of some well-known parametric and polar curves, Curvature of a curve at a point, Radius of curvature for Cartesian, Parametric, Polar forms, Centre of curvature.

UNIT-III (15 Hrs.)

Partial differentiation –Function of two variables, Partial derivatives of higher order, Homogeneous functions, Euler's theorem and its extension (with proof), Composite functions, Total derivative, Differentiation of implicit functions and composite functions, Jacobins and its properties.

UNIT IV (15 Hrs.)

Tangent plane and normal to a surface, Maxima and Minima of functions of two variables, working rule to find the extreme values of a function $z= f(x, y)$, Lagrange's method of undetermined multipliers, Gradient, Curl and Divergence, Geometrical interpretation and basic properties, Directional Derivative

Recommended Books:

1. **Thomas' Calculus** by George B. Thomas Jr., Maurice D. Weir, Joel R. Hass (Pearson)
2. **Calculus: Early Transcendentals** by James Stewart (Cengage Learning)
3. **Calculus** by Ron Larson, Bruce H. Edwards (Cengage Learning)

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

PHYSICAL EDUCATION - III

Subject Code: BACSD1-314

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To study the behavior of India and world physical education.

CO2: Learning how to resist unfavorable and working conditions, decreasing fatigue during professional activities and raising the quality of results.

CO3: Fostering of motivational attitude to the physical education, healthy life style and regular exercising.

CO4: Learning the methods of self-control while exercising.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					2		3		3	1		
CO2			3		3		3			1		
CO3			3		3		3	1		3		
CO4			2				3					

(THEORY – 60)

UNIT – I (15 Hrs.)

- **Play** : Introduction, Theories and Importance.
- **Childhood Adolescence** : Growth and Development (Physical, Mental, Mental, Emotional & Social
- **Age and Sex Differences**: Introduction, Age & Sex differences, Structural difference Physiological differences and Gynecological differences.

UNIT – II (15 Hrs.)

- **Yoga**: Introduction, Aim, Importance and Types of Yoga.
- **Pranayam**: Meaning, Types, Objectives and its Importance.
- **Shudhi Kriyas** : Introduction, Types, Objectives and its Effects.

UNIT – III (15 Hrs.)

- **Physiology of Asanas** : Effective on various system of body.
- **Endocrine System**: Introduction, Glands, Location & Functions.
- **Excretory System**: Introduction, Organs, Structure and Functions.

UNIT – IV (15 Hrs.)

- **Asanas** : Introduction, Importance, Types and Techniques of Padamasana, Vajrasana, Sukhasana, Shavasana, Makarasana, Halasna, Mayurasna and Chakrasna.
- **Kabaddi (National style)** : History, Layout, General Rules and Regulations, Officials, Major Tournaments and Arjuna Awardees.
- **Shot put** : Rules, Layout and Techniques.

PRACTICAL (40 MARKS)

KABADDI, YOGA AND SHOT PUT

Evaluation will be based on skill test, Performance, Practical file and Viva Voce.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ELECTIVE ENGLISH - III

Subject Code: BACSD1-315

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Students are encouraged and enabled to read various types of text on their own and discuss them among peers.

CO2: Students can develop their linguistic and pragmatic competence for learning.

CO3: Students are introduced to the grammatical properties in order to enable them to write and speak English consciously.

CO4: Students are introduced to appropriate literary strategies to read literature.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1	3		3	3			2					
CO2	3		2	2			2					
CO3	3		2	3			2					
CO4	3		2	3			2					

UNIT – I (15 Hrs.)

- Literally Terms :Drama, Myth of Dionysus, Liturgical Drama, Miracle plays Mystery Plays, Interlude, Mimesis catharsis, Tragic Hero, organic unity, Revenge Tragedy, Poetic Drama, Verse Drama, Myth & Drama, Ritual & Drama, Yaksyana Theory. Indian theory of Drama, Puppelty, Ardharishwara

UNIT – II (15 Hrs.)

- W. Shakespheare - The Merchant of Venice.

UNIT – III (15 Hrs.)

- Grammar
 - (a) Dialogue writing (Based on a descriptive Passage of 300-400 words)
 - (b) Identify figures of speech in Sentences (Unseen) Simite, Metaphor, Alliteration, Assonance.

UNIT – IV (15 Hrs.)

- Grammar
 - (a) Idioms and Pleases
 - (b) One word substitution.
 - (c) Comprehension. (un seen Passage)

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ECONOMICS - III

Subject Code: BACSD1-316

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Developing the skill of data collection and use of sampling technique in research.

CO2: Developing the knowledge about theories of economic growth and development and issues of economic planning.

CO3: Understanding various issues of population, poverty, availability of resources and uses of Natural resources for sustainable development.

CO4: Developing research knowledge in economics.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1							2				1	3
CO2			3			1						
CO3				1	3				2			
CO4			3									

UNIT – I (15 Hrs.)

Introduction to public Finance: Nature, Scope, importance.

Public Expenditure: Meaning, Features, Importance Objectives, Principle of maximum social advantages, Wiseman peacock hypothesis causes for the recent growth of public expenditure in India.

Taxation: Meaning, Types of Tax, Classification of good Tax System.

UNIT – II (15 Hrs.)

Incidence and Impact of Taxation: Demand & Supply Theory.

Taxable capacity: Absolute & Relative capacity, Determinates of taxable capacity.

Public Debt: Meaning Types, Role, Methods of its redemption.

Deficit Financing: Meaning, Objectives, Limitation.

UNIT – III (15 Hrs.)

Pure Theory of International Trade: Classical Theories, the Theory of reciprocal Demand.

Trade: Concept, Meaning and Types.

UNIT – IV (15 Hrs.)

Exchange Rates: Meaning & its Determination, fixed v/s flexible rate of exchange.

IMF and IBRD: Meaning, objectives working, achievements

Reference Books:

(a) Sharma , OP, Sarvnik vit, Punjabi University Patiala.

(b) Bhatia H.L- Public finance, vikas publishing house Pvt Ltd.

(c) Public Finance & International Economics: TR Jain, Satpal Gupta.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ਪੰਜਾਬੀ ਇਲੈਕਟਿਵ - III

Subject Code: BACSD1-317

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To develop a bonding with the mother tongue of the student.

CO2: To gain knowledge and understanding of the rich folk and cultural heritage of Punjab.

CO3: Knowledge and understanding of the various intricacies of the grammar and literature of Punjabi.

CO4: The program connects the students to their roots.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		1				1					
CO2			1	3			1		3	3		
CO3	3		2	3			1		2	2		
CO4			2						3	2		

ਪਾਠ ਕ੍ਰਮ

1. ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀ ਕਵਿਤਾ
2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ : ਗੁਰਮਤਿ ਕਾਵਿ
3. ਭਾਸ਼ਾ ਵਿਗਿਆਨ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. (ੳ) ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗ ਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗਸਹਿਤ ਵਿਆਖਿਆ।
(ਅ) ਕਾਵਿ ਪੁਸਤਕ ਵਿੱਚੋਂ ਦਾ ਵਿਸ਼ਾ- ਵਸਤੂ। ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ।
2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (ਗੁਰਮਤਿ ਕਾਵਿ) ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।
3. ਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਟਕਸਾਲੀ ਭਾਸ਼ਾ, ਵਿਅਕਤੀ ਭਾਸ਼ਾ, ਅਪਭਾਸ਼ਾ ਗੁਪਤ, ਗੁਪਤ ਭਾਸ਼ਾ।

• **ਕੋਰਸ**

ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ-ਰੰਗ (ਸੰਪਾਦਕ) ਡਾ. ਯੋਗਰਾਜ ਅੰਗਰਿਸ਼ ਨਿਰਧਾਰਤ ਕਵੀ (ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਜੀ, ਗੁਰੂ ਅਰਜਨ ਦੇਵ ਜੀ, ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਜੀ, ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ)

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ (1701-1900), ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਚੰਡੀਗੜ੍ਹ।
2. ਉਹੀ, 'ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ' ਮਦਾਨ ਪਬਲੀਕੇਸ਼ਨਜ਼ ਪਟਿਆਲਾ 2002।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ELECTIVE COMPUTER-III (Client side scripting using Java Script)

Subject Code: BACSD1- 319

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	Understand the basic concept of java script and learn core concepts of it and identify the Expressions and Operators.	1	-	-	-	-	-
CO2	Understand the concept of Functions and working with Indexed, JSON and Modules.	1	3	-	-	-	--
CO3	Understand basic data structures such as arrays, Numbers, strings.	-	-	-	2	-	-
CO4	Describe the procedural and object oriented paradigm with concepts of object, classes, Inheritance, Constructor	-	-	1	-	-	2

UNIT – I (15 Hrs)

Introduction to JavaScript: JavaScript history, Relation between JavaScript and ECMA Script Versions of JavaScript. Syntax, Variables, Values, Data Types Syntax review, Keywords and reserved words, Variable declaration, Variable scope, Block scope.

Data Types: Primitive values, Reference values, Types, Type conversion. Expressions and operator (arithmetic, relational, logical, assignment and others) Operators overview. Control Structures: Flow control and conditionals, Loops and iteration. Jumps.

Error handling: Throwing errors, Error handling.

UNIT – II (15 Hrs)

Functions: Defining functions, Calling functions, Functions as values, Arguments and parameters, Function scope, Closures, Arrow functions.

Indexed Collections: Set object type, Map object type, JSON Iterators and generators Working with Iterators, Working with Generators Modules, Promises

UNIT – III (15 Hrs)

Numbers: Number literals, Number object, Number methods, Math object Date object Working with Numbers. Strings String literals, String object, String methods, Working with Strings. Arrays Creating and populating Arrays, Array methods, Working with Arrays.

UNIT – IV (15 Hrs)

Objects: Creating object, Properties, Methods, Build-in JavaScript objects. Prototype based Object Oriented Programming, Defining Constructors, Prototypes, Inheritance, Classes Meta Programming: Proxy, Reflection

**Faculty members can take practical sessions during the lecture.*

Recommended Books:

- 1 Introduction to JavaScript Object Notation: A To The Point Guide to JSON, by Linsay Bassett, O'Reilly
2. Ajax Black Book, Dreamtech Press
3. Scripting Languages: Perl, Python, Mumps, JavaScript, Php, Ruby, VBscript, Awk, command. Com. Sed, Bash, Autolisp. Tcl, Shell Script, Quakec, Books, LLC

SEMESTER – IV

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL PUNJABI - IV

Subject Code: BACSS1-402

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To develop a bonding with the mother tongue of the student.

CO2: To gain knowledge and understanding of the rich folk and cultural heritage of Punjab.

CO3: Knowledge and understanding of the various intricacies of the grammar and literature of Punjabi.

CO4: The program connects the students to their roots.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		3	3			2					
CO2	3		3	3			2		3	3		
CO3	3		3	3			2					
CO4	3		3	3			2		3	3		

ਪਾਠ ਕ੍ਰਮ

1. ਇਕਾਂਗੀ
2. ਪੰਜਾਬੀ ਦੀਆਂ ਉਪਭਾਸ਼ਾਵਾਂ
1. ਵਿਆਕਰਨ : ਸਿਧਾਂਤ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. (ੳ) 'ਛੇਛੱਲਾਂ' ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਦਾ ਵਿਸ਼ਾਸਾਰ।
(ਅ) 'ਛੇਛੱਲਾਂ' ਵਿੱਚੋਂ ਪਾਤਰ ਚਿਤਰਨ ਕਰਨਾ।
2. ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ ਵਿੱਚੋਂ ਪ੍ਰਸ਼ਨ – ਉੱਤਰ
3. ਪੰਜਾਬੀ ਦੀਆਂ ਉਪ – ਭਾਸ਼ਾਵਾਂ (ਮਾੜੀ, ਮਲਵਈ, ਦੁਆਬੀ)
4. ਵਿਆਕਰਨ : ਵਿਕਾਰੀ ਤੇ ਅਵਿਕਾਰੀ ਸ਼ਬਦ, ਸਧਾਰਨ, ਸਮਾਸੀ, ਮਿਸ਼ਰਤ, ਸ਼ਬਦ ਜੋੜਾਂ ਦੇ ਨਾਮ।

• **ਕੋਰਸ**

ਛੇਛੱਲਾਂ) ਸੰਪਾਦਕ (ਡਾ .ਆਤਮਜੀਤ ਸਿੰਘ ,ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ ਇਕਾਂਗੀ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ .1 : ਹਰਕੀਤਰ ਸਿੰਘ) ਡਾ ,(ਕਾਲਜ ਪੰਜਾਬੀ ਵਿਆਕਰਨ ,ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ
ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ ,ਚੰਡੀਗੜ੍ਹ 1999 ।

2. ਬਰਾੜ, ਬੁਟਾ ਸਿੰਘ (ਡਾ.) ਸਿਧਾਂਤਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਵਿਹਾਰ, ਚੇਤਨਾ ਪ੍ਰਕਾਸ਼ਨ ਲੁਧਿਆਣਾ 2008
।
3. ਜੱਸਲ ਕੰਵਲਜੀਤ, ਪੰਜਾਬੀ ਵਿਆਕਰਨ ਦੇ ਕੁੱਝ ਪੱਖ, ਰਵੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਨ ਹਾਲ, ਬਾਜਾਰ ਅਮ੍ਰਿਤਸਰ
2012 ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

GENERAL ENGLISH - IV

Subject Code: BACSS1-401

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To demonstrate awareness of English language and literature in various contexts.

CO2: To get basic knowledge of the English grammar when they acquire their degree.

CO3: To communicate and present the ideas and use of sources accurately and efficiently.

CO4: To acquaint the students with cultural and behavioral approaches for global competence.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		3	3			2					
CO2	3		3	3			2					
CO3	3		3	3			2					
CO4	3		3	3			2		3	3		

UNIT- 1 (Poetry Section) (15 Hrs.)

- i.) I will embrace only the sun - Tripuraneni srinivas.
- ii.) Refugee mother and child - Chinua achebe.
- iii.) This is a photograph of me - Margaret atwood.
- iv.) I sit and look out - Walt Whitman.

UNIT -2 (Prose Section) (15 Hrs.)

- i.) On shaking hands – A.G. Gardiner.
- ii.) Freedom of the press – Shashi tharoor.
- iii.) No man is an island – Mino Masani.
- iv.) A service of love – O henry.

UNIT- 3 (15 Hrs.)

- i.) Repot writing.
- ii.) Paragraph in 250 words.

UNIT – 4 (15 Hrs.)

- i.) Using nouns as verbs or vice versa.
- ii.) Dialogue writing.

Text prescribed: - English for empowerment.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

MULTIMEDIA & ITS APPLICATIONS

Subject Code: BACSS1-403

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: The ability to understand analyze and develop computer program in the areas related to algorithms , system software , multimedia web design, application program , database , graphics and networking for efficient design of computer based system of varying complexities.

CO2: To inculcate knowledge on graphics and multimedia concepts.

CO3: To get sufficient knowledge on various system resources.

CO4: To support automation and digitization in all walks of life.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1		3	3			2					2	2
CO2						2					3	2
CO3			3			2						
CO4						3					3	

UNIT-I (15 Hrs.)

Introduction: Multimedia & its types, Hyper Media, Hyper Text, Multimedia system and its characteristics, challenges, desirable features, components and applications, Trends in Multimedia.

ਜਾਣ-ਪਛਾਣ: ਮਲਟੀਮੀਡੀਆ ਅਤੇ ਇਸਦੀਆਂ ਕਿਸਮਾਂ, ਹਾਈਪਰਮੀਡੀਆ, ਹਾਈਪਰਟੈਕਸਟ, ਮਲਟੀਮੀਡੀਆ ਸਿਸਟਮ ਅਤੇ ਇਸਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਚੁਣੌਤੀਆਂ, ਲੋੜੀਂਦੀਆਂ ਵਿਸ਼ੇਸ਼ਤਾਵਾਂ, ਭਾਗ ਅਤੇ ਐਪਲੀਕੇਸ਼ਨ, ਮਲਟੀਮੀਡੀਆ ਵਿੱਚ ਰੁਝਾਨ।

UNIT-II (15 Hrs.)

Multimedia Technology: Multimedia systems technology, Multimedia Hardware devices, Multimedia Software devices, Multimedia Software development tools, Multimedia authoring tools, Multimedia standards for document architecture, Multimedia software for different media.

ਮਲਟੀਮੀਡੀਆ ਟੈਕਨਾਲੋਜੀ: ਮਲਟੀਮੀਡੀਆ ਸਿਸਟਮ ਤਕਨਾਲੋਜੀ, ਮਲਟੀਮੀਡੀਆ ਹਾਰਡਵੇਅਰ ਡਿਵਾਈਸ, ਮਲਟੀਮੀਡੀਆ ਸਾਫਟਵੇਅਰ ਡਿਵਾਈਸ, ਮਲਟੀਮੀਡੀਆ ਸਾਫਟਵੇਅਰ ਡਿਵੈਲਪਮੈਂਟ ਟੂਲ, ਮਲਟੀਮੀਡੀਆ ਆਥਰਿੰਗ ਟੂਲ, ਮਲਟੀਮੀਡੀਆ ਸਟੈਂਡਰਡ ਡਾਕੂਮੈਂਟ ਆਰਕੀਟੈਕਚਰ ਲਈ ਮਲਟੀਮੀਡੀਆ ਸਟੈਂਡਰਡ, ਵੱਖ-ਵੱਖ ਮੀਡੀਆ ਲਈ ਮਲਟੀਮੀਡੀਆ ਸਾਫਟਵੇਅਰ।

UNIT-III (15 Hrs.)

Storage Media: Magnetic and optical media RAID and RAID Levels, Compact Disks and DVDs and their standards, Multimedia servers.

Audio: Basics of Digital Audio, Applications of Digital Audio, Digitization of Sound, Sample Rates and bit size, Typical Audio Formats, Introduction to MIDI (Musical Instrument Digital Interface), Components of MIDI system, MIDI Hardware aspects, MIDI messages.

ਸਟੋਰੇਜ਼ ਮੀਡੀਆ: ਚੁੰਬਕੀ ਅਤੇ ਆਪਟੀਕਲ ਮੀਡੀਆ RAID ਅਤੇ RAID ਪੱਧਰ, ਸੰਖੇਪ ਡਿਸਕ ਅਤੇ DVD ਅਤੇ ਉਹਨਾਂ ਦੇ ਮਿਆਰ, ਮਲਟੀਮੀਡੀ ਆਸਰਵਰ।

ਆਡੀਓ: ਡਿਜੀਟਲ ਆਡੀਓ ਦੀਆਂ ਮੂਲ ਗੱਲਾਂ, ਡਿਜੀਟਲ ਆਡੀਓ ਦੀਆਂ ਐਪਲੀਕੇਸ਼ਨਾਂ, ਧੁਨੀ ਦਾ ਡਿਜੀਟਾਈਜ਼ੇਸ਼ਨ, ਨਮੂਨਾਦਰਾਂ ਅਤੇ ਬਿੱਟ ਆਕਾਰ, ਆਮ ਆਡੀਓ ਫਾਰਮੈਟ, MIDI (ਸੰਗੀਤ ਸਾਧਨ ਡਿਜੀਟਲ ਇੰਟਰਫੇਸ) ਦੀ ਜਾਣ-ਪਛਾਣ, MIDI ਸਿਸਟਮ ਦੇ ਹਿੱਸੇ, MIDI ਹਾਰਡਵੇਅਰ ਪਹਿਲੂ, MIDI ਸੁਨੇਹੇ।

UNIT-IV (15 Hrs.)

Image and Graphics Compression: Color in Images, Types of Color Models, Graphic / Image File Format, TIFF, RIFF, BMP, PNG, PDF, Graphic / Image data, JPEG Compression, GIF Compression.

ਚਿੱਤਰ ਅਤੇ ਗ੍ਰਾਫਿਕਸ ਕੰਪਰੈਸ਼ਨ: ਚਿੱਤਰਾਂ ਵਿੱਚ ਰੰਗ, ਰੰਗਮਾਡਲਾਂ ਦੀਆਂ ਕਿਸਮਾਂ, ਗ੍ਰਾਫਿਕ / ਚਿੱਤਰ ਫਾਈਲ ਫਾਰਮੈਟ, TIFF, RIFF, BMP, PNG, PDF, ਗ੍ਰਾਫਿਕ / ਚਿੱਤਰ ਡੇਟਾ, JPEG ਕੰਪਰੈਸ਼ਨ, GIF ਕੰਪਰੈਸ਼ਨ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

MULTIMEDIA & ITS APPLICATIONS (LAB)

Subject Code: BACSS1-404

**L T P C
0 0 4 2**

Duration: 60 Hrs.

Course Outcomes:

CO1: Understand the fundamental concepts of multimedia and its various types, including hypermedia and hypertext.

CO2: Gain knowledge of multimedia technologies, including hardware and software components, and their applications in different media formats.

CO3: Develop skills in handling multimedia content, including storage media, audio, and image compression techniques

CO4: Apply multimedia principles to design and create interactive multimedia projects, showcasing proficiency in HTML, CSS, and JavaScript.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3			2							
CO2	2		3									
CO3			3		2							
CO4			2	3		3						

This laboratory course will comprise as exercises to supplement what is learnt under paper BACSS1-404 Multimedia & its applications (Lab). The students will do the following sequence of practicals:

1. Create a webpage with a heading, paragraph of text, and an image using HTML.

ਐਚਟੀਐਮਐਲ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਇੱਕ ਵੈੱਬਪੇਜ ਬਣਾਓ ਜਿਸ ਵਿੱਚ ਇੱਕ ਸਿਰਲੇਖ, ਪੈਰਾਗਰਾਫ ਟੈਕਸਟ ਅਤੇ ਇੱਕ ਚਿੱਤਰ ਹੋਵੇ।

2. Change the background color and font style of your webpage using CSS.

CSS ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਆਪਣੇ ਵੈੱਬਪੇਜ ਦੇ ਬੈਕਗਰਾਊਂਡ ਰੰਗ ਅਤੇ ਫੌਂਟ ਸ਼ੈਲ ਬਦਲੋ।

3. Embed a short audio clip into your webpage using the <audio> tag in HTML.

HTML ਵਿੱਚ <audio> ਟੈਗ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਇੱਕ ਛੋਟਾ ਔਡੀਓ ਕਲਿੱਪ ਇੰਜੈਕਟ ਕਰੋ।

4. Display a sequence of images in a slideshow format using HTML and CSS.

HTML ਅਤੇ CSS ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਵੈੱਬਪੇਜ ਵਿੱਚ ਇੱਕ ਸਲਾਈਡਸ਼ੋ ਫਾਰਮੈਟ ਵਿੱਚ ਚਿੱਤਰਾਂ ਦੀ ਸਿਕਵੈਂਸ ਦਿਖਾਓ।

5. Embed a YouTube video into your webpage using the <iframe> tag.

<iframe> ਟੈਗ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਯੂਟਿਊਬ ਵੀਡੀਓ ਨੂੰ ਆਪਣੇ ਵੈੱਬਪੇਜ ਵਿੱਚ ਇੰਜੈਕਟ ਕਰੋ।

6. Design a basic form with text inputs and radio buttons using HTML.

HTML ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਟੈਕਸਟ ਇੰਪੁੱਟ ਅਤੇ ਰੇਡੀਓ ਬਟਨ ਨਾਲ ਇੱਕ ਬੁਨਿਆਦੀ ਫਾਰਮ ਡਿਜ਼ਾਈਨ ਕਰੋ।

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7. Create a simple interactive quiz with multiple-choice questions using HTML and JavaScript.

HTML ਅਤੇ JavaScript ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਕਈ ਚੋਣਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨਾਂ ਵਾਲੇ ਇੱਕ ਸਧਾਰਨ ਇੰਟਰੈਕਟਿਵ ਕਵਿਜ਼ ਬਣਾਓ।

8. Implement responsive design by adjusting the layout of your webpage using CSS media queries.

CSS ਮੀਡੀਆ ਕਵੇਰੀ ਦੀ ਵਰਤੋਂ ਕਰਕੇ ਆਪਣੇ ਵੈੱਬਪੇਜ ਦੇ ਲੇਆਉਟ ਨੂੰ ਸੰਰਚਿਤ ਕਰਨ ਦੇ ਰਿਸਪੌਂਸਿਵ ਡਿਜ਼ਾਈਨ ਨੂੰ ਲਾਗੂ ਕਰੋ।

9. Experiment with different image formats (JPEG, PNG) and observe their file sizes and quality.

ਵੱਖ-ਵੱਖ ਚਿੱਤਰ ਫਾਰਮੈਟ (JPEG, PNG) ਦੇ ਨਾਲ ਅਜ਼ਮਾਓ ਅਤੇ ਉਨ੍ਹਾਂ ਦੇ ਫਾਈਲ ਆਕਾਰ ਅਤੇ ਗੁਣਵੱਤਾ ਨੂੰ ਮੁਲਾਂਕਣ ਕਰੋ।

10. Create a portfolio webpage showcasing your multimedia projects with images and brief descriptions.

ਇੱਕ ਪੋਰਟਫੋਲੀਓ ਵੈੱਬਪੇਜ ਬਣਾਓ ਜਿਸ ਵਿੱਚ ਤੁਹਾਡੇ ਮਲਟੀਮੀਡੀਆ ਪਰਾਜੈਕਟਾਂ ਦੇ ਚਿੱਤਰ ਅਤੇ ਛੋਟੇ ਵਰਣਨ ਦਿਖਾਓ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

THE MAHARAJA OF PEOPLE

Subject Code: BMNCC0-052

**L T P C
2 0 0 0**

Duration: 30 Hrs.

UNIT-I (8 Hrs)

The Early Life: Early life of Maharaja Ranjit Singh, First battle, Death of Father, Act of bravery, Unifying Punjab, Coronation

UNIT-II (8 Hrs)

Conquests: Jhang, Kasoor, Multan, Peshawar, Naushehra, Annexation of Peshawar into Sikh Kingdom, Jamraudh, Kashmir, Ladakh, Tibbet, Formation of State of J & K

UNIT-III (8 Hrs)

Administrative Capabilities

Administration: Central Govt., Provincial & local Govt., Financial Administration, Judicial systems, Secular State, Military System, Creation of a regular force, Organization of Army, Recruitment & Payment, Education System, Pattern of the arts, a unique portrait, Touchstone, The court of Maharaja Ranjit Singh, Europeans at Sikh Court

UNIT-IV (6 Hrs)

The Legacy: Diamond Kohinoor, Love for common Folk, A ruler much ahead of his times, Graciousness of Maharaja, True Nationalist, Maharaja's Notion of Nationalism & Secularism, the last journey, The enduring legacy of Maharaja, Secrets of popularity of Maharaja, Nature of Maharaja's polity.

Recommended Books:

1. Rajmohan Gandhi: Punjab: A History from Aurangzeb to Mountbatten, 2013.
2. Grewal, J.S.: The Sikhs of the Punjab, Cambridge University Press, 1968.
3. Khushwant Singh: A History of the Sikhs Vol. 1 1469-1839, Oxford University Press, 1963.
4. Untold story of Maharaja Ranjit Singh

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

HISTORY - IV

Subject Code: BACSD1-411

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To identify and analyze contemporary issues and concerns and find solutions.

CO2: To develop the ability of critical and logical thinking, select relevant facts, establish relationships and draw inferences and conclusions.

CO3: Acquaint with range of issues related to Indian history that span distinct eras.

CO4: Think and argue historically and critically in writing and discussion.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					3		3	1	2			
CO2							3	3	3			
CO3									3			
CO4	3		3					2				

UNIT – I (15 Hrs.)

ਅਬਦੂਸ ਸਮਦ ਖਾਂ, ਜ਼ਕਰੀਆ ਖ਼ਾਂ ਅਤੇ ਮੀਰ ਮੰਨੂੰ, ਦਲ ਖ਼ਾਲਸਾ ਦਾ ਉੱਥਾਨ ਅਤੇ ਇਸਦੀ ਯੁੱਧ ਪ੍ਰਣਾਲੀ, ਮੁਗਲਾਂ ਅਧੀਨ ਪੰਜਾਬ ਦੀ ਸਮਾਜਿਕ ਅਤੇ ਆਰਥਿਕ ਅਵਸਥਾ।

Abdus Samad Khan, Zakariya Khan and Mir Mannu, Their relations with Sikhs, Rise of the Dal Khalsa and its mode of fighting social and economic conditions of the Punjab.

UNIT – II (15 Hrs.)

ਅਹਿਮਦ ਸ਼ਾਹ ਅਬਦਾਲੀ ਦੇ ਹਮਲੇ, ਸਿੱਖ ਮਿਸਲਾਂ, ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦਾ ਜੀਵਨ ਅਤੇ ਜਿੱਤਾਂ।

Invasion of Ahmad Shah Abdali, The Sikh Misl, Maharaja Ranjit Singh's Career and conquests.

UNIT – III (15 Hrs.)

ਐਂਗਲੋ-ਸਿੱਖ ਸੰਬੰਧ 39-1800 ਈ, ਰਣਜੀਤ ਸਿੰਘ ਦੇ ਅਫ਼ਗਾਨਿਸਤਾਨ ਨਾਲ ਸੰਬੰਧ ਅਤੇ ਉਸਦੀ ਉੱਤਰ-ਪੱਛਮੀ ਸੀਮਾ ਨੀਤੀ, ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦਾ ਸ਼ਾਸਨ।

Anglo-Sikh Relations 1800-39, Maharaja Ranjit Singh's Relations with Afghanistan and his N.W.F. Policy, Administration of Maharaja Ranjit Singh .

UNIT – IV (15 Hrs.)

ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦਾ ਆਚਰਨ ਅਤੇ ਸ਼ਖਸੀਅਤ, ਪਹਿਲਾ ਐਂਗਲੋ ਯੁੱਧ, ਦੂਸਰਾ ਐਂਗਲੋ ਸਿੱਖ ਯੁੱਧ।

Character and Personality of Maharaja Ranjit Singh First and Second Anglo Sikh War.

Books: -

History of Punjab by Prof. Manjeet Singh Sodhi.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

POLITICAL SCIENCE - IV

Subject Code: BACSD1-412

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Get a comprehensive overview of polity and the various stages through which it evolved in the world.

CO2: Gain understanding of the intricacies of democratic system of the states and center level in India.

CO3: Get to know of the important notes and concepts of various political thinkers and philosophers of the world.

CO4: To observe and think critically of the politically events of the country and abroad.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			3		2			2	1			
CO2			3		2			2				
CO3			3		2			2				
CO4					2			2				

UNIT – I (15 Hrs.)

- **Social change** :: Meaning and definitions, characteristic of social change implication and modes of social change and ,factors of social change
- Theories of social change and hindrances of social change

UNIT – II (15 Hrs.)

- **Democracy** :: Meaning, characteristics of democracy definitions and venous aspects of democracy kinds of democracy
- Merits and demerits of democracy
 - Necessary conditions for the success of democracy
 - Theory of democracy, liberal and elitist
 - Explanation of elitist theory of democracy

UNIT – III (15 Hrs.)

- Marxist theory of democracy capitalist democracy, dictatorship of the proletariat socialist democracy
- Critical evaluation of the Marxian concept of the democracy.
- Difference between liberal democracy and Marxian democracy.

UNIT – IV (15 Hrs.)

- Meaning of comparative government, meaning of comparative politics differences between comparative government comparative politics.
- Nature and politics characteristics of comparative government and politics, scope and utility of comparative government and politics.

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

MATHEMATICS (ANALYTICAL GEOMETRY) - IV

Subject Code: BACSD1-413

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Apply critical thinking skills to solve applied problems.

CO2: Use knowledge skill necessary for immediate employment and acceptance into a graduate program.

CO3: Apply mathematical concepts and principles to perform computation.

CO4: Maintain a core of mathematical and technical knowledge that is adoptable to changing technologies and provide a solid foundation for future learning.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
CO1					2			2				3
CO2			2									3
CO3			3									3
CO4			2									3

UNIT – I (15 Hrs.)

Transformation of axes, Shifting of origin, Rotation of axes, Reduction of the second degree equation into standard form by transformation of co-ordinates, Intersection of three planes, Condition for three planes to intersect in a point or along a line or to form a prism.

UNIT-II (15 Hrs.)

Cone with a vertex at the origin as the graph of homogeneous equation of second degree in x, y, z, Cone as a surface generated by a line passing through a fixed curve and fixed point outside the plane of the curve, Right circular and elliptic cones.

UNIT-III (15 Hrs.)

Cylinder as surface generated by a line moving parallel to a fixed line and through fixed curve. Different kinds of cylinders such as right circular, elliptic, hyperbolic and parabolic in standard forms.

UNIT-IV (15 Hrs.)

Sphere, Section of a sphere by a plane, Spheres of a given circle, Intersection of a line and a sphere, Tangent line, Tangent plane, Power of a point w.r.t. a sphere, Radical planes.

Recommended Books:

1. **Coordinate Geometry** by S.L. Loney (S. Chand Publishing)
2. **Analytical Solid Geometry** by Shanti Narayan and P.K. Mittal (S. Chand Publishing)
3. **Higher Algebra** by Hall and Knight (S. Chand Publishing)

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SYLLABUS 2023 BATCH ONWARDS**

PHYSICAL EDUCATION - IV

Subject Code: BACSD1-414

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To study the behavior of India and world physical education.

CO2: Learning how to resist unfavorable and working conditions, decreasing fatigue during professional activities and raising the quality of results.

CO3: Fostering of motivational attitude to the physical education, healthy life style and regular exercising.

CO4: Learning the methods of self-control while exercising.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1					2		3		3	1		
CO2			3		3		3			1		
CO3			3		3		3	1		3		
CO4			2				3					

(THEORY – 60 MARKS)

UNIT – I (15 Hrs.)

- **Sports Psychology**: Introduction, Importance.
- **Learning**: Meaning, Laws of Learning and their Implication in Sports.
- **Transfer of Training** : Types and its application in Sports.

UNIT – II (15 Hrs.)

- **Motivation** : Introduction, Types, Methods of Motivation and its Importance in Physical Education and Sports
- **Personality** : Introduction, Types and Characteristics of Personality
- **First Aid** : Introduction, Principles, Qualities of First Aider, Process of Providing First Aid during different Calamity (Burns, Electric Shock, Heat Stroke, Drowning).

UNIT – III (15 Hrs.)

- **Muscles**: Structural and Function Classification of Muscles
- **Circulatory System** : Structure and Function of heart.
- **Sports Injuries** : Introduction, Causes, Symptoms, Treatment and Prevention of (Sprain, Strain, Contusion, Dislocation and Fracture).

UNIT – IV (15 Hrs.)

- **High Jump** : Rules and Regulations, Layout and Techniques.
- **Discus Throw** : Rules and Regulations, Layout and Techniques.
- **Kho- Kho** : History, Layout, General Rules and Regulation, Officials, Major Tournaments.

PRACTICAL (40 MARKS)

KHO-KHO, HIGH JUMP AND DISCUS THROW

Evaluation will be based on skill test, Performance, Practical file and Viva Voce.

References:

- Dr. Nishan Singh Deol (1980): Text book of Physical Education & Sports. (AP Publishers, Jalandhar).*
- Singh Ajmer et al (2000): Modern Text Book of Physical Education, Health and Sports”, Kalyani Publishers, Ludhiana*

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ELECTIVE ENGLISH - IV

Subject Code: BACSD1-415

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Students are encouraged and enabled to read various types of text on their own and discuss them among peers.

CO2: Students can develop their linguistic and pragmatic competence for learning.

CO3: Students are introduced to the grammatical properties in order to enable them to write and speak English consciously.

CO4: Students are introduced to appropriate literary strategies to read literature.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		3	3			2					
CO2	3		2	2			2					
CO3	3		2	3			2					
CO4	3		2	3			2					

UNIT – I (15 Hrs.)

- Literary Terms :Allegory, Allusion, Epic, Epithet, Hyperbole, Internal Rhyme, Rhyme Royal, Terza Rima, Metaphor, Metonymy, Medias Res, oxymoron , Mood, Tone, Personification, Stanza ,Satire Free Paragraph.

UNIT – II (15 Hrs.)

- Recommended test: An Anthology of English verse. Ed. Department of English; Deen Dyal Upadhyaya, Gorakhpur University, New delhi : OUP 2004

Prescribed poems:

- (a) John Donne : The Sun Rising
- (b) Alexander Pope :From Essay on Man
- (c) A Thing of Beauty : John keats
- (d) Ring out, wild Bells: Alfred Tennyson.
- (e) William Blake : The Tiger
- (f) Tennyson: Ulysses.
- (g) Browning: My Last Duchies.
- (h) W.B Yeats : A Prayer from my daughter
- (i) T.S Eliot. : Journey of the Magi
- (j) William words worth – Tintern Abbey.

UNIT – III (15 Hrs.)

- Précis Writing
- Identify figure of speech (Unseen) Metonmy, Epithet, Oxymoron, Epigram

UNIT – IV (15 Hrs.)

- Choose the correct meaning of the word.
- Complete Incomplete sentences
- One word substitution.
- Comprehension (unseen Passage of 1000 words)

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ECONOMICS - IV

Subject Code: BACSD1-416

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: Developing the skill of data collection and use of sampling technique in research.

CO2: Developing the knowledge about theories of economic growth and development and issues of economic planning.

CO3: Understanding various issues of population, poverty, availability of resources and uses of Natural resources for sustainable development.

CO4: Developing research knowledge in economics.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1							2				1	3
CO2			3			1						
CO3				1	3				2			
CO4			3									

UNIT – I (15 Hrs.)

Quantitative Methods:

Elementary Idea of sets & Function: Simple and partial derivatives, differentiation of simple function - Polynomial & Exponential.

UNIT – II (15 Hrs.)

Matrices: Definition & Types, Operation – (Sum, Difference, Product & Transpose) Adjoin & Inverse matrix, grammer's rule.

Measures of central Tendency: Mean Median partition values, mode, and measures of dispersion skewness.

UNIT – III (15 Hrs.)

Correlation: Karl Pearson's, Spearman's, Simple regression.

Interpolations: Meaning, Concept, Binomial, expansion method & Lagrange's method.

UNIT – IV (15 Hrs.)

Index Number: Concepts, utility of index number problems in construction of index numbers, Simple & weighted index number lasper's & fishers index number only.

Analysis of Time Series: Components of time series, importance, methods – Least square and moving average method.

Reference Books:

- (a) *Quantitative methods. Kalyani Publisher.*
- (b) *Gupta S C – Fundamentals of statics Himalaya publishing house.*
- (c) *Quantitative Techniques & Methods: TR Jain & SC Aggarwal.*

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ਪੰਜਾਬੀ ਇਲੈਕਟਿਵ - IV

Subject Code: BACSD1-417

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes:

CO1: To develop a bonding with the mother tongue of the student.

CO2: To gain knowledge and understanding of the rich folk and cultural heritage of Punjab.

CO3: Knowledge and understanding of the various intricacies of the grammar and literature of Punjabi.

CO4: The program connects the students to their roots.

COURSE ARTICULATION MATRIX

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3		1				1					
CO2			1	3			1		3	3		
CO3	3		2	3			1		2	2		
CO4			2						3	2		

ਪਾਠ ਕ੍ਰਮ

1. ਮੱਧਕਾਲ ਦੀ ਚੋਣਵੀ ਕਵਿਤਾ
2. ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ
3. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ
4. ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. (ੳ) ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਰੰਗਪੁਸਤਕ ਵਿੱਚੋਂ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ।
 2. (ੳ) ਕਥਾਪ੍ਰਵਾਹ ਪੁਸਤਕ ਵਿੱਚੋਂ ਘਟਨਾਵਾਂ, ਥੀਮ, ਪਾਤਰ ਚਿਤਰਨ
 3. ਕਾਵਿ ਸੰਗ੍ਰਹਿ ਅਤੇ ਕਹਾਣੀ ਸੰਗ੍ਰਹਿ ਵਿੱਚੋਂ ਲਘੂ ਉਤਰਾਂ ਵਾਲੇ ਪ੍ਰਸ਼ਨ।
 4. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ – ਕਿੱਸਾ ਕਾਵਿ।
 5. ਉਪਭਾਸ਼ਾ ਵਿਗਿਆਨ : ਉਪਭਾਸ਼ਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਭਾਸ਼ਾ ਅਤੇ ਉਪਭਾਸ਼ਾ।
- **ਕੋਰਸ**
 1. ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ-ਰੰਗ (ਸੰਪਾਦਕ) ਡਾ. ਯੋਗਰਾਜ ਅੰਗਰਿਸ਼।
 2. ਕਥਾ – ਪ੍ਰਵਾਹ (ਸੰਪਾਦਕ) ਸੁਰਿੰਦਰ ਕੁਮਾਰ ਦਵੇਸ਼ਵਰ।

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:

1. ਈਸ਼ਰ ਸਿੰਘ ਤਾਂਘ, ਪੱਛਮੀ ਸਮੀਖਿਆ ਦੇ ਸਿਧਾਂਤ ਦੀ ਪ੍ਰਕਾਸ਼ਨ, ਅੰਬਾਲਾ ਸ਼ਹਿਰ।
2. ਡਾ. ਸੁਰਿੰਦਰਸਿੰਘ ਕੋਹਲੀ, ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ, ਚੰਡੀਗੜ।

**MRSPTU B.A. (COMPUTER SCIENCE)
SYLLABUS 2023 BATCH ONWARDS**

ELECTIVE COMPUTER-IV (Bootstrap)

Subject Code: BACSD1-419

**L T P C
4 0 0 4**

Duration: 60 Hrs.

Course Outcomes (Cos) and mapping with program outcomes (POs)

COs	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6
CO1	To build and experiment websites.	1		3		2	
CO2	Get knowledge of bootstrap built in components design, grids, and responsive layout.			3		2	
CO3	Utilize the bootstrap javascript plugins to develop modern web page.	1		3		3	
CO4	Students should be able to design and implement a basic website.			3		2	

UNIT-I (10 Hrs.)

OVERVIEW OF BOOTSTRAP: Introduction of Bootstrap, Syntax of Bootstrap, Container and Container-fluid, Difference between Bootstrap 4 and Bootstrap 5.

UNIT II (15 Hrs.)

Bootstrap Component: Jumbotron, Button, Grid, Table, Alert, Wells, Badge and label, Panels, Pagination, Pager, Image, Glyphicon, Carousel, Progress Bar, List Group, Dropdown, Collapse.

UNIT III (15 Hrs.)

Bootstrap Forms: Forms, Controls, Checks And Radios, Range, Input Group, Floating Labels.

Bootstrap Advance Component: Tabs/Pill, Navbar, Input Types, Modals, Popover, Scrollspy.

UNIT IV (20 Hrs.)

Bootstrap Utilities: Bootstrap Border, Bootstrap Clearfix, Bootstrap Close Icons, Bootstrap Colors, Display Flexbox, Display Property, Image Replacement, Invisible Content, Bootstrap Position, Responsive helpers, Screen Readers, Bootstrap sizing, Bootstrap spacing, Bootstrap Typography.

**Faculty members can take practical sessions during the lecture.*

Recommended Books:

1. Step by Step Bootstrap 3: A Quick Guide to Responsive Web Development Using Bootstrap 3, Step by Step Bootstrap 3: A Quick Guide to Responsive Web Development Using Bootstrap 3, 2014.
2. Bootstrap 5 Foundations by Daniel Charles Foreman and Daniel Foreman.
3. Bootstrap 5: Responsive Web Design and Development" by Jake Spurlock.
4. Mastering Bootstrap 5" by Benjamin Jakobus and Jason Marah.