SANATAN DHARMA
COLLEGE HOSHIARPUR
DEPARTMENT OF COMPUTER APPLICATION

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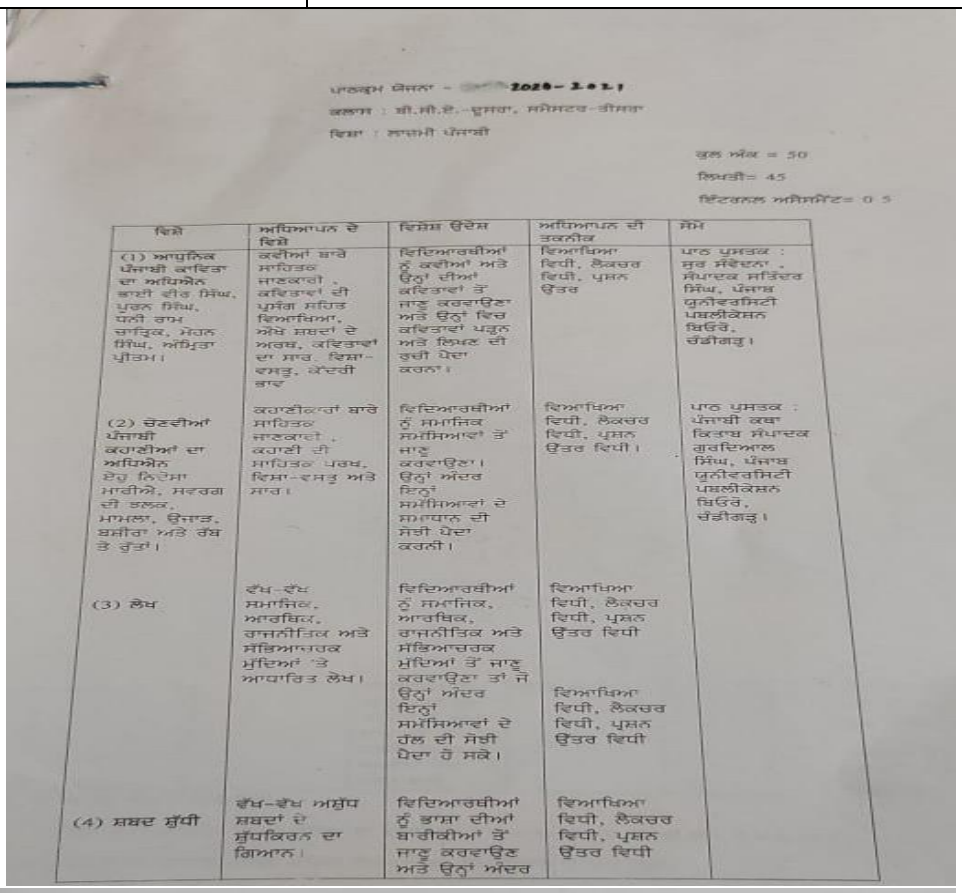
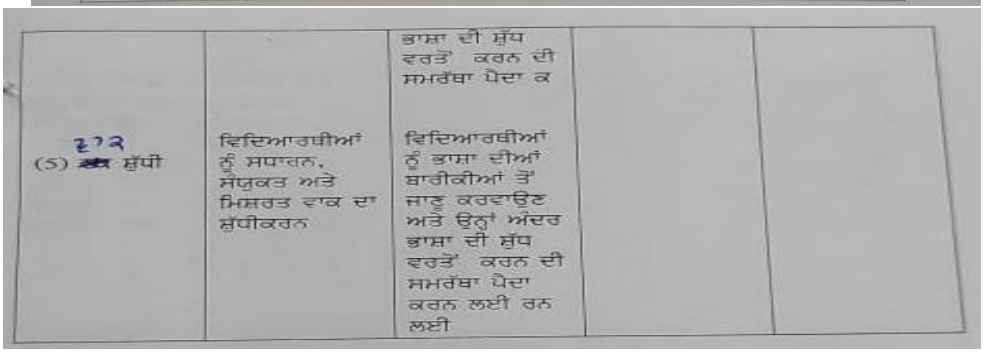
Class	Bachelor of Computer Application(3rd Semester)
Subject Code and Name	Punjabi-A (BCA-16-301)
Time	45 min
Internal /External Marks	05/45



ਪਾਠਕ੍ਰਮ ਯੋਜਨਾ - 2020-2021
ਕਲਾਸ : ਬੀ.ਸੀ.ਏ.-ਦੂਸਰਾ, ਸਮੈਸਟਰ-ਤੀਸਰਾ
ਵਿਸ਼ਾ : ਸਾਰੀ ਪੰਜਾਬੀ

ਕੁਲ ਅੰਕ = 50
ਲਿਖਤੀ= 45
ਇੰਟਰਨਲ ਅਸੈਸਮੈਂਟ= 05

ਵਿਸ਼ੇ	ਅਧਿਆਪਨ ਦੇ ਵਿਸ਼ੇ	ਵਿਸ਼ੇਸ਼ ਉਦੇਸ਼	ਅਧਿਆਪਨ ਦੀ ਤਕਨੀਕ	ਸੋਮੇ
(1) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਅਧਿਐਨ ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪੂਰਨ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਿਕ, ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ।	ਕਵੀਆਂ ਬਾਰੇ ਸਾਹਿਤਕ ਜਾਣਕਾਰੀ , ਕਵਿਤਾਵਾਂ ਦੀ ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ, ਔਖੇ ਸ਼ਬਦਾਂ ਦੇ ਅਰਥ, ਕਵਿਤਾਵਾਂ ਦਾ ਸਾਰ, ਵਿਸ਼ਾ-ਵਸਤੂ, ਕੇਂਦਰੀ ਭਾਵ	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਕਵੀਆਂ ਅਤੇ ਉਨ੍ਹਾਂ ਦੀਆਂ ਕਵਿਤਾਵਾਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਅਤੇ ਉਨ੍ਹਾਂ ਵਿਚ ਕਵਿਤਾਵਾਂ ਪੜ੍ਹਨ ਅਤੇ ਲਿਖਣ ਦੀ ਰੁਚੀ ਪੈਦਾ ਕਰਨਾ।	ਵਿਆਖਿਆ ਵਿਧੀ, ਲੈਕਚਰ ਵਿਧੀ, ਪ੍ਰਸ਼ਨ ਉੱਤਰ	ਪਾਠ ਪੁਸਤਕ : ਸੁਰ ਸੰਵੇਦਨਾ , ਸੰਪਾਦਕ ਸੁਰਿੰਦਰ ਸਿੰਘ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ।
(2) ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦਾ ਅਧਿਐਨ ਏਹੁ ਨਿਤੇਮਾ ਮਾਰੀਐ, ਸਵਰਗ ਦੀ ਭਲਕ, ਮਾਮਲਾ, ਉਜਾੜ, ਬਸੀਰਾ ਅਤੇ ਰੱਬ ਤੇ ਰੁੱਤਾਂ।	ਕਹਾਣੀਕਾਰਾਂ ਬਾਰੇ ਸਾਹਿਤਕ ਜਾਣਕਾਰੀ , ਕਹਾਣੀ ਦੀ ਸਾਹਿਤਕ ਪਰਖ, ਵਿਸ਼ਾ-ਵਸਤੂ ਅਤੇ ਸਾਰ।	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮਾਜਿਕ ਸਮੱਸਿਆਵਾਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ। ਉਨ੍ਹਾਂ ਅੰਦਰ ਇਨ੍ਹਾਂ ਸਮੱਸਿਆਵਾਂ ਦੇ ਸਮਾਧਾਨ ਦੀ ਸੋਝੀ ਪੈਦਾ ਕਰਨੀ।	ਵਿਆਖਿਆ ਵਿਧੀ, ਲੈਕਚਰ ਵਿਧੀ, ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਵਿਧੀ।	ਪਾਠ ਪੁਸਤਕ : ਪੰਜਾਬੀ ਕਥਾ ਕਿਤਾਬ ਸੰਪਾਦਕ ਗੁਰਦਿਆਲ ਸਿੰਘ, ਪੰਜਾਬ ਯੂਨੀਵਰਸਿਟੀ ਪਬਲੀਕੇਸ਼ਨ ਬਿਊਰੋ, ਚੰਡੀਗੜ੍ਹ।
(3) ਲੇਖ	ਵੱਖ-ਵੱਖ ਸਮਾਜਿਕ, ਆਰਥਿਕ, ਰਾਜਨੀਤਿਕ ਅਤੇ ਸੱਭਿਆਚਾਰਕ ਮੁੱਦਿਆਂ 'ਤੇ ਆਧਾਰਿਤ ਲੇਖ।	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮਾਜਿਕ, ਆਰਥਿਕ, ਰਾਜਨੀਤਿਕ ਅਤੇ ਸੱਭਿਆਚਾਰਕ ਮੁੱਦਿਆਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣਾ ਤਾਂ ਜੋ ਉਨ੍ਹਾਂ ਅੰਦਰ ਇਨ੍ਹਾਂ ਸਮੱਸਿਆਵਾਂ ਦੇ ਹੱਲ ਦੀ ਸੋਝੀ ਪੈਦਾ ਹੋ ਸਕੇ।	ਵਿਆਖਿਆ ਵਿਧੀ, ਲੈਕਚਰ ਵਿਧੀ, ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਵਿਧੀ ਵਿਆਖਿਆ ਵਿਧੀ, ਲੈਕਚਰ ਵਿਧੀ, ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਵਿਧੀ	
(4) ਸ਼ਬਦ ਸ਼ੁੱਧੀ	ਵੱਖ-ਵੱਖ ਅਸ਼ੁੱਧ ਸ਼ਬਦਾਂ ਦੇ ਸ਼ੁੱਧਕਿਰਨ ਦਾ ਗਿਆਨ।	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਭਾਸ਼ਾ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣ ਅਤੇ ਉਨ੍ਹਾਂ ਅੰਦਰ	ਵਿਆਖਿਆ ਵਿਧੀ, ਲੈਕਚਰ ਵਿਧੀ, ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਵਿਧੀ	



(5) ਸ਼ੁੱਧੀ	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਧਾਰਨ, ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕ ਦਾ ਸ਼ੁੱਧੀਕਰਨ	ਭਾਸ਼ਾ ਦੀ ਸ਼ੁੱਧ ਵਰਤੋਂ ਕਰਨ ਦੀ ਸਮਰੱਥਾ ਪੈਦਾ ਕ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਭਾਸ਼ਾ ਦੀਆਂ ਬਾਰੀਕੀਆਂ ਤੋਂ ਜਾਣੂ ਕਰਵਾਉਣ ਅਤੇ ਉਨ੍ਹਾਂ ਅੰਦਰ ਭਾਸ਼ਾ ਦੀ ਸ਼ੁੱਧ ਵਰਤੋਂ ਕਰਨ ਦੀ ਸਮਰੱਥਾ ਪੈਦਾ ਕਰਨ ਲਈ ਰਨ ਲਈ		

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Class	**Bachelor of Computer Application(3rd Semester)**
Subject Code and Name	**Information System Design and Implementation (BCA-16-303)**
Time	**45 min**
Internal /External Marks	**10/65**

Objective: The objective of the course is to familiarize students with basic concepts related to development of Information systems.

Unit No	Topics	Content
I	• Systems Concepts and Information Systems Environment • The System Development Life Cycle: • The Role of System Analyst	In this section, we start with Evolution of system and various System concepts, various types of systems. System development lifecycle and its role in system development will be discussed in detail. This section also explain about system analyst and also about its role.
II	• System Planning and the Initial Investigation • Information Gathering: • Tools of Structured Analysis	In this section we discuss about the planning process of system and various methods of system investigation in detail This section also provides details about information gathering techniques and tools of structured analysis..
III	• Feasibility Study • System Design • System Testing and Quality Assurance	In this section the second step of SDLC i.e. feasibility study is discussed in detail, it various types and feasibility report is also discussed. Various types of testing and quality assurance are also discussed.
IV	• Implementation and Software Maintenance • Hardware and Software Selection	This entire section belongs to System implementation and maintenance and also provides details about various methods of hardware anf software selection.
References Books and Various web resources		
1.	Books	Hardgrave Bill C. ,Siau Keng, Chiang Roger H.L., Systems Analysis and Design : Techniques, Methodologies, Approaches and Architectures 1st Edition, M.E. Sharpe Publications
2.	Teaching Methodology	Participative Teaching, collaborative teaching, Group discussion, Blackboard, presentations, teaching with examples.

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Class	**Bachelor of Computer Application(3rd Semester)**
Subject Code and Name	**Computer Oriented Numerical methods (BCA-16-304)**
Time	**45 min**
Internal /External Marks	**10/65**

Objectives: The objective of this course is to familiarize students with basic techniques of Numerical & statistical Methods. After completing this course students will be able to solve the various Financial, Scientific and Engineering field's problems.

Unit No	Topics	Content
I	**Data Representation and Computer Arithmetic** **Iterative Methods**	In this section, we familiarize the students with data and its representations, storage in memory. Also, we discuss the various types of errors which occurred by different sources. In this we discuss the various methods like bisection method, False Position Methods, Secant Methods which are iterative methods,
II	**Solution of Linear and Non Linear Equations**	In this we also discuss various direct methods like Gauss Elimination methods, Gauss Jordan Methods, Gauss Seidal methods etc. In this section we discuss the various interpolation methods like Lagrange interpolation, Inverse Interpolation, Forward Difference interpolation, Backward Difference interpolation etc. Also discuss the various Numerical Integration methods: like Trapezoidal Rule, Simpson's 1/3rd rule, Simpson 3/8th rule etc
III	**Interploation**	In this section Interpolation and exptrapolation techniques are taught. Various sub-topics covered are: Introduction, Lagrange Interpolation, Inverse Interpolation, Finite Differences: Forward Differences, Backward Differences, Divided Differences, Difference Tables: Forward Difference Table, Backward Difference Table, Divided Difference Table,

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	Integration	Observations regarding Difference Tables, Newton's Method of Interpolation: Newton' s Forward Difference Interpolation Formula, Newton' s Backward Difference Interpolation Formula, Newton' s Divided Difference Interpolation Formula. Introduction, Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule.
IV	**Approximation** **Solution of ordinary Differential Equations**	Approximation of functions: Taylor Series Representation, Chebyshev Polynomials. Introduction, Euler's Method, Runga–Kutta Methods: 2nd order & 4th order, Predictor Corrector Methods: Modified Euler's Method.
References Books and Various web resources		
1.	Teaching Methods	Participative Teaching, collaborative teaching, Group discussion, Blackboard, presentations, teaching with examples.
2.	Books	Computer Numerical Methods: R.S. Salaria Computer Oriented statistical and Numerical Methods, Mac Million, Balaguruswami. Computer Numerical methods & stats: Patri & Patri Computer Oriented Numerical Methods: Kalyani Publishers
3.	Web Recourses	Microsoft Virtual Academy Spoken Tutorials, slide share

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Class	**Bachelor of Computer Application(3rd Semester)**
Subject Code and Name	**Data structures (BCA-16-305)**
Time	**45 min**
Internal /External Marks	**10/65**

Objective: This course enables students to do algorithms related to handling data like stack, link list, queue, tress, and graphs. The implementation of these algorithms will be discussed using C programming language.

Unit No	Topics	Content
I	• Basic Concepts and Notations • Array	In this section, we discuss the various types of data structure and its operations like traversing, insertion, deletion, updating, searching, and sorting etc. In this section, we describe what is array, its types and its memory representation, and its applications.
II	• Link List	In this section we consider another data structure called linked lists that addresses the some limitations of arrays. Also, we discuss the various types of link list like header link list, doubly link list, circular link list etc.
III	• Trees	So far, we studied about linear data structure like arrays, link list, stacks. These structures are easy to understand, and implement, present data in linear manner. But Tree is non-linear data structure where data elements are not connected only to one predecessor and one successor but can be connected to more elements.
IV	• Searching& Sorting	In this section we discuss the various searching techniques performed on unsorted array as well as sorted array. We also discuss about various sorting techniques bubble sort, heap sort, quick sort ,radix sort etc.
References Books and Various web resources		
1	Books	Data Structure- Schaum Series
2	Web Recourses	Google classroom, slideshare, screen share(online classes

Unit Plans BCA (3rd semester)
Subject : History and culture of Punjab (BCM101B)
From Earliest time to 1849 A.D
unit-1

Time :3 hour
Max mark :50
Theory : 45
int. Asst : 5

Topics	Teaching Points	Specific objectives	Methods/Approaches Techniques	Resources/links
1. Harappan Civilization: extent and town planning, socio-economic life. 2. Life in vedic Age: Socio conomic, Religious 3. Growth of Jainism and Buddhism & its impact on the Religion.	➢ Introduce the students ancient period of Punjab history. ➢ Main sources literary as well as archaeological sources. ➢ Harappan age; its special features political, social economic or religion life. ➢ Theories regarding the original home of the Aryans; vedic age and its special features.	➢ To provide students a broader meaning of history and specially ancient period of Punjab culture. ➢ To clear the history and pre- history period with the help of archaeological Source. ➢ To encourage the student to take part in open discussions regarding the area of their studies.	a. classroom teaching. b. open discussion. c. use of blackboard and PPT (PowerPoint presentation techniques). d. map of work. e. Library work.	• Ancient India and historical outline, D.N Tha, Delhi, Manohar. • Ancient India, V.D Mahajan. • People's History of Punjab, Dr.Manzur Ejaz

Unit-2

Topics	Teaching Points	Specific objectives	Methods/Approaches Techniques	Resources/links
4. Society and Culture under the Mauryas 5. Society and Culture under the Guptas 6. Cultural Reorientation: Main Features of Bhakti, origin and development of Sufism.	➢ About the cultural development under ancient period special reference of Mauryas and Guptas. ➢ Origin of Bhakti movement and its special features . ➢ Cultural reorganization of Bhakti and Sufism and its impact	➢ To provide a clear concept of Ancient culture of Punjab from Mauryas to Guptas. ➢ To motivate the students to take part in open discussion in the class. ➢ Enable students to analyses the fact critical.	a. classroom teaching. b. library work. c. Assignment. d. Map work with the help of blackboard.	• Punjab History & Culture, C.L Aggrawal • Social and cultural History of the Punjab: Pre historic, Ancient and Medieval, J.S Grewal

Unit-3

Topics	Teaching Points	Specific objectives	Methods/Approaches Techniques	Resources/links
7. Evolution of Sikhism:Teachings of Guru Nanak, Institutional development: Manji, Masand, Sangat-Pangat 8. Transformation of Sikhism: Martyrdom of Guru Arjun; Martyrdom of Guru Teg Bahadur; impact 9. Institution of Khalsa: New Baptism; significance	• Regarding the life and teachings of Guru Nanak • Institutional development of Sikhism, specially sangat, langar, manji and masand • Transformation of Sikhism under Guru Hargobind's new policy • Impact of the martyrdom of Guru Arjun and Guru Teg Bahadur.	• Provide the students broader aspect of Sikh ideology • Motivate the student to take part in classroom discussion. • comparative study of Sikhism and other Indian faiths.	a. open discussion. b. Debate. c. Lectures. d. Library.	• History and Culture of Punjab, Mohinder singh • Punjab History Culture and Literature, Dr. Gurcharan singh.

Unit-4

Topics	Teaching Points	Specific objectives	Method/Approaches Techniques	Resources/links
10. Changes of Society in 18th century: Social unrest; Emergence of Misls and institutions: Rakhi, Gurmata, Dal khalsa 11. Society and Culture of the People under Maharaja Ranjit singh 12. MAPS: Major historical places of Punjab .	➢ About the establishment of Sikh supremacy in Punjab under the rise and growth of Sikh misls ➢ Society and Culture of Punjab under Maharaja Ranjit singh ➢ Development of art, architecture and literature	➢ To provide the student a broader aspects of Sikh polity under Misls period ➢ Comparison of the society of Punjab with other parts of India. ➢ Map work related with main sites of Sikh History and Ancient or Medieval times	a. open discussion. b. classroom discussion. c. Debate. d. map work use of blackboard. e. library work.	• People's History of Punjab, Dr.Manzur Ejaz • Social and cultural History of the Punjab: Pre historic, Ancient and Medieval, J.S Grewal