

BACHELOR OF COMPUTER APPLICATIONS PROGRAMME SPECIFIC OUTCOMES

(Session 2020-21)

Program Specific Outcomes

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

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

PSO3: Achieve leadership role and team player role to be able to work in multidisciplinary areas at various job roles.

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

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

Bachelor of Computer Applications Semester – I (Session 2020-21)

**COURSE CODE: BCAL-1421
PUNJABI (COMPULSORY)**

Course Outcomes:

ਆਤਮਅਨਾਤਮ ਪੁਸਤਕ ਦੇ ਕਵਿਤਾਭਾਗਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਕਵਿਤਾਪ੍ਰਤੀਦਿਲਚਸਪੀ, ਸੂਝ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਤਾਂਕਿ ਉਹ ਆਧੁਨਿਕਦੌਰਵਿਚਚੱਲਰਹੀਆਂਕਾਵਿਧਾਰਾਵਾਂ ਅਤੇ ਕਵੀਆਂਬਾਰੇ ਗਿਆਨਹਾਸਿਲਕਰ ਸਕਣ। ਇਸ ਦਾਹੋਰਮਨੋਰਥਕਵਿਤਾ ਦੀ ਵਿਆਖਿਆ, ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਮੁਲੰਕਣ ਦੀ ਪ੍ਰਕਿਰਿਆਤੋਂਜਾਣੂ ਕਰਾਉਣਾਵੀ ਹੈ ਤਾਂਕਿ ਉਹ ਸਮਕਾਲੀ ਸਮਾਜਦੀਆਂ ਸਮੱਸਿਆਵਾਂਨੂੰ ਸਮਝ ਸਕਣ ਅਤੇ ਆਲੋਚਨਾਤਮਕਦ੍ਰਿਸ਼ਟੀਬਣਾ ਸਕਣ।

- **ਇਤਿਹਾਸਕ ਯਾਦਾਂ**(ਇਤਿਹਾਸਕਲੇਖ ਸੰਗ੍ਰਹਿ)ਪੁਸਤਕ ਨੂੰ ਸਿਲੇਬਸ ਵਿਚਸ਼ਾਮਿਲਕਰ ਕੇ ਵਿਦਿਆਰਥੀਆਂਅੰਦਰਪੜ੍ਹਣ ਦੀ ਰੁਚੀ ਨੂੰ ਪੈਦਾਕਰਨਾ ਹੈ ਅਤੇ ਮੁੱਲਵਾਨਇਤਿਹਾਸ ਤੋਂਜਾਣੂ ਕਰਵਾਉਣਾ ਹੈ।
- ਪੈਰਾਚਰਨਾ ਅਤੇ ਪੈਰਾਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰਕਰਨਾ ਹੈ।
- ਧੁਨੀਵਿਉਂਤ ਪੜ੍ਹਣਨਾਲਵਿਦਿਆਰਥੀ ਧੁਨੀਆਂ ਦੀ ਉਚਾਰਨਪ੍ਰਣਾਲੀਤੋਂਵਾਕਫ਼ ਹੋਣਗੇ।
- ਭਾਸ਼ਾਵੰਨਗੀਆਂਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾਮਨੋਰਥਵਿਦਿਆਰਥੀਆਂਅੰਦਰਪੰਜਾਬੀਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂਨੂੰ ਸਮਝਣਲਈਵੱਖਰੇ -ਵੱਖਰੇ ਸਿਧਾਂਤਾਂਦਾਵਿਕਾਸ ਕਰਨਾ ਹੈ।

Bachelor of Computer Applications Semester – I
(Session 2020-21)
COURSE CODE: BCAL–1031
BASIC PUNJABI

Course Outcomes:

- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਨੂੰ ਸਿਖਾਉਣ ਦੀ ਪ੍ਰਕਿਰਿਆਵਿਚਪਾ ਕੇ ਇਕ ਹੋਰ ਭਾਸ਼ਾ ਸਿੱਖਣ ਦੇ ਮੌਕੇ ਪ੍ਰਦਾਨ ਕਰਨਾ ਹੈ।
- ਇਸ ਵਿਚ ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਾਰੀ ਕਬੀਨੀਨਾਲਭਾਸ਼ਾਦਾਅਧਿਐਨਕਰਵਾਇਆਜਾਵੇਗਾ।
- ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ ਤੋਂ ਜਾਣੂ ਕਰਵਾਇਆ ਜਾਵੇਗਾ।
- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ਬਾਰੇ ਦੱਸਣਾ ਹੈ।
- ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਸ਼ਬਦ ਘੇਰਾ ਵਿਸ਼ਾਲ ਕਰਨਾ ਹੈ।
- ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬੀਵਿਚ ਹਫ਼ਤੇ ਦੇ ਸਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਚੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋਂ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ ਸਿਖਾਉਣਾ ਹੈ।

COURSE CODE: BCAL–1431
PUNJAB HISTORY & CULTURE
(From Earliest Times to C 320)
(Special Paper in lieu of Punjabi compulsory)

COURSE OUTCOMES

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

1. Identify and describe the emergence of earliest civilizations in : Indus Valley Civilization and Aryan Societies.
2. Identify and analyse the Buddhist, Jain and Hindu faith in the Punjab
3. Analyse the emergence of Early Aryans and Later Vedic Period, their Society, Culture, Polity and Economy
4. To make students understand the concepts of two faiths Jainism and Buddhism, its principles and their application in present times

COURSE CODE: BCAL–1102
COMMUNICATION SKILL IN ENGLISH

Course Outcomes:

After passing this course the student will develop the following Skills:

CO1: Reading skills that will facilitate them to become an efficient reader.

CO2: The ability to realise not only language productivity but also the pleasure of being able to articulate well.

CO3: The power to analyse, interpret and infer the ideas in the text.

CO4: The ability to have a comprehensive understanding of the ideas in the text and enhance their critical thinking.

CO5: Writing skills of students which will make them proficient enough to express ideas in clear and grammatically correct English.

CO6: Ability to plan, organise and present ideas coherently on a given topic.

CO7: The skill to use an appropriate style and format in writing letters (formal and informal.)

COURSE CODE: BCAL–1113
INTRODUCTION TO PROGRAMMING – C

Course Outcome:

After passing course the student will be able to:

CO1: Understand formulation of algorithms and flowcharts for problem solution and different programming constructs.

CO2: Have knowledge of execution flow of a C program for programming and maintenance.

CO3: Apply programming concepts to provide solution in different problem domains.

COURSE CODE: BCAL–1114
INTRODUCTION TO COMPUTERS AND INFORMATION TECHNOLOGY

Course Outcome:

After passing course the student will be able to:

CO1: Have knowledge of Computer fundamentals, operating system concepts and office automation software.

CO2: Analyze, design and implement solutions to various problems using algorithms, flowcharts, decision tables and pseudo codes.

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

COURSE CODE: BCAL–1335
APPLIED AND DISCRETE MATHEMATICS

Course Outcome:

After passing course the student will be able to:

CO1: Have knowledge of matrices, sets, relations, propositional logic and Boolean algebra.

CO 2: represents world knowledge in symbolic notation through propositional calculus.

CO 3: Apply discrete mathematical concepts to obtain analytical and numerical solutions.

BACHELOR OF COMPUTER APPLICATIONS SEMESTER – II
(Session 2020-21)
COURSE CODE: BCAL–2421
PUNJABI (COMPULSORY)

COURSE OUTCOMES

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

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

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

CO4: ਪੈਰੂ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉਤਰ ਦੇਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਬੁੱਧੀ ਨੂੰ ਤੀਖਣ ਕਰਦਿਆਂ ਉਨ੍ਹਾਂ ਦੀ ਲਿਖਣ ਪ੍ਰਤਿਭਾ ਨੂੰ ਉਜਾਗਰ ਕਰਨਾ ਹੈ।

CO5: ਸ਼ਬਦ ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ ਪੜ੍ਹਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਇਸਦੇ ਮੁੱਢਲੇ ਸੰਕਲਪਾਂ ਨੂੰ ਆਧਾਰ ਬਣਾ ਕੇ ਇਹਨਾਂ ਸੰਕਲਪਾਂ ਤੋਂ ਜਾਣੂ ਹੋਣਗੇ।

CO6: ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਪੜ੍ਹਾਉਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਅਮੀਰੀ ਦਾ ਅਤੇ ਬਾਰੀਕੀਆਂ ਨੂੰ ਸਮਝਣ ਲਈ ਵੱਖਰੇ - ਵੱਖਰੇ ਸਿਧਾਂਤਾਂ ਦਾ ਵਿਕਾਸ ਕਰਨਾ ਹੈ।

CO7: ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

COURSE CODE: BCAL-2031
BASIC PUNJABI
(in lieu of Punjabi Compulsory)

Course outcomes

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

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

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

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

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

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

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

CO8: ਸੰਖੇਪ ਰਚਨਾ ਕਰਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਆਪਣੀ ਗੱਲ ਨੂੰ ਸੰਖੇਪ ਵਿਚ ਕਹਿਣ ਦੀ ਜਾਚ ਸਿੱਖਣਗੇ ਅਤੇ ਇਹ ਦਿਮਾਗੀ ਕਸਰਤ ਵਿਚ ਸਹਾਈ ਹੋਵੇਗੀ।

CO9:ਘਰੇਲੂ ਅਤੇ ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ ਲਿਖਣ ਦਾ ਮਨੋਰਥ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਇਸ ਕਲਾ ਵਿਚ ਨਿਪੁੰਨ ਕਰਨਾ ਹੈ।

CO10: ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਨਾਲ ਗੱਲਬਾਤ ਵਿਚ ਪਰਪੱਕਤਾ ਆਉਂਦੀ ਹੈ। ਇਹ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਗੱਲਬਾਤ ਵਿਚ ਨਿਖਾਰ ਲਿਆਉਣ ਦਾ ਕੰਮ ਕਰਨਗੇ।

COURSE CODE: BCAL-2431
PUNJAB HISTORY AND CULTURE (C. 320 TO 1000 B.C.)
(Special paper in lieu of Punjabi Compulsory)
(For those students who are not domicile of Punjab)

Course Outcome:

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

CO 1: Analyse the emergence of Mauryan, Gupta empires during the classical age in India

CO 2: To understand the various factors leading to rise and fall of empires and emergence of new dynasties and their Culture, society, administration, polity and religion specifically of Kushans and Vardhanas in the Punjab

CO 3: Students will be adept in constructing original historical argument based on primary source material research

CO 4: To have an insight on the existing Literature of this period and understand the past developments in the light of present scenario.

CO 5: To enable students to have thorough insight into the various forms/styles of Architecture and synthesis of Indo - Muslim Art and Architecture in Punjab

COURSE CODE: BCAM–2102

COMMUNICATION SKILLS IN ENGLISH

COURSE OUTCOMES

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

CO 1: Enhancement of listening skills with the help of listening exercises based on conversation, news and TV reports

CO 2: Improvement of speaking skills enabling them to converse in a specific situation

CO 3: Acquisition of knowledge of phonetics which will help them in learning about correct pronunciation as well as effective speaking

CO 4: The capability to present themselves well in a job interview

CO 5: The ability of Note-Taking to be able to distinguish the main points from the supporting details and the irrelevant information from the relevant one

CO 6: Speaking skills of the students enabling them to take active part in group discussion and present their own ideas

CO 7: The capability of narrating events and incidents in a logical sequence

COURSE CODE: BCAL–2113

INTRODUCTION TO OBJECT ORIENTED PROGRAMMING

Course Outcomes:

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

CO1: Comprehend the concepts of Object Oriented Programming Paradigm

CO2: Write, compile and debug programs in C++, use different data types, operators and I/O function in a computer program

CO3: Apply OOPs concepts to model real world problems for its simplified implementation.

COURSE CODE: BCAL–2114

PRINCIPLES OF DIGITAL ELECTRONICS

Course Outcomes:

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

CO1: Comprehend and apply the number systems and Boolean algebra.

CO2: Design advanced and complex electronic circuits.

CO3: Reduce Boolean Expressions and implement them with Logic Gates.

CO4: Demonstrate the internal structure of semiconductor memory

COURSE CODE: BCAL–2115
NUMERICAL METHODS AND STATISTICAL TECHNIQUES

Course Outcomes:

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

CO1: Comprehend mechanics of elementary methods and statistical inference techniques for numerical analysis.

CO2: Demonstrate the application of numerical methods on different platform with the use of programming language.

CO3: Apply learned techniques to solve linear and non-linear equations related to real world problems.

BACHELOR OF COMPUTER APPLICATIONS SEMESTER – III
(Session 2020-21)

COURSE CODE: BCAL–3111
COMPUTER ARCHITECTURE

Course Outcomes:

After passing course the student will be able to:

CO1: Understand register and its micro-operations, computer instructions and basic design of computer.

CO2: Gain knowledge of various instruction formats and addressing modes.

CO3: Have understanding of memory organization and design.

CO4: Have understanding of I/O organization, Pipeline and vector processing.

COURSE CODE: BCAL–3112
DATABASE MANAGEMENT SYSTEM

Course Outcomes:

After passing course the student will be able to:

CO1: Understand data, database and database models.

CO2: Gain knowledge of normalization and transaction control.

CO3: Gain knowledge of core database language-SQL.

CO4: Have a basic understanding of Big-data and NoSQL.

COURSE CODE: BCAL–3113
COMPUTATIONAL PROBLEM SOLVING USING PYTHON

Course Outcomes:

After passing course the student will be able to:

CO1: Understand formulation of algorithms and programs for problem solving.

CO2: Gain understanding of various programming constructs like data types, operators, string processing and control structures.

CO3: Have knowledge of object oriented programming paradigm.

CO4: Have understanding of file handling, exception handling and SQLite database connectivity in python.

BACHELOR OF COMPUTER APPLICATIONS (SEMESTER – IV)

COURSE CODE: BCAL-4111

DATA STRUCTURES

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend various sorting and searching algorithms.

CO2: Implement the basic data structures and solve problems using fundamental algorithms.

CO3: Analyze complexity of algorithms to determine their efficiency.

CO4: Evaluate and choose adequate data structures to solve real world problems.

COURSE CODE: BCAL-4112

INFORMATION SYSTEMS

Course Outcomes:

After passing course the student will be able to:

CO1: Identify the impact of information in decision making of an organization.

CO2: Comprehend various methods for capturing and accessing information including online access.

CO3: Comprehend various types of Information Systems - TPS, MIS, OAS and DSS.

CO4: Identify the role of Information System in organizations: Accounting Information systems, Inventory control systems and Marketing systems.

COURSE CODE: BCAL-4113

INTERNET APPLICATIONS

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend basics of internet and its working.

CO2: Apply the concepts for better e-mail management.

CO3: Comprehend different Internet protocols and search engines.

CO4: Apply basic web designing technologies to design webpage.

COURSE CODE: BCAL-4114

FOUNDATION OF DATA SCIENCE

Course Outcomes:

After passing course the student will be able to:

CO1: Comprehend basic concepts of Data Science along with its components and process.

CO2: Analyze different application areas and challenges of data science.

CO3: Interpret various data collection tools.

CO4: Comprehend various types of data analytics.

BACHELOR OF COMPUTER APPLICATIONS (SEMESTER – V)

COURSE CODE: BCAL-5111

COMPUTER NETWORKS

Course Outcomes:

After passing course the student will be able to:

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

CO2: Understand the types of transmission media with real time applications

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

CO4: Explain the functions of Transport layer and Application layer protocols.

CO5: Have a basic knowledge of the use of cryptography and network security.

COURSE CODE: BCAL-5112

WEB TECHNOLOGIES

Course Outcomes:

After passing course the student will be able to:

CO1: Understand the basics of websites and use of different markup languages.

CO2: Gain knowledge of different client side technologies.

CO3: Develop single page application through React.

COURSE CODE: BCAL - 5113

OPERATING SYSTEM

Course Outcomes:

After passing course the student will be able to:

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

CO2: Understand the process management policies and CPU scheduling.

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

CO4: Gain knowledge of operating system concepts that includes virtual memory, mutual exclusion algorithms and deadlock handling.

COURSE CODE: BCAL-5114

JAVA PROGRAMMING

Course Outcomes:

After passing this course the student will be able to:

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

CO2: Gain knowledge of object oriented concepts to model real world problems.

CO3: Have knowledge of packages, multithreading and Exception handling.

CO4: Demonstrate the concept of file handling and Applets.

Bachelor of Computer Applications Semester – VI
(Session 2020-21)

COURSE CODE: BCAL - 6111
COMPUTER GRAPHICS

Course Outcomes:

After passing this course the student will be able to:

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

CO2: Comprehend basic concepts involved in drawing basic shapes.

CO3: Implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping, etc.

CO4: Identify the importance of viewing and projections.

COURSE CODE: BCAL - 6112
SOFTWARE ENGINEERING

Course Outcomes:

After passing course the student will be able to:

CO1: identify and evaluate various process model used for development of software.

CO2: Analyze gathered data to form requirement specifications.

CO3: Design modular and structured design of a system.

CO4: Identify various documentation involved in different phases of system development.

CO5: Apply testing techniques on basic building blocks and control structure.

CO6: Comprehend activities involved in software project management.

COURSE CODE: BCAP - 6114
PROJECT

Course Outcomes:

After passing this course the student will be able to:

CO1: Apply software engineering paradigms like Process Model, Analysis, Design, Testing, etc.

CO2: Work within defined time and resource constraints while developing real world application.

CO3: Address the Real World Problems and find the required solution.

CO4: Demonstrate an ability to work in teams and manage the conduct of the research study.

CO5: Formulate and propose a plan for creating a solution