ST. ALOYSIUS COLLEGE(AUTONOMOUS), JABALPUR

Reaccredited 'A+ 'Grade by NAAC(CGPA:3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & STAR College Scheme by DBT

Faculty of Science

Bachelor of Computer Application
B.CA. IV Semester
Paper-Minor
System Analysis and Engineering

Course Outcomes

CO. No.	Course Outcomes	Cognitive Level
CO 1	Gain in depth knowledge of basic understanding of system characteristics, system design, and its development processes.	U, A
CO 2	Student will learn how a system is designed in a systematic and phased manner, starting from requirement analysis to system implementation and maintenance.	U
CO 3	To gain the knowledge of how Analysis, Design, Implementation, Testingand Maintenance processes are conducted in a software project.	U
CO 4	Ability to apply software engineering principles and techniques. Toproduce efficient, reliable, robust and cost-effective software solutions.	U, Analyze
CO 5	Students will be able to choose appropriate process model depending onthe user requirements	Analyze
CO 6	Students will be able perform various life cycle activities like Analysis,Design, Implementation, Testing and Maintenance	Analyze

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	4	40	60	**100**
Practical	2	40	60	**100**
Total	**6**	**200**		

Evaluation Scheme

	Marks	
	Internal	**External**
Theory	3 Internal Exams of 20 Marks (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of Semester)
Practical	3 Internal Exams (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of Semester)

MD

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BCA IV Semester **Paper-Minor**

System Analysis and Engineering

Theory

No. of Lectures (in hours per week): 2 Hrs. per week

Total No. of Lectures: 60 Hrs. **Maximum Marks:** 60

Units	Topics	No. of Lectures
I	System Analysis and Design - Overview: Systems Analysis, SystemsDesign, What is a System? Constraints of a System, Properties of a System, Elements of a System, Types of Systems, Systems Models.	12
II	System Development Life Cycle: Phases of SDLC, Life Cycle of System Analysis and Design, Role of System Analyst, Attributes of a Systems Analyst. System Planning: Requirements Determination, Information Gathering Techniques.	12
III	Structured Analysis: Structured Analysis Tools, Data Flow Diagrams (DFD), Decision Trees, Decision Tables, Components of a Decision Table. System Design: Inputs and Outputs for System Design, Types of System Design.	12
IV	Software Characteristics, Components and Applications. Software Engineering - A Layered Technology. Software Process Models [Linear Sequential Model, Prototype and RAD Model]. Evolutionary Software Process Models [Waterfall Model, Incremental Model and Spiral Model].	12
V	S/W Quality Assurance: Quality Concepts, SQA activities, S/W Reviews, Formal Technical Reviews. S/W Testing Techniques: White and Black Box Testing, Basic Path Testing, Unit Testing, Integration Testing, Validation Testing, System Testing.	12

Text Books:

- Java A Complete reference by Herbert Schildt, Mc Graw hill publication
- Thinking in Java (3rd edition) Bruce Eckel, Prentice Hall
- The Java Language Specification, Java SE 8, Cay S. Horstmann, Gary Cornell, Prentice Hall
- Core Java an Integrated Approach (Black Book), Dr. R. Nageswara Rao, Prentice Hall

Web Links:

- www.javatutorials.com
- www.javatpoint.com www.tutorialspoint.com

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