VALLIAMMAI ENGINEERING COLLEGE

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

IV SEMESTER
CS8494 – SOFTWARE ENGINEERING
Regulation – 2017
Academic Year 2018 – 19 EVEN

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SUBJECT : CS8494 - SOFTWARE ENGINEERING

SEM / YEAR : IV/II

UNIT I - SOFTWARE PROCESS AND AGILE DEVELOPMENT			
Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models –Introduction to Agility-Agile process-Extreme programming-XP Process.			
PART-A (2 - MARKS)			
Q. No	**QUESTIONS**	**Competence**	**BT Level**
1.	**Write** the IEEE definition of software engineering.	Remember	BTL-1
2.	**Demonstrate** your understanding of umbrella activities of a Software process.	Apply	BTL-3
3.	If you have to develop a word processing software product, what process model will you choose? Justify your answer and **examine.**	Apply	BTL-3
4.	Differentiate verification and validation. Give an example.	Understand	BTL-2
5.	**List** the characteristics of software contrasting it with characteristics of hardware.	Remember	BTL-1
6.	**Explain** How do we create a process that can manage unpredictability?	Evaluate	BTL-5
7.	**Identify** the human factors considered for an agile software development.	Remember	BTL-1
8.	Is it possible to realize Win-Win spiral model for software. **analyse**	Analyze	BTL-4
9.	**Summarize** the pros and cons of iterative software development model.	Evaluate	BTL-5
10.	**Define** agile process **.Give** any two agile principles.	Remember	BTL-1
11.	**List** two deficiencies in waterfall model. Which process model do you suggest to overcome each deficiency	Remember	BTL-1
12.	**Compare** perspective and specialized process model.	Analyze	BTL-4

13.	Predict about XP story.	Understand	BTL-2
14.	**Discuss** about the various drawbacks of spiral model	Understand	BTL-2
15.	**Generalize** on any two characteristics of software as a product.	Create	BTL-6
16.	**Show** what led to the transition from product oriented development to process oriented development.	Apply	BTL-3
17.	**Differentiate** SDD and DDD.	Analyze	BTL-4
18.	**Create** six new practices that are designed to help ensure that an XP project works successfully for significant projects within a large organization.	Create	BTL-6
19.	**Summarize** on extreme programming.	Understand	BTL-2
20.	**Why** system engineers must understand the environment of a system?Give two reasons.	Remember	BTL-1
	PART-B (13- MARKS)		
1.	Define software life cycle. **List** all life cycle models and explain spiral model with a neat diagram.(13)	Remember	BTL-1
2.	(i) **Explain** alteast one scenario where a)RAD model would be applicable and not the waterfall model.(3) b)Waterfall model is preferable compare to all other models.(3) (ii) **What** are the pros and cons of using mathematical approach for software development?(7)	Analyze	BTL-4
3.	(i) **Describe** about agile modeling in detail**.**(6) (ii**) Explain** the component based software development model with a neat sketch.(7)	Remember	BTL-1
4.	(i)**Write** short notes on aspect oriented software development.(6) (ii) **Explain** in detail about personal process models and team process models.(7)	Evaluate	BTL-5
5.	(i) **What** is a process model? Describe the process model that you would choose to manufacture a car explain giving suitable reasons(6) (ii) **Describe** the various Evolutionary Process Models with neat diagram. (7)	Understand	BTL-1
6.	**(i) Compare** the life cycle models based on their distinguishing factors, strengths and weaknesses.(6) (ii**) Discuss** the prototyping model .what is the effect of designing a	Analyze	BTL-4

	prototype on the overall cost of the software project?(7)		
7.	(i) **Explain** in detail about iterative and waterfall model.(6) (ii)Write short notes on concurrent models.(7)	Analyze	BTL-4
8.	(i) **Discuss** in detail about Scrum.(7) (ii) **What** is the significance of the spiral model when compared with other model?(6)	Understand	BTL-2
9.	(i)**Discuss** the Extreme Programming process.(7) (ii)**What** are some of the issues that lead to an XP debate?(6)	Understand	BTL-2
10.	(i) **Illustrate** about agility and cost of change. (6) (ii) **What** key traits must exist among the people on an effective software team? (7)	Apply	BTL-3
11.	(i**) What** is agility in the context of software engineering work? (6) (ii) **List** the principles of agile software development.(7)	Understand	BTL-2
12.	(i) **Compose** your view about agile software development. (6) (ii) **Generalize** your view about extreme programming. (7)	Create	BTL-6
13.	(i) **Describe** about pair programming and how unit tests used in XP?(7) (ii) **List** the new practices appended to XP to create IXP. (6)	Remember	BTL-1
14.	(i) E**xplain** software product engineering with its services and advantages.(7) (ii)**Write** a note on the unique characters of a software. (6)	Apply	BTL-3
PART-C (15- MARK)			
1.	**Generalize** about system engineering hierarchy with suitable diagram and give an overview of the Business process Engineering with a diagram. (15)	Create	BTL-6
2.	**Compare** the following life cycle models based on their distinguishing factors, strengths and weakness-waterfall model, AD model, Spiral Model, and Formal Methods Model.(Present in the form of table only-use diagrams wherever necessary). (15)	Evaluate	BTL-5
3.	**Explain** about the umbrella activities which support software development process and discuss about their necessity in maintaining the quality in both software process and product that is being developed for railway reservation system. (15)	Evaluate	BTL-5
4.	**Assume** that you are the technical manager of a software development organization. A Client approached you for a software solution the	Evaluate	BTL-5

	problems stated by the client have uncertainties which lead to loss if it not planned and solved which software development model you will suggest for this project –justify. **Explain** that model With its pros and cons and neat sketch. (15)		
UNIT II- REQUIREMENTS ANALYSIS AND SPECIFICATION			
Software Requirements: Functional and Non-Functional, User requirements, System requirements, Software Requirements Document – Requirement Engineering Process: Feasibility Studies, Requirements elicitation and analysis, requirements validation, requirements management-Classical analysis: Structured system Analysis, Petri Nets- Data Dictionary.			
PART-A (2 - MARKS)			
Q.No	**QUESTIONS**	**BT Level**	**Competence**
1.	**Give** a use case diagram for an online shopping which should provide provisions for registering authenticating the customers and also online payment through any payment gateway like PayPal.	Understand	BTL-2
2.	**Define** feasibility study and list the types.	Remember	BTL-1
3.	**Classify** the following as functional /non-functional requirements for a banking system (a)Verifying bank balance (b) Withdrawing money from bank (c) Completion of transactions in less than one second. (d)Extending the system by providing more tellers for the customers	Apply	BTL-3
4.	Draw and **explain** a simple semantic data model for a library Management system	Analyze	BTL-4
5.	**List** the characteristics of a good system requirements specification(SRS)	Remember	BTL-1
6.	**Define** Quality Function Development(QFD)	Remember	BTL-1
7.	How requirements are **classified**? List them with an example for each.	Apply	BTL-3
8.	**Develop** the spiral view of requirement engineering process.	Create	BTL-6
9.	**Differentiate** between normal and exciting requirement.	Understand	BTL-2
10.	**Point out** the problems faced when user requirements are written in natural language.	Analyze	BTL-4
11.	**Distinguish** between the terms inception, elicitation and elaboration with	Understand	BTL-2

	reference to requirements.		
12.	**List** two advantages of using traceability tables in the requirements management phase.	Remember	BTL-1
13.	**Classify** the metrics for specifing non-functional requirements.	Analyze	BTL-4
14.	**Express** the different types of check list that should be carried out for requirement validation process.	Understand	BTL-2
15.	**Explain** how to manage changing requirements during the requirements elicitation process?	Evaluate	BTL-5
16.	**What** is meant by structural analysis and volatile requirement?	Remember	BTL-1
17.	**Classify** the common data Dictionary notations	Apply	BTL-3
18.	**Define** Petri Net and list types of traceability in a software process.	Remember	BTL-1
19.	**Explain**, how the requirements are validated?	Evaluate	BTL-5
20.	**Generalize** on the concept of data dictionary.	Create	BTL-6
PART-B (13- MARK)			
1.	(i) **Differentiate** functional and non-functional requirements.(6) (ii) **Give** the steps involved in initiating requirements engineering.(7)	Understand	BTL-2
2.	(i) What are called as non-functional requirements? **Explain** in detail.(7) (ii) **Summarize** on user requirements and system requirements in detail.(6)	Understand	BTL-2
3.	(i) **List** and **explain** the Three aspects that SRS should clearly document.(7) (ii) **List** the characteristics of good SRS document and their components.(6)	Remember	BTL-1
4.	(i) **Demonstrate** the structure of requirement document.(7) (ii) **Show** the possible users of requirement document.(6)	Apply	BTL-3
5.	(i)**Explain** the different ways of writing a system requirement specification.(7) (ii) **Describe** the spiral view of system requirement.(6)	Remember	BTL-1
6.	**Analyze** about the requirement engineering process and how the requirements are managed.(13)	Analyze	BTL-4
7.	(i) What is the purpose of feasibility study?(2) (ii) State the inputs and results of the feasibility study.(4) (iii) **List** any four issues addressed by a feasibility study.(4)	Remember	BTL-1

	(iv) **Elaborate** the phases involved when carrying out a feasibility study.(3)		
8.	What is requirement elicitation? Briefly describe the various activities performed in requirements elicitation with an example of a watch system that facilitates to set time and alarm and **assess**.(13)	Evaluate	BTL-5
9.	i)What is feasibility study? how it helps in requirement engineering process.(4) ii)**How** will you classify the requirement types of a project, give example.(5) iii)List the stake holders and all types of requirements for an online train reservation system .(4)	Create	BTL-6
10.	Write short notes on the **list** given below (i) Requirements discovery.(3) (ii) Interviewing.(3) (iii) Scenarios.(3) (iv) Use cases.(2) (iv) Ethnography.(2)	Remember	BTL-1
11.	(i) **Classify** the different types of checks carried out on the requirements in the requirements document during the validation process.(7) (ii) **Demonstrate on** the requirement validation techniques.(6)	Apply	BTL-3
12.	(i) **Discuss** about the requirement management planning.(7) (ii) **Describe** about the requirement change management.(6)	Understand	BTL-2
13.	(i) **Analyze** briefly about the structural system analysis in detail.(6) (ii) **Explain** about classical perti nets model.(7)	Analyze	BTL-4
14.	(i) What is the purpose of data flow diagrams? What are the notations used for the same?(7) (ii) Construct a context flow diagram level-0 DFD and Level-1 DFD for a library management system and **explain** it.(6)	Analyze	BTL-4
PART-C (15 -MARKS)			
1.	**Develop** an online railway reservation system, which allows the user to select route, book/cancel tickets using net banking/credit/debit cards. The site also maintains the history of the passengers. For the above system, list and draw the use case scenario and model the above	Create	BTL-6

	specification.(15)		
2.	**Assess** on software requirement specification for banking system. (15)	Evaluate	BTL-5
3.	Draw and **Explain** the use case diagram for an ATM system in requirement elicitation. (15)	Evaluate	BTL-5
4.	**Develop** the process of ordering a pizza over the phone. Draw the use case diagram and also sketch the activity diagram representing each step of the process, from the moment you pick up the phone to the point where you start eating the pizza. Include activities that others need to perform. Add exception handling to the activity diagram you developed. Consider at least two exceptions (e.g. delivery person wrote down wrong address, deliver person brings wrong pizza). (15)	Create	BTL-6
UNIT III- SOFTWARE DESIGN			
Design process – Design Concepts-Design Model– Design Heuristic – Architectural Design -Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design –Component level Design: Designing Class based components, traditional Components.			
PART-A (2 - MARKS)			
1.	What do you **interpret** from design heuristics?	Understand	BTL-2
2.	**List** two principles of good design.	Remember	BTL-1
3.	What do you **infer** from the design quality attributes ‘FURPS’?	Analyze	BTL-4
4.	**Draw** the context flow graph of an ATM automation system.	Remember	BTL-1
5.	'A system must be loosely coupled and highly cohesive’. **Justify.**	Evaluate	BTL-5
6.	**Define** Modularity.	Remember	BTL-1
7.	**Give** the various types of architectural styles with example.	Understand	BTL-2
8.	**What** is coupling and list the various types of coupling?	Remember	BTL-1
9.	**Discuss** how do you apply modularization criteria for monolithic software?	Understand	BTL-2
10.	**Define** mapping.	Remember	BTL-1
11.	**Analyze** an UI design pattern are used for the following. i) Page layout ii) Tables	Analyze	BTL-4

	iii) Navigation through menus and webpages iv) Shopping cart.		
12.	**Distinguish** between transform flow and transaction flow.	Understand	BTL-2
13.	**List** the basic design principles of class based component.	Remember	BTL-1
14.	**Point out** the steps that are applied to develop a decision table in tabular design notation.	Analyze	BTL-4
15.	**Classify** the four distinct frame work activity in the user interface analysis and design process.	Apply	BTL-3
16.	**Design** the architectural context diagram.	Create	BTL-6
17.	In case of user interface analysis, **assess** the steps that are taken for understanding the problems.	Evaluate	BTL-5
18.	**Classify** the user interface design steps.	Apply	BTL-3
19.	**Show** the facilities that are provided in a system to recover users from the mistakes.	Apply	BTL-3
20.	**Generalize** on the concept of user interface design pattern.	Create	BTL-6
PART-B (13- MARKS)			
1.	Explain the following **list** of design concept (i) Abstraction(3) (ii) Modularity(3) (iii) Patterns(3) (iv) Functional independence(4)	Remember	BTL-1
2.	**Explain** about software architecture design, with emphasize as fan in, fan-out, coupling, cohesion and factoring.(13)	Evaluate	BTL-5
3.	**Analyze** your understanding on the following design models (i) Data design elements.(2) (ii) Architectural design elements.(2) (iii) Interface design elements.(3) (iv) Component-level design elements.(3) (v) Deployment-level design elements.(3)	Analyze	BTL-4
4.	(i) **Demonstrate** in detail about architectural design.(7) (ii) **Illustrate** in detail about any four architectural styles.(6)	Apply	BTL-3
5.	(i) **Give** the steps involved in transform mapping.(6) (ii) **Discuss** transform mapping with example.(7)	Understand	BTL-2

6.	(i) **List** the steps involved in transaction mapping.(6) (ii)**Describe** transaction mapping with example.(7)	Remember	BTL-1
7.	(i) **Discuss** the basic design principles of class based components.(7) (ii) **Discuss** the component-level design guidelines.(6)	Remember	BTL-2
8.	**Describe** the various coupling and cohesion methods used in software design. (13)	Understand	BTL-2
9.	**Examine** Architectural Styles listed below. (i) Data centered Architecture. (3) (ii) Data Flow Architecture.(3) (iii) Call and Return Architecture. (3) (iv) Object Oriented Architecture.(2) (v) Layered Architecture. (2)	Apply	BTL-3
10.	(i) **Analyze** on the concept of graphical design notation.(6) (ii) **Explain** Tabular Design Notation.(7)	Analyze	BTL-4
11.	**i)Describe** about user interface analysis in detail.(7) ii)Explain the general model of a real time system.(6)	Remember	BTL-1
12.	(i) **Generalize** on the concept of user interface design and list the characteristics of a good user interface design (7) (ii) **Develop** the design issues in interface design.(6)	Create	BTL-6
13.	(i) **Analyze** about program design language in designing conventional components.(6) (ii) **Classify** and explain the various architectural styles in detail.(7)	Analyze	BTL-4
14.	i) **Describe** how UID may be developed for a data acquition system.(7) ii)**Discuss** the design heuristics for effective modularity design.(6)	Remember	BTL-1
PART-C(15 -MARKS)			
1.	Model a Dataflow diagram for a "Library Management System". State and **explain** the functional requirements you are considering. (15)	Evaluate	BTL-5
2.	What is the purpose of DFD ?what are the components of DFD? **Design** DFD for the following system: An on-line shopping system for XYZ provides many services and benefits to its members and staffs. Currently ,XYZ staffs manually handle the purchasing information with the use of basic office software, such ass Microsoft office word and excel.it may results in having	Create	BTL-6

	mistakes easily and the process is very inconvenient .XYZ needs an online shopping system at their intranet based on the requirement of users. XYZ online shopping system has 5 key features: i) to provide the user friendly online shopping cart function to members to replace hardcopy ordering form. ii)o store inventory and sales information in data base to reduce the human mistakes, increase accuracy and enhance the flexibility of information processing. iii) to provide an efficient inventory system which can help the XYZ staffs to gain enough information to update the inventory. iv) to able to print invoice to members and print a set of summary reports for XYZ internal usage. v) to design the system that is easy to maintain the upgrade. (15)		
3.	**Summarize** on the Hierarchical concept of user interface design and Draw the swim lane diagram for prescription refill function. (15)	Evaluate	BTL-5
4.	**Rewrite** the concept of OCP in your own words. Why is it important to create abstraction that serve as an interface between components? (15)	Create	BTL-6
UNIT IV- TESTING AND MAINTENANCE			
Software testing fundamentals-Internal and external views of Testing-white box testing – basis path testing-control structure testing-black box testing- Regression Testing – Unit Testing – Integration Testing – Validation Testing – System Testing And Debugging –Software Implementation Techniques: Coding practices-Refactoring-Maintenance and Reengineering-BPR model-Reengineering process model-Reverse and Forward Engineering.			
PART-A (2 -MARKS)			
1.	**Describe** the objectives of testing. What is "cyclomatic complexity"? **Point out** its primary use.	Remember	BTL-1
2.	**Analyze** on what is a "good" test and **List** two principles of good design**.**	Analyze	BTL-4
3.	**Differentiate** verification and validation. Which type of testing address verification? Which type of testing address validation?	Understand	BTL-2
4.	**Identify** What methods are used for breaking very long expression and statement.	Remember	BTL-1
5.	What is flow graph notation and **show** how it is important in white box testing?	Remember	BTL-1

6.	**Measure** the performance of equivalence partitioning.	Evaluate	BTL-5
7.	**What** is controllability in testing?	Remember	BTL-1
8.	**Point out** the purpose of stud and driver used for testing.	Analyze	BTL-4
9.	**What** are the generic characteristics of software testing?	Remember	BTL-1
10.	**Summarize** various testing strategies for conventional software.	Understand	BTL-2
11.	**Examine** how the software Testing results related to the reliability of the software.	Remember	BTL-1
12.	Between "statement coverage and Branch Coverage", **Examine** which is a stronger criteria? Why?	Apply	BTL-3
13.	Identify and **analyze** the type of maintenance for each of the following: a) Correcting the software faults. b) Adapting the change in environment.	Apply	BTL-4
14.	**Give** the testing principles the software engineer must apply while performing the software testing.	Understand	BTL-2
15.	**Generalize** your opinion about Smoke Testing.	Create	BTL-6
16.	**Classify** the Reverse Engineering process.	Apply	BTL-3
17.	**Show** your understanding on maintainability.	Apply	BTL-3
18.	**Generalize** on What options exist when we are faced with a poorly designed and implemented program?	Create	BTL-6
19.	**Give** the software reengineering activities.	Understand	BTL-2
20.	**Assess** on BPR model with neat diagram.	Evaluate	BTL-5
	PART-B (13- MARKS)		
1.	**Describe** the type's basic path testing given. (i)Flow graph notation .(5) (ii) Independent program paths.(8)	Remember	BTL-1
2.	What is black box testing? **Explain** the different types of black box testing strategies. Explain by considering suitable examples.(13)	Analyze	BTL-4
3.	**(i) Write** elaborately on unit testing. How do you develop test suites.(7) (ii) **Explain** how to broaden testing coverage and improve the quality of white box-testing.(6)	Remember	BTL-1
4.	(i) What is cyclomatic complexity and what are the ways to compute it?(5) (ii) **Give** the steps to select the path in data flow testing.(5) (iii) **Explain** how the various types of loops are tested.(3)	Understand	BTL-2

5.	(i) **Describe** in detail about software testing strategies.(7) (ii) Explain in detail about any one control structure testing.(6)	Remember	BTL-1
6.	(i) **Summarize** on Top-down Integration testing and Bottom -up integration testing .(8) (ii) **Describe** business process reengineering.(5)	Understand	BTL-2
7.	(i)How would you **apply** your understanding about Software implementation techniques?(7) (ii) What is refactoring?when is it needed?Explain with an example.(6)	Apply	BTL-3
8.	**(i) Analyze** on equivalence partitioning. List rules used to define valid and invalid equivalence classes. explain the technique using examples.(7) **(ii)** What is boundary value analysis? **Explain** the technique specifying rules and its usage with the help of an example.(6)	Analyze	BTL-4
9.	(i)What conclusions can you draw from regression testing? **Support** your answer with a neat sketch.(7) (ii)explain the list given below (a) Reverse Engineering to Understand Data.(2) (b) Reverse Engineering to Understand Processing.(2) (c) Reverse Engineering User Interfaces.(2)	Evaluate	BTL-5
10.	Write a **generalize** concept on the following system testing (i) Recovery testing.(4) (ii) Security testing.(3) (iii) Orthogonal array testing.(3) (iv) Graph-based testing.(3)	Create	BTL-6
11.	(i) **Describe** in detail about BPR model with a neat diagram.(7) (ii) Explain Forward Engineering in detail.(6)	Remember	BTL-1
12.	**Apprise and analyze** the purpose of system testing with a high level explanation on all its types.(13)	Analyze	BTL-4
13.	(i) What is the purpose of software reengineering? **Explain** with a neat diagram. (7) (ii) **Summarize** the activities involved in software reengineering.(6)	Understand	BTL-2
14.	(i) **Illustrate** in detail about Reverse engineering process.(7) (iii) Explain Forward Engineering for Client-Server Architectures.(6)	Apply	BTL-3

PART-C (15-MARKS)			

1.	Consider the following program segment.
	/*num is the number of function searches in a presorted integer array arr*/
	int bin_search(int num)
	{
	int min , max; min=0; max=100;
	while(min!=max) {
	if(arr[(min+max)/2]>num)
	max=(min+max)/2;
	else if(arr[(min+max)/2]
	min=(min+max)/2;
	else return((min+max)/2);
	}
	return(-1);
	}
	(i)Draw the control flow graph for this program segment.
	(ii)Define cyclomatic complexity.
	(iii)Determine the cyclomatic complexity for this program.(Show the intermediate steps in your computation. writing only the final result is not sufficient) (15)
		Evaluate	BTL-5

2.	**Consider** the pseudocode for simple subtraction given below:
	Program 'Simple Subtraction'
	Input (x,y)
	Output(y)
	If x> y then DO
	x-y=z
	else y-x=z
	endif
	output(z)
	output 'End Program'
	perform the basic path testin and generate test cases .Explain black box and white box testing. (15)
		Evaluate	BTL-5

3.	Given a set of numbers 'n' ,the function findprime(a[],n) prints a number if it is a prime number. Draw a control flow graph, calculate the cyclomatic complexity and enumerate all paths. State how many test cases are needed to adequately cover the code in terms of branches, decisions and statement? **Develop** the necessary test cases using sample values for 'a' and 'n'. (15)	Create	BTL-6
4.	**Generalize** on forward and reverse engineering process in detail. (15)	Create	BTL-6
UNIT V-PROJECT MANAGEMENT			
Software Project Management: Estimation – LOC, FP Based Estimation, Make/Buy Decision COCOMO I & II Model – Project Scheduling – Scheduling, Earned Value Analysis Planning – Project Plan, Planning Process, RFP Risk Management – Identification, Projection – Risk Management-Risk Identification-RMMM Plan-CASE TOOLS			
PART-A (2 -MARKS)			
1.	**Define** risk. What are its type? Give an example.	Remember	BTL-1
2.	**What** is version control?	Analyze	BTL-1
3.	Organic software occupies 15,000 LOC. **Assess** how many programmers are needed to complete.	Evaluate	BTL-5
4.	**Analyze** on how are the software risks assessed.	Analyze	BTL-4
5.	**List** out the principles of project scheduling.	Remember	BTL-1
6.	**Discuss** is there a systematic way to sort through the options associated with the make/buy decision?	Understand	BTL-2
7.	**Give** the purpose of LOC based estimation.	Understand	BTL-2
8.	**Compare** size oriented and function oriented metrics.	Evaluate	BTL-5
9.	**Predict** on what is RFP risk Management.	Understand	BTL-2
10.	**Examine** ZIPF's law.	Remember	BTL-1
11.	**Describe** Earned Value Analysis.	Remember	BTL-1
12.	**Give** some steps in project planning.	Understand	BTL-2
13.	**Relate** task set and network.	Apply	BTL-3
14.	**Generalize** on how productivity and cost related to function points.	Create	BTL-6
15.	**List** the two character tics of software risk.	Remember	BTL-1
16.	What are predictable risk? **Classify** some categories of predictable risk.	Analyze	BTL-4
17.	What do you **infer** from RMMM**?**	Analyze	BTL-4

18.	**Write** a note on Risk Information Sheet(RIS).	Apply	BTL-3
19.	**Show** the basic principles that guide software project scheduling.	Apply	BTL-3
20.	**Generalize** on the concept of project metrics.	Create	BTL-6
	PART-B(13 MARKS)		
1.	**(i) Examine** the activities associated with project process planning.(7) **(ii)Write** short notes on earned value analysis for project tracking.(6)	Remember	BTL-1
2.	(i) What elements used in COCOMO II model? (6) (ii) **Explain** in detail about the COCOMO II model for software estimation. (7)	Analyze	BTL-4
3.	How do you compute Earned Value Analysis and use it to **assess** progress.(13)	Create	BTL-5
4.	**Develop** a program for sorting of n numbers. Draw the flow chart, Flow graph, find out the cyclomatic complexity.(MAKE AND BUY) (13)	Evaluate	BTL-6
5.	(i) **Summariz**e on purpose of Delphi method .state advantages and disadvantages of the method.(6) (ii) **Discuss** the steps involved in project planning.(4) (iii)State ZIPF's law.(3)	Understand	BTL-2
6.	**Demonstrate** on the following list given below (i) Function Point estimation. (6) (ii) LOC based estimation. (7)	Apply	BTL-3
7.	**Describe** in detail about the following scheduling (i) Timeline charts.(4) (ii) Tracking the schedule.(4) (iii) Tracking progress for an OO project.(5)	Remember	BTL-1
8.	(i) **Explain** in detail about risk identification.(6) (ii) **Analyze** on the concept of risk Projection.(7)	Analyze	BTL-4
9.	(i) Discuss about risk management in a software development life cycle.(7) (ii) **Discuss** on the concept of RMMM.(6)	Understand	BTL-2
10.	**(i)Discuss** the process of functional point analysis with sample cases for components of different complexit**y**.(7) (ii) **Describe** a task set for the software project.(6)	Remember	BTL-1
11.	(i) **Explain** in detail COCOMO model for software cost estimation.(7)	Analyze	BTL-4

	(ii) if a team A found 342 errors prior to release of software and team B found 182 errors .what additional measures and metrics are needed to find out if the teams have removed the errors effectively? **Analyze**.(6)		
12.	(i)**Apply** COCOMO-II model to estimate total time and effort required to develop a software of KLOC 230. (7) (ii) **Outline** the importance of "project scheduling and use of Gantt charts".(6)	Apply	BTL-3
13.	Consider the following Function point components and their complexity. If the total degree of influences is 52, **Predict** the estimated function points. (13) Function type Estimated count complexity ELF 2 7 ILF 4 10 EQ 22 4 EO 16 5 EI 24 4	Understand	BTL-2
14.	(i) **Describe** in detail about Process Metrics.(7) (ii) How should we use metrics during the project itself?(6)	Remember	BTL-1
	PART-C(15 MARKS)		
1.	Compute and **prepare** function point value for a project with the following information domain characteristics. No. of external inputs-30 No.of external outputs - 52 No. of external inquiries-22 No. of logical files-12 No. of external interface files-2 Assume complexity adjustment values for the above are average (4,5,4,10,7 respectively). (15)	Create	BTL-6
2.	**Prepare** RIS Sheets for any two risk associated with "Automated Airline controller" software. (15)	Create	BTL-6
3.	**Explain** in detail about COCOMO model for software cost estimation. Use it to estimate the effort required to build software for a simple ATM that produces 12 screens, 10 reports and has 80 software components. Assume average complexity and average developer maturity .Use application composition model with object points. (15)	Evaluate	BTL-5
4.	Suppose you have a budget cost of a project as Rs.9, 00,000.The project is to be completed in 9 months. After a month, you have completed 10 percent of the project at a total expense of Rs.1, 00,000.The planned completion should have been 15 percent .you need to **evaluate** whether the project is on-time and on-budget? Use Earned Value analysis approach and interpret. (15)	Evaluate	BTL-5