



## EXAMINATION PAPER

FACULTY : COMPUTER SCIENCE AND MULTIMEDIA  
COURSE : BACHELOR OF INFORMATION TECHNOLOGY (HONS)  
YEAR/ SEMESTER : SECOND YEAR / SEMESTER FOUR  
MODULE TITLE : SOFTWARE ENGINEERING  
CODE : BIT 244  
DATE : 27 SEPTEMBER – 2019, FRIDAY  
TIME ALLOWED : 3 HOURS  
START : 1:00 PM FINISH : 4:00 PM

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### **Instruction to candidates**

1. This question paper has THREE (3) Sections.
2. Answer **ALL** questions in Section A, MCQ.
3. Answer **5** questions in Section B, MSAQ.
4. Answer **2** questions in Section C, MEQ.
5. No scripts or answer sheets are to be taken out of the Examination Hall.
6. For Section A, answer in the OMR form provided.

***Do not open this question paper until instructed***

*(Candidates are required to give their answers in their own words as far as practicable)*

**SECTION A**  
**Multiple Choice Questions**  
**Attempt All Questions**

**[30×1=30]**

1. \_\_\_\_\_ is a measure of the degree of interdependence between modules.
  - A. Cohesion
  - B. Coupling
  - C. None of the above
  - D. All of the above
  
2. Which of the following is designed to control the operations of a computer?
  - A. Application Software
  - B. System Software
  - C. Utility Software
  - D. User
  
3. \_\_\_\_\_ describes how actual users operate a system.
  - A. Operational profile
  - B. Fault avoidance
  - C. Fault count
  - D. All of the above
  
4. In Unified Modeling Language, diagrams that organize system elements into groups are classified as:
  - A. Package diagrams
  - B. Organized diagram
  - C. System diagrams
  - D. Class diagrams
  
5. What is an object?
  - A. An object is an instance of a class
  - B. An object includes encapsulation of data
  - C. An object is not an instance of a class
  - D. All of the above
  
6. Software Testing with real data in real environment is known as:
  - A. Alpha testing
  - B. Beta testing
  - C. Regression testing
  - D. None of the above

- 7. Which one of the following is NOT a maintenance model?**
- A. Waterfall model
  - B. Reuse-oriented model
  - C. Iterative enhancement model
  - D. Quick fix model
- 8. The testing in which code is checked:**
- A. Black box testing
  - B. White box testing
  - C. Red box testing
  - D. Green box testing
- 9. Size and Complexity are a part of:**
- A. Product Metrics
  - B. Process Metrics
  - C. Project Metrics
  - D. All of the above
- 10. Which of the following does NOT affect the software quality and organizational performance?**
- A. Market
  - B. Product
  - C. Technology
  - D. People
- 11. Quality planning is the process of developing a quality plan for:**
- A. Team
  - B. Project
  - C. Customers
  - D. Project manager
- 12. The intent of project metrics is:**
- A. Minimization of development schedule
  - B. For strategic purposes
  - C. Assessing project quality on ongoing basis
  - D. Minimization of development schedule and assessing project quality on ongoing basis
- 13. Which requirements is the foundation from which quality is measured?**
- A. Hardware
  - B. Software
  - C. Programmers
  - D. None of the above

- 14. \_\_\_\_\_ is concerned with taking existing legacy systems and re-implementing them to make it more maintainable.**
- A. Software maintenance
  - B. Configuration management
  - C. Software re-engineering
  - D. Software refactoring
- 15. Which one is not a risk management activity?**
- A. Risk assessment
  - B. Risk generation
  - C. Risk control
  - D. None of the above
- 16. Computer general-purpose software is basically a:**
- A. System software
  - B. Data base software
  - C. Package software
  - D. Application software
- 17. With only partial requirements available, systems are often built on :**
- A. Generality
  - B. Anticipation for change
  - C. Incremental development
  - D. Abstraction
- 18. First phase of project risk management is:**
- A. Identification
  - B. Categorize
  - C. Manage
  - D. Monitor
- 19. What is the full form of CMM?**
- A. Capability Main Model
  - B. Capability Maturity Model
  - C. Clear Maturity Model
  - D. Capability Major Model
- 20. To refine requirements for software, prototype model use:**
- A. Construction
  - B. Quick design
  - C. Feedback
  - D. Quick plan

- 21. \_\_\_\_\_ concerned with developing an object-oriented model of a software system to implement the identified requirements.**
- A. Object oriented analysis
  - B. Object oriented methods
  - C. Object oriented design
  - D. Object oriented programming
- 22. Which one of the following is a functional requirement?**
- A. Maintainability
  - B. Portability
  - C. Robustness
  - D. None of the above
- 23. \_\_\_\_\_ is a requirement Elicitation process technique.**
- A. Questionnaires
  - B. Documentation
  - C. Requirement gathering
  - D. None of the above
- 24. During what phase, the requirement analysis is performed?**
- A. System design phase
  - B. System development phase
  - C. System analysis phase
  - D. System investigation phase
- 25. If requirements are easily understandable and defined then which model is best suited?**
- A. Spiral model
  - B. Waterfall model
  - C. Prototyping model
  - D. None of the above
- 26. How many phases are there in Requirement Analysis process?**
- A. Three
  - B. Four
  - C. Six
  - D. Five
- 27. Pair programming is used in:**
- A. Extreme Model
  - B. Object Oriented Model
  - C. Agile Model
  - D. Spiral Model

**28. How is reliability and failure intensity related to each other?**

- A. Direct relation
- B. Inverse relation
- C. No relation
- D. None of the above

**29. OOD languages provide a mechanism where methods performing similar tasks but vary in arguments and that can be assigned to the same name is called:**

- A. Classes
- B. Object
- C. Polymorphism
- D. Encapsulation

**30. Which of the following is NOT included in Architectural design decisions?**

- A. Type of application
- B. Distribution of the system
- C. Architectural styles
- D. Testing the system

## **SECTION B**

### **Short Answer Questions**

**Answer any five (5) questions out of eight (8) questions [5×6=30]**

1. Elaborate any six types of software considering the changing nature.
2. Explain the functions of Software Configuration Management repository. (SCM)
3. List and explain five framework activities defined in PSP (Personal software process).
4. Prepare any four software quality assurance guidelines and describe them.
5. Define white box testing and black box testing with its need and characteristics.
6. Give difference between waterfall model and incremental model.
7. Explain principles of planning practices in software engineering.
8. Discuss Project Management with its importance.

## **SECTION C**

### **Long Answer Questions**

**Attempt any two (2) questions out of three (3) questions. [2×20=40]**

1. Explain Software Reliability Engineering (SRE) with its process overview. Mention its importance and discuss the common challenges of SRE. [10+10]
2. Define the goal and purpose of the agile model and Prototyping Model. Explain functional and non-functional requirement. Also write the six steps for requirements engineering. [8+6+6]
3. Write short note on: [4×5]
  - A. Software implementation
  - B. CMM model
  - C. Architectural design
  - D. Quality management

**\*\*\*\*BEST OF LUCK\*\*\*\***