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Course Code: ACDC04



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

B.Tech V SEMESTER END EXAMINATIONS (REGULAR) - DECEMBER 2022

Regulation: UG20

SOFTWARE ENGINEERING

Time: 2 Hours

CSE (DATA SCIENCE)

Max Marks: 70

Answer ALL questions in Module I and II

Answer ONE out of two questions in Modules III, IV and V

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

MODULE – I

- (a) List out the differences between LOC and FP. Explain the waterfall model with its advantages and disadvantages. [BL: Understand| CO: 1|Marks: 7]
(b) Assume they are building 5 apartments, each with a value of \$100,000 is built. The schedule for building these 5 apartments is exactly one year. Discuss earned value analysis with respect to the above problem. [BL: Apply| CO: 1|Marks: 7]

MODULE – II

- (a) Explain the requirements validation process. Describe the structure of the software requirements document. [BL: Understand| CO: 2|Marks: 7]
(b) Discover ambiguities or omissions in the following statement of requirements for part of a ticket-issuing system:
An automated ticket-issuing system sells rail tickets. Users select their destination and input a credit card and a personal identification number. The rail ticket is issued, and their credit card account is charged. When the user presses the start button, a menu display of potential destinations is activated, along with a message to the user to select a destination. Once a destination has been selected, users are requested to input their credit card. Its validity is checked, and the user has then requested to input a personal identifier. When the credit transaction has been validated, the ticket is issued. [BL: Apply| CO: 2|Marks: 7]

MODULE – III

- (a) Outline the analysis and design process of user interface design. Mention the characteristics of a good design. [BL: Understand| CO: 3|Marks: 7]
(b) What is architectural design? Explain the various nonfunctional requirements that aid to choose an architectural style and structure for a system. [BL: Understand| CO: 3|Marks: 7]
- (a) Enumerate the four basic design principles applicable to the component-level design with suitable examples. [BL: Understand| CO: 4|Marks: 7]
(b) Compare coupling and cohesion in designing class based components. Discuss data-centered architecture with an example. [BL: Understand| CO: 4|Marks: 7]

MODULE – IV

5. (a) Summarize graph-based testing method. Compare various behavioral testing methods that can make use of graphs. [BL: Understand| CO: 5|Marks: 7]
(b) Write in detail about black box testing. Is it necessary to perform black box testing ? Distinguish black box and white box testing. [BL: Apply| CO: 5|Marks: 7]
6. (a) State the objectives and guidelines for debugging. Mention the characteristics of a good test. [BL: Understand| CO: 5|Marks: 7]
(b) Classify the various software implementation techniques. List the difference between verification and validation. [BL: Understand| CO: 5|Marks: 7]

MODULE – V

7. (a) Distinguish the process of deciding a make/buy products by a company using a decision tree. [BL: Understand| CO: 6|Marks: 7]
(b) List the objectives of software maintenance and describe in detail maintenance metrics. [BL: Understand| CO: 6|Marks: 7]
8. (a) Illustrate the COCOMO II model. Outline the key differences between COCOMO and COCOMO II models. [BL: Understand| CO: 6|Marks: 7]
(b) Identify the relationship between the development of a product and its associated people and effort. [BL: Apply| CO: 6|Marks: 7]

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