19/10/22

USN : _____ Course Code : 18CS/IS45

Fourth Semester B.E. MAKEUP Examination, AUGUST_OCTOBER_2022

SOFTWARE ENGINEERING

Time: 3 hrs. **Max. Marks :100**

Instructions :1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

	L	CO	PO	M
1a. What is Software Engineering? Explain essential attributes of good software.	[2]	[1]	[1]	[7]
1b. List and explain software engineering ethics.	[2]	[1]	[8]	[6]
1c. Software has to be developed for MHS-PMS (Mental Health Care-Patient Monitoring system). Suggest the software development model applicable to the above requirement with proper justification. (Software has to be developed to record the information of all the patients and information related to the network of hospitals and doctors who are available to treat)	[3]	[1]	[3]	[7]

OR

2a. With a neat diagram explain waterfall model of software engineering.	[2]	[1]	[1]	[7]
2b. List and explain activities of requirements engineering process.	[2]	[1]	[1]	[6]
2c. With a neat diagram explain the process of prototype of development.	[2]	[1]	[1]	[7]

MODULE 2

3a. Scenario:To improve the qulity of SEE examination conduction process a software (" Automated Seat Allocator") for random seat allotment in a given hall for students is proposed.
For the above software, Identify any 5 stakeholders and also Write one-line description for role of each stakeholder involved in the system. (Note: Stakeholder is a person/organization, who is directly or indirectly involved in development/functional activities of the system.) [3] [1] [3] [8]

3b. List and explain any 5 metrics for specifying Non-Functional requirements and also identify any two metrics for the automated seat allocator software which are applicable. [2] [2] [1] [5]

3c. Scenario: Our college is planning to develop a intelligent time table generator software, which takes course list and faculty names, number of time slots as a input.
List and explain any 3 Functional and Non-Functional requirements for above Intelligent time table builder for GIT CSE department. [3] [2] [12] [7]

OR

4a. i)List the different formats of specifying system requirement specification.
ii)Scenario: An agricultural university has decided to deploy smart sprinklers in its campus to monitor the water nourishment requirement for each tree. Each tree is provided with separate smart sprinklers. The job of each sprinkler is to regularly monitor the moisture level of the surface on which tree is planted. as and when moisture level decreases, the sprinkler needs to be activated to spray water as per the readings of moisture sensor.
Represent above scenario by using structured form based specification method. [3] [3] [3] [10]

4b. Explain in brief the structure of a requirements document that is based on an IEEE standard for requirements documents. [2] [2] [1] [10]

MODULE 3

5a. Software has to be developed for MHS-PMS (Mental Health Care-Patient Monitoring system). Explain the context model for MHS-PMS. [3] [2] [1] [10]

22 01 P1

5b. What are the different quality attributes of design? Explain [2] [2] [1] [5]

5c. Explain fundamental concepts of design. [2] [2] [1] [5]

OR

6a. Compare plan-driven and agile process of software development. [3] [2] [1] [10]

6b. Explain Extreme programming practices. [2] [2] [1] [10]

MODULE 4

7a. Explain with a neat diagram the Agile Project Planning Process in XP (Extreme Programming). [2] [2] [11] [10]

7b. For the set of tasks shown below draw the Project Scheduling using Activity Chart assuming start date of the project as 04/05/2020(Assume 5Days=1Week)

Task	Duration	Dependency
T1	05	-
T2	15	-
T3	15	T1(M1)
T4	10	-
T5	10	T2,T4(M2)
T6	05	T1,T2(M3)
T7	20	T1(M1)
T8	25	T4(M4)

[3] [3] [11] [10]

OR

8a. List and explain the Factors affecting the Software Pricing. [2] [2] [1] [5]

8b. With context to the Plan Driven Software Development approach:
i)Briefly explain the purpose of each of the section in a Software Project Plan and
ii)Explain the Project Plan supplements for the same [2] [2] [11] [10]

8c. Calculate Effort cost by using Algorithmic cost modelling technique for the given values B=1.05, M=1.086, Size = 200, A=3.2. [3] [3] [3] [5]

MODULE 5

9a. Compare Unit testing and Partition testing. [3] [4] [1] [10]

9b. Explain different types of interface errors. [2] [4] [1] [10]

OR

10a. With a neat diagram explain test-driven development. [2] [4] [1] [10]

10b. Summarize the significance of acceptance testing. [2] [4] [1] [10]