J-FB-22-00308

B. Tech. EXAMINATION, 2022

Semester V (CBCS)

SOFTWARE ENGINEERING (CSE, IT)

CS-505

Time : 3 Hours

Maximum Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary continuation sheet will be issued.

Note : Attempt *Five* questions in all, selecting *one* question from each Sections A, B, C and D. Q. No. **9** is compulsory.

Section A

1. (a) What are the major differences between requirements analysis and requirements specifications ? What are the important activities that are carried out during requirements analysis and requirements specifications ? 5

(b) What are the important characteristics of a good Sotware Requirements Specification (SRS) document ? Justify them. 5

2. Explain the following terms with suitable examples :

    (i) Functional and Non-Fucntional Requirements

    (ii) Prototype model. 10

Section B

3. (a) What do you understand by project risks ? What can be the possible types of risks that can be indentified by a project manager ? 5

    (b) Write a detailed note on project monitoring and control. https://www.hptuonline.com 5

4. Discuss in detail how the COCOMO model can be used for "embedded" type software systems. Assume that the size of an "embedded" type software product has been estimated to be 30,000 lines of code. Further, assume that the average salary of a software engineer is Rs. 60,000 per month. Find the efforts required to develop the software product, the development time, and the cost to develop the product. 10

Section C

5. (a) What is the role of the Software Configuration Management ? Explain in detail.   5

   (b) Explain various levels of the SEI Capability Maturity Model (CMM) with their Key Process Areas (KPAs).   5

6. What do you understand by Black Box testing ? How is it different from White Box testing ? What are the different types of Black Box testing techniques ? Explain any *one* of them in detail with a suitable example.   10

Section D

7. (a) What is the role of software reverse engineering ? Explain in detail.   5

   (b) Explain the various characteristics of software maintenance.   5

8. (a) Write a detailed note on Agile Testing.   5

   (b) Briefly explain the Extreme Programming. Identify the key principles that need to be practiced in Extreme Programming.   5