Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(CSE Engg.) (E-II) (Sem.–2)

SOFTWARE ENGINEERING METHODOLOGIES

Subject Code : CS-514

Paper ID : [E0582]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

1. You are developing control software for a car whose latest model will have a network connection. Software upgrades will be delivered over the air rather than at service visits, so that any security vulnerabilities can be patched quickly. This in turn means that you will have to provide patches, to deal with both security and safety issues for the next 25 years. Discuss how this is likely to affect your development process, and the implications it will have for costs.

2. You are advising the new Secretary of State for Work and Pensions following the failure of the previous government's welfare payments scheme. The government's policy is to move away from a "big project" approach to system change and instead have a platform on which benefits can be rolled out, or old benefits modified, as needed. The new Secretary wants to develop a concept of how such a system will operate that will find favour. Suppose as an example a minister decides to award a pension supplement to disabled people over 80 and their caretakers.

   Describe the processes and issues likely to be involved in :

   a) Establishing a business requirement and likely cost ;

   b) Determining what changes are needed to platform applications or other systems.

   c) Deciding whether such changes should be prototyped in the hope of avoiding unforeseen consequences or for other reasons ;

3. Outline the software life cycle. Briefly describe each of the stages, its relation to other stages and its overall importance.

4. Describe an industry of your choice as a system. What is the input, the output, the boundary, the components, their interrelationships, the constraints, the purpose, the interfaces, the environment? Draw a design diagram of this using a software engineering technique of your choice.

5. a) Software requirement analysis is the most communication intensive step in software engineering process. Discuss

   b) What is a user interface? Elaborate the rules for designing the user interface.

6. How object oriented design is different from Structured design of the software?

7. a) What is the reusability of the software? How it help in the design of the system?

   b) What are the different objectives kept in mind while doing Unit testing & Acceptance testing?

8. a) Explain in brief various Software Testing strategies.

   b) Compare & Contrast Top down Integration Testing & Bottom up integration Testing.