No. of Printed Pages : 4

Sl. No.

B1.3-R5 : SOFTWARE ENGINEERING

DURATION : 03 Hours **MAXIMUM MARKS : 100**

Roll No. : | | | | | | |

Answer Sheet No. : | | | | | | |

Name of Candidate : _____ **; Signature of Candidate :** _____

INSTRUCTIONS FOR CANDIDATES :

- Carefully read the instructions given on Question Paper, Answer Sheet.
- Question Paper is in English language. Candidate has to answer in English Language only.
- **Question paper contains Seven questions. The Question No. 1 is compulsory. Attempt any FOUR Questions from Question No. 2 to 7.**
- **Parts of the same question should be answered together and in the same sequence.**
- **Questions are** to be answered in the **ANSWER SHEET** only, supplied with the Question Paper.
- **Candidate cannot leave the examination hall/ room without signing on the attendance sheet and handing over his/her Answer Sheet to the Invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.**
- After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question Booklet is complete in all respects.

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

1. (a) What are the basic issues in software projects that Agile addresses ? List 5 basic principles of Agility.

(b) What is Software re-engineering and why is it used ?

(c) Describe black box testing briefly.

(d) Discuss the Cyclomatic complexity method to perform program complexity analysis.

(e) Differentiate between functional and non-functional requirements.

(f) Discuss the different levels used in CMM for process capability.

(g) Discuss the different levels of testing done on software products. **(7x4)**

2. (a) Differentiate between timeboxed and spiral software development process models briefly.

(b) What do you understand by software requirements analysis ? Discuss 3 formal methods of performing software requirements analysis. **(6+12)**

3. (a) Briefly describe 5 desirable characteristics of an SRS document. What is the importance of requirements validation ? How is requirements validation commonly done ?

(b) What do you understand by the design process for software ? Discuss the terms "abstraction" and "architecture" in relation to software design. **(8+10)**

4. (a) How is Object Oriented design different from Object Oriented analysis ? Discuss the design related concepts of cohesion and coupling.

(b) What are CASE tools ? How are they useful ? What are the different components of CASE tools ? Briefly explain the different types of available CASE tools. **(10+8)**

5. (a) What do you understand by Configuration Management ? What are the different mechanisms present in Configuration Management ? Discuss the various steps in software configuration management process.

(b) What do you understand by the term "Software Testing" ? Why is software testing done by people NOT involved in software development ? Describe black box testing and white box testing briefly. **(8+10)**

6. (a) Discuss the four common design issues faced while design user interfaces.

(b) Describe the process to develop Use Cases for a system using examples. Draw and describe the use case diagram for a student management system considering attendance, timetable, test scores, etc. **(6+12)**

7. (a) Discuss the different components used in Object Oriented design process.

(b) What do you understand by coding standards ? Discuss different guidelines provided by coding standards. **(8+10)**

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SPACE FOR ROUGH WORK

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