BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MCA   SEMESTER : III
BRANCH: MCA   SESSION : MO/19

SUBJECT: CA505 SOFTWARE ENGINEERING

TIME: 3 HOURS   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)   Justify how the Spiral Model couples the iterative nature of protyping with the controlled and systematic   [5]
         aspects of the waterfall model.
Q.1(b)   Explain the Extreme Programming (XP) approach to agile software development with the help of suitable   [5]
         illustration(s).

Q.2(a)   Describe the task of eliciting requirements with emphasis upon the problems encountered as elicitation   [5]
         occurs. Illustrate the overall task with the help of a neat UML activity diagram.
Q.2(b)   How does the Quality Function Deployment technique contribute in the software engineering process?   [5]
         What are the various types of requirements identified by it?

Q.3(a)   How is the requirements/analysis model translated into the design model?   [5]
Q.3(b)   What are design patterns? Explain the concepts of context and system of forces. What are the   [5]
         characteristics of an effective design pattern?

Q.4(a)   Distinguish between Verification and Validation. Explain the Software Testing Strategy with the help of   [5]
         a suitable illustration.
Q.4(b)   What is Control Structure Testing? Explain its various types in brief.   [5]

Q.5(a)   Explain the Size-oriented Metrics and the Function-oriented Metrics for Software Measurement.   [5]
Q.5(b)   What role does the SCM Repository play? Which features should be supported by it?   [5]

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