

17513

21718

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any THREE of the following: 12
- (i) Define management spectrum and enlist characteristics of software.
 - (ii) Draw stub and driver mechanism of unit testing and enlist various types of errors detected by unit testing.
 - (iii) Describe five steps for successfulness of project.
 - (iv) Draw the neat labelled diagram of spiral model and list two disadvantages of spiral model.
- b) Attempt any ONE of the following: 6
- (i) Elaborate any six types of software considering the changing nature.
 - (ii) Draw and explain level 0 and level 1 Dataflow diagram for “Online examination. Win17 of form filling on MSBTE website”.

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- 2. Attempt any FOUR of the following:** **16**
- a) Elaborate the software characteristic “Software does not wear out”.
 - b) List and explain three principles of analysis modelling.
 - c) Draw the usecase diagram for taking “photocopy of ansbooks from msbte” website.
 - d) Enlist advantages and disadvantages of smoke testing. (four points)
 - e) Enlist and explain different types of Software Risks. (four points)
 - f) Explain qualities of software considering.
 - (i) Quality of design
 - (ii) Quality of conformance
- 3. Attempt any FOUR of the following:** **16**
- a) Give difference between waterfall model and incremental model. (four points)
 - b) Explain following requirements of engineering tasks
 - (i) Negotiation
 - (ii) Validation
 - c) Explain Architectural Design Elements.
 - d) State eight characteristics of software bugs.
 - e) Explain the functions of Software Configuration Management repository. (SCM)
- 4. a) Attempt any THREE of the following:** **12**
- (i) Explain the testing concept with its Testing Principles. (any four principles)
 - (ii) Compare Bottom-up integration testing and top-down integration testing. (four points)
 - (iii) Explain the factors that Delay Project Schedule.
 - (iv) Explain the six sigma for software engineering.

- b) **Attempt any ONE of the following:** **6**
- (i) List and explain five framework activities defined in PSP (Personal software process).
 - (ii) Explain 4 Ps is software project spectrum.
- 5. Attempt any TWO of the following:** **16**
- a) Draw the behavioural analysis model for small hospital management system and illustrate the working of it.
 - b) List and explain the elements of analysis model with neat labeled diagram.
 - c) Explain different levels of Capability Maturity Model Integration technique. (CMMI)
- 6. Attempt any FOUR of the following:** **16**
- a) Explain principles of planning practices in software engineering (any four)
 - b) Explain input and output of domain analysis.
 - c) Define white box testing and black box testing with its need and characteristics. (two points)
 - d) Explain different activities done to track the software project.
 - e) Prepare any four software quality assurance guidelines and describe them.
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