

TKN/KS/16/5975

**Bachelor of Computer Application (B.C.A.)
(Semester—IV) (C.B.S.) Examination
SOFTWARE ENGINEERING—I
Paper—I**

Time—Three Hours] [Maximum Marks—50

- Note :—**(1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) What is Software ? Explain Software Application Domain in detail. 5
- (b) Explain Capability Maturity Model Integration (CMMI) in detail. 5

OR

- (c) Explain Software process in terms of phases in detail. 5
- (d) Explain Layered technology in Software Engineering. 5

EITHER

2. (a) Explain functional requirement with suitable example. 5
- (b) Explain Incremental process model in detail. 5

OR

- (c) What is software requirement document ? Explain Non-functional requirement. 5
- (d) Explain Spiral model in detail. 5

EITHER

3. (a) Explain Collaborative Requirement gathering in detail. 5
- (b) Explain Context model with suitable example. 5

OR

- (c) What is feasibility study ? Explain classification of feasibility study. 5
- (d) Explain Data model in detail. 5

EITHER

4. (a) Explain software quality guidelines and attribute. 5
- (b) Explain Modularity in detail. 5

OR

- (c) Explain component level, design elements in detail. 5
- (d) Explain object oriented design concept in detail. 5

5. (a) Explain personal and team process model. 2½
- (b) Explain Unified process. 2½
- (c) Explain structured method with respect to system model. 2½
- (d) Explain coupling and cohesion. 2½

NRT/KS/19/2231

Bachelor of Computer Application (B.C.A.) Semester-IV Examination

SOFTWARE ENGINEERING-I

Paper-I

Time : 3 Hours]

[Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Explain Capability Maturity Model Integration (CMMI) in brief. 5
- (b) What is Software Engineering ? Explain evolving role of Software. 5

OR

- (c) Explain different changing nature of software. 5
- (d) Differentiate between personal and team process models. 5

EITHER

2. (a) Explain waterfall model with its diagram. 5
- (b) Explain any one evolutionary process model in detail. 5

OR

- (c) Explain functional and non-functional requirements with example. 5
- (d) Explain unified process in detail. 5

EITHER

3. (a) Explain data models in detail. 5
- (b) What is Feasibility Study ? Explain need of Feasibility study. 5

OR

- (c) Explain requirement validations for engineering process. 5
- (d) Explain context model in detail. 5

EITHER

4. (a) Explain architecture in Design concept. 5
- (b) Explain principles of designing output. 5

OR

- (c) What are different elements considered in designing software ? 5
- (d) Explain Data Design elements and architectural design elements in detail. 5

5. (a) What is Software Myths ? Explain. 2½
- (b) Write a note on user requirements. 2½
- (c) What is object models ? Explain. 2½
- (d) Explain the software quality guidelines and attributes in design process. 2½

NJR/KS/18/3231

Bachelor of Computer Application (B.C.A.) Semester—IV (C.B.S.) Examination
SOFTWARE ENGINEERING—I

Paper—I

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.
 (2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Evaluate the changing nature of developing software. 5
 (b) Explain process framework of the software. 5

OR

- (c) Explain the different layers of Capability Maturity Model Integration (CMMI). 5
 (d) Write notes on the following :
 (i) Process Patterns
 (ii) Process Assessment. 5

EITHER

2. (a) Differentiate between functional and non-functional requirement analysis. 5
 (b) Explain Evolutionary process model in detail. 5

OR

- (c) Why is it necessary to go for user requirement in application software development ? 5
 (d) Compare waterfall model and incremental model. 5

EITHER

3. (a) Why is feasibility study needed while developing the software ? 5
 (b) Briefly explain the following models :
 (i) Data Model
 (ii) Object Model. 5

OR

- (c) How will you perform requirement elicitation and analysis ? Explain. 5
 (d) Explain in detail Behavioural model. 5

EITHER

4. (a) What are the quality measures to be considered in software design ? 5
 (b) What does software design consist of ? Explain. 5

OR

- (c) What is the difference between quality assurance and quality control ? 5
 (d) Discuss the steps of software design process. 5

5. Attempt **all** :

- (a) Explain layered model of software engineering. 2½
 (b) What do you mean by interface specification ? 2½
 (c) Discuss in brief context model. 2½
 (d) Explain architectural design elements. 2½

Bachelor of Computer Application (B.C.A.) Semester—IV (C.B.S.) Examination

SOFTWARE ENGINEERING—I

Paper—I

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) **All** questions are compulsory and carry equal marks
 (2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Explain components of software process in detail. 5
 (b) Explain Capability Maturity Model Integration (CMMI). 5

OR

- (c) What are Software Myths ? Explain. 5
 (d) Discuss process Framework in detail. 5

EITHER

2. (a) Explain Spiral Model in detail. 5
 (b) Explain Functional requirement with suitable example. 5

OR

- (c) Explain Interface specification in detail. 5
 (d) Explain Waterfall model in detail. 5

EITHER

3. (a) Explain Collaborative Requirement Gathering. 5
 (b) Explain Data model concepts in detail. 5

OR

- (c) Explain Feasibility Study and its importance. 5
 (d) Explain Context models in detail. 5

EITHER

4. (a) Explain Evolution of Software Design. 5
 (b) Explain object oriented design concept in detail. 5

OR

- (c) Explain Component Level Design Elements. 5
 (d) What are the goals of good design ? Explain. 5

5. Attempt **all** :

- (a) Explain personal process models 2½
 (b) Explain unified process 2½
 (c) Explain requirement validation 2½
 (d) Explain Design classes with respect to Design concept. 2½

KNT/KW/16/5264

Bachelor of Computer Applications (B.C.A.) Semester—IV (C.B.S.) Examination
SOFTWARE ENGINEERING—I
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[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever compulsory.

EITHER

1. (a) What main questions are asked to the lone programmer while designing the software for modern computers ? 5
- (b) Explain the relationship between time and failure rate curve for software. 5

OR

- (c) Explain how software development change took place in product-line software and web-application software. 5
- (d) Differentiate between Personal Software Process (PSP) and Team Software Process (TSP). 5

ETHER

2. (a) Discuss Rapid Application Development (RAD) model for software development process. 5
- (b) List and explain in brief different phases of unified process in software development. 5

OR

- (c) List different documents required in software requirement. Give its importance. 5
- (d) What are the different elements of the Concurrent Process model ? Explain. 5

EITHER

3. (a) Why is it necessary to pay attention to requirement engineering ? 5
- (b) Give the differences between structure analysis and object oriented analysis. 5

OR

- (c) Explain in detail Data model used for system development. 5
- (d) What do you mean by collaborative requirement gathering ? Explain. 5

4. **EITHER**

- (a) What different elements are considered in designing software ? Describe in brief. 5
- (b) Explain the following concept with respect to :
 - (i) Modularity
 - (ii) Module independency. 5

OR

- (c) Describe software architecture for design in brief. 5
 - (d) What Design models are considered in software design engineering ? Explain. 5
5. (a) Write note on software evolution. 2½
- (b) Discuss in brief Incremental model. 2½
 - (c) Explain in brief quality function deployment. 2½
 - (d) What is functional independendece in modularity ? 2½

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Paper—I

Time : Three Hours]

[Maximum Marks : 50

- Note :—** (1) All questions are compulsory and carry equal marks.
(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (A) Explain personal and team process model. 5
(B) What is Software Engineering ? Explain evolution of Software. 5

OR

- (C) Explain process pattern and process assessment. 5
(D) Explain Capability Maturity Model Integration (CMMI). 5

EITHER

2. (A) Explain functional and non functional requirements. 5
(B) Explain Waterfall model in detail. 5

OR

- (C) Write notes on :—
(i) System requirements
(ii) User requirements. 5
(D) Explain the unified process in detail. 5

EITHER

3. (A) Explain Behavioral models in System models. 5
(B) What are feasibility studies ? Explain. 5

OR

- (C) Explain Object models in detail. 5
(D) Write notes on :—
(i) Requirement Validation
(ii) Context Model. 5

EITHER

4. (A) What do you understand by the term Design ? Explain. 5
(B) What is decision table ? Explain with example. 5

OR

- (C) Discuss Design steps with example. 5
(D) What are the principles of designing output ? Explain. 5
5. Attempt **ALL** :—
- (A) Explain Software myths. 2½
(B) What is Interface specification ? 2½
(C) Explain Requirement Management. 2½
(D) What is Design Engineering ? 2½

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SOFTWARE ENGINEERING—I

Paper—I

Time : Three Hours]

[Maximum Marks : 50

- Note** :— (1) All questions are compulsory and carry equal marks.
 (2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Explain process framework in software engineering. 5
 (b) What are the challenges of software engineers ? 5

OR

- (c) Explain CMMI in detail. 5
 (d) Explain personal software process (PSP) in detail. 5

EITHER

2. (a) Explain Waterfall model in detail. 5
 (b) Discuss functional requirements and non functional requirements with suitable example. 5

OR

- (c) Explain and discuss phases of Unified process. 5
 (d) Write note on software requirement documents. 5

EITHER

3. (a) What is feasibility study ? Give its advantages. 5
 (b) Explain Data models in detail. 5

OR

- (c) Explain requirement engineering task : (i) Inception, (ii) Elicitation and (iii) Specification. 5
 (d) Discuss context models with suitable example. 5

EITHER

4. (a) Explain Interface Design Elements and Deployment level Design elements. 5
 (b) What is modularity ? Explain with suitable example. 5

OR

- (c) Write a note on the following : (i) Design process and (ii) Design quality. 5
 (d) Explain Data Design Elements. 5

5. Attempt **ALL** :—

- (a) Explain team process model. 2½
 (b) What are advantages and disadvantages of Incremental process model ? 2½
 (c) Explain object model. 2½
 (d) Explain Architectural design Elements. 2½