

BCA - V Sem. 2017

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[CB-BC562]

AT THE END OF FIFTH SEMESTER DEGREE
EXAMINATIONS

B.C.A. - SOFTWARE ENGINEERING

(From The Admitted Batch of 2015-16)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any Five questions (5 × 5 = 25)

1. Explain process and project metrics.
2. Write short note on data flow diagram with an example.
3. Explain various decomposition techniques.
4. Explain the golden rules used for user interface design.
5. Explain metrics for software quality.
6. Explain size oriented and function oriented functions.
7. What is data design? What are various elements of data design?
8. Briefly explain about Human Computer interaction.

SECTION - B

II. Answer all the questions. (5 × 10 = 50)

1. a) Why it is important to manage project?
Explain software management.

OR

- b) Write about software planning and project scheduling.

2. a) Explain the requirement engineering process with help of a diagram and also explain the spiral model of requirements.

OR

- b) Describe the process of creating an analysis model and list out its elements.

3. a) Explain in detail different elements on design model.

OR

- b) What is software architecture? Why it is so important? Explain structural partitioning.

4. a) Explain the various user interface analysis and design models.

OR

- b) How a user interface design is evaluated?

5. a) What is path testing? What is basis path testing? Explain.

OR

- b) Explain integration and validation testing.

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**AT THE END OF FIFTH SEMESTER DEGREE
EXAMINATIONS**

B.C.A. - (Elective - I)

DATA MINING AND WARE HOUSING

(From The Admitted Batch of 2015-16)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any Five questions (5 × 5 = 25)

1. What is data transformation? With example?
2. Compare MOLAP & ROLAP?
3. Explain about the Pattern evaluation?
4. Explain about decision tree induction?
5. Explain about density based methods of clustering?
6. List the three important issues that have to be addressed during data integration?
7. Give the categorization of major clustering methods.
8. How do you choose best split while constructing a decision tree?

(2)

SECTION - B

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Answer all the questions.

(5 × 10 = 50)

1. a) With a neat diagram describe the various stages of building a data warehouse?

OR

- b) Explain the role played by sourcing, acquisition, cleanup & transformation tools in building a data warehouse?

2. a) Write the difference between multi-dimensional OLAP & Multi-relational OLTP.

OR

- b) Explain the different types of OLAP tools?

3. a) Explain with diagrammatic illustration data mining as a step in the process of knowledge discovery?

OR

- b) Explain various methods of data cleaning in details?

4. a) Develop an algorithm for classification using Bayesian classification. Illustrate the algorithm with relevant example.

OR

(3)

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- b) A database has nine transactions let min-sup = 30%.

TID	List of items - IDS
1	a,b,e
2	b,d
3	b,c
4	a,b,d
5	drc, b, c
6	2rc
7	a, b, c, e
8	a, b, c

Find all frequent item sets using the above algorithm?

5. a) What is grid based clustering? With an example an algorithm for grid based clustering?

OR

- b) Why is outlier mining? Briefly describe the different approaches behind statistical - based outlier detection, distance - based outlier detection & deviation based outlier detection.



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**AT THE END OF FIFTH SEMESTER DEGREE
EXAMINATIONS**

B.C.A - ELECTIVE - III

SOFTWARE TESTING METHODOLOGIES

(From The Admitted Batch of 2015-2016)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE questions. (5 × 5 = 25)

- 1) What are the applications of path testing?
- 2) Differentiate between Nice and Ugly domains.
- 3) What are the features of KV charts? Explain.
- 4) What are state graphs? What is its significance?
- 5) Write the purpose of dataflow testing.
- 6) Describe the features of path expression.
- 7) What are the consequences of bugs? Explain.
- 8) Describe about transaction flows.

(2)

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SECTION - B

II. Answer ALL questions.

(5 × 10 = 50)

- 1) a) Describe the purpose and advantages of software testing. Explain different levels of software testing.

OR

- b) Discuss various taxonomies of bugs and explain each bug with example.

- 2) a) Differentiate Transaction flow testing methods and dataflow testing methods.

OR

- b) What are the various strategies used for testing dataflow? Discuss with examples.

- 3) a) With suitable test cases explain interface testing.

OR

- b) Explain the schematic representation of domain testing with example.

- 4) a) What are decision tables? Explain with suitable examples how these are used for logic based testing.

(3)

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OR

- b) Write the design, guidelines for building the finite state machine into code.
- 5) a) Compare and contrast the differences between good and bad state graphs.

OR

- b) Explain Node-reduction algorithm with example.



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**AT THE END OF FIFTH SEMESTER
DEGREE EXAMINATIONS**

B.C.A- SOFTWARE ENGINEERING

(From The Admitted Batch of 2016-17)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE questions. (5×5=25)

1. Define software. Write the characteristics of software. ✓
2. Write analysis principles. ✓
3. Write about design guidelines. ✓
4. Define HCI. Write golden rules for HCI.
5. Write about quality control. ✓
6. Write about quality metrics.
7. Write about function oriented architectural design.
8. Write W5HH principles.

1,000

[Turn over

(2)

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SECTION - B

II. Answer ALL the questions.

(5×10=50)

1. a) Explain in detail about waterfall model and spiral model.

(OR)

- b) Explain in detail about software process and project metrics.

2. a) Explain in detail about requirement engineering process.

(OR)

- b) Explain in detail about identifying the elements of a class based model.

3. a) Explain in detail about effective modular design.

(OR)

- b) Explain in detail about design concepts.

4. a) Explain in detail about user interface design steps and design standards.

(OR)

- b) Explain in detail about user interface principles.

5. a) Explain in detail about software reliability.

(OR)

- b) Explain in detail about control structure testing.

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AT THE END OF FIFTH SEMESTER

DEGREE EXAMINATIONS

B.C.A - NETWORK SECURITY

(From The Admitted Batch of 2016-17)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE questions. (5×5=25)

1. Explain any two substitution techniques.
2. Write short notes on Random Number Generator.
3. Explain the implementation of one way authentication protocols.
4. Explain how to obtain user's certificate in x.509 Authentication service.
5. Explain types of viruses.
6. Explain any two transposition techniques.
7. Explain the requirements of public key cryptography.
8. Explain the functionality of S/MIME.

(2)

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SECTION - B

II. Answer ALL the questions.

(5×10=50)

1. a) Explain in detail about Data Encryption Standard.

(OR)

- b) Discuss various Block Cipher Modes of Operation.

2. a) Explain RSA algorithm and its security.

(OR)

- b) Discuss about Diffie-Hellman key exchange algorithm with an example.

3. a) Explain Hash function with a neat diagram.

(OR)

- b) Explain Digital Signature Standard in detail.

4. a) Explain Kerberos Authentication service.

(OR)

- b) Discuss in detail about E-mail security.

5. a) Explain about Intrusion Detection in detail.

(OR)

- b) What is VIRUS? Discuss in detail about virus, prevention measures.
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**AT THE END OF FIFTH SEMESTER
DEGREE EXAMINATIONS**

B.C.A - OOAD

(From The Admitted Batch of 2016-17)

(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE questions. (5×5=25)

1. What is Use Case Model? Give an example.
2. What is meant by an Association in UML? Give an example.
3. What is the use of Activity Diagram? Give an example.
4. Define a package. Describe the use of package diagrams.
5. Write about Component Diagrams.
6. Describe the phases in OOAD.
7. What is meant by Aggregation? How does it differ from a Composition?
8. What is a Sequence Diagram? Give an example.

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SECTION - B

II. Answer ALL the questions.

(5×10=50)

1. a) Write in detail about identifying Use Cases in a system and relationships between Uses Cases.

(OR)

- b) Prepare a Use Case Model for NextGen POS system.

2. a) Write in detail about finding Conceptual classes and Description classes, their Associations and Attributes.

(OR)

- b) Elaborate on finding Conceptual class hierarchies.

3. a) Explain how Sequence Diagrams are related to Use Cases.

(OR)

- b) Write in detail about System Sequence Diagrams with suitable examples.

4. a) Explain Logical Architecture refinement.

(OR)

- b) Write in detail about Class and Interaction Diagrams.

5. a) Explain State Modeling Diagrams with suitable examples.

(OR)

- b) Write about Deployment and Component diagrams.

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AT THE END OF FIFTH SEMESTER
DEGREE EXAMINATIONS
B.C.A - ELECTIVE - I
DATAMINING AND WARE HOUSING
(From The Admitted Batch of 2016-17)
(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE Questions. (5×5=25)

1. Explain Data cleaning.
2. Explain Data cube.
3. Write about a pattern evaluation methods.
4. Explain Tree pruning.
5. Discuss about Agglomerative and Divisive hierarchical clustering.
6. Explain Data Integration.
7. Explain about multi - Dimensional Data model.
8. Write about market Basket Analysis.

(2)

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SECTION - B

II. Answer ALL the Questions.

(5×10=50)

1. a) Explain Data mining functionalities.

(OR)

- b) Explain Data Reduction.

2. a) Explain data warehousing Architecture.

(OR)

- b) Explain OLAP operations.

3. a) Explain Apriori Algorithm with an Example.

(OR)

- b) Explain Frequent pattern growth Algorithm used for mining frequent item.

4. a) Explain classification by Decision Tree Induction Method.

(OR)

- b) Explain NANE BAYE'S classification with an Example.

- 5) a) Explain BIRCH method with an Example.

(OR)

- b) Explain DBSCAN method with an Example.
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AT THE END OF FIFTH SEMESTER
DEGREE EXAMINATIONS
B.C.A - ELECTIVE - II
SOFTWARE TESTING METHODOLOGIES
(From The Admitted Batch of 2016-17)
(CBCS PATTERN)

Time : 3 Hours

Maximum : 75 Marks

SECTION - A

I. Answer any FIVE Questions. (5×5=25)

1. Explain structural bugs.
2. Explain dataflow graph.
3. Explain domain errors.
4. Explain KV chart for single variable.
5. Explain domain testability.
6. Explain slicing and dicing.
7. Explain Node reduction algorithm.
8. Explain span compatibility of bugs.

SECTION - B

II. Answer ALL the Questions.

(5×10=50)

1. a) Draw and explain model for testing.

(OR)

- b) What is path? Explain path predicates.

2. a) Explain data flow testing strategies.

(OR)

- b) Explain Transaction flow graphs.

3. a) Explain Nice domains.

(OR)

- b) Explain domain and interface testing.

4. a) Explain Regular expression and flow anomaly detection.

(OR)

- b) Explain significance of decision tables in logic based testing.

5. a) Explain good state and bad state graphs.

(OR)

- b) Explain relations in matrix of graph.
-