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PG3S-395-A-23
M.Sc. III Semester (CBCS) Degree Examination
COMPUTER SCIENCE
Advanced Java
Paper - HCT 3.1
(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section A is compulsory
2) Answer any five questions from Section - B

SECTION - A

1. Answer the following questions **(10×2=20)**

a) How to define class and object in Java?

b) What is interface? Why it is needed?

c) What are the access protection in Java?

d) Define Thread Synchronization.

e) Which class supports for input/output in Java?

f) What are the different Thread priorities?

g) What is AWT?

h) How to use Text field in Java?

i) What are the JDBC drivers?

j) What is byte code Interpretation?

SECTION - B

2. a) Explain Multilevel Hierarchy in Inheritance. **(6)**

b) Write a Java Program to demonstrate creating and implement interface. **(6)**

3. a) Explain creating user defined exceptions with example. **(6)**

b) Differentiate between Abstract class and Final Class. **(6)**

4. a) Explain creating Thread using Thread class and Runnable interface. **(6)**

b) Write a program to read the content from text file and display it on the screen. **(6)**

5. a) Explain any two byte and character steam classes with an example. **(6)**

   b) What are the different standard Java Packages? **(6)**

6. a) What is Swing? Compare swing classes with AWT Classes. **(6)**

   b) Write a Java program to select the students Roll No, Name and Contact from student table of Database and display it on screen. **(6)**

7. a) What are the different collection classes in Java? Explain them with an example. **(6)**

   b) Write a simple Swing Application for addition of two numbers. **(6)**

8. Write notes on any two of the following: **(2×6=12)**

   a) Constructor

   b) Applets

   c) Working with Windows Graphics and Text

   d) JAR file handling

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PG3S-397-A-23
M.Sc. III Semester (CBCS) Degree Examination
COMPUTER SCIENCE
Data Science
Paper - SCT 3.1
(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section A is compulsory
2) Answer any five questions from Section - B

SECTION - A

1. Answer the following questions **(10×2=20)**

a) What are descriptive and predictive data mining?

b) List the characteristics of a data ware house.

c) Mention three challenges to data mining regarding data mining methodology and user interaction issues.

d) When we can say the association rules are interesting?

e) What is the purpose of Apriori Algorithm?

f) What is Correlation analysis?

g) What is smoothing?

h) Where are decision trees mainly used?

i) What is Cluster Analysis?

j) List data mining applications.

SECTION - B

2. a) Explain the steps in data mining process. **(6)**

b) Explain the Data mining Functionalities. **(6)**

3. a) Discuss 3-tier architecture of data warehouse. **(6)**

b) State the differences between OLTP and OLAP in detail. **(6)**

4. a) A database has five transactions. Let min sup D 60% and min conf D 80%. **(6)**

TID	*items - bought*
T100	{ M, O, N, K, E, Y}
T200	{ D, O, N, K, E, Y}
T300	{ M, A, K, E}
T400	{ M, U, C, K, Y}
T500	{ C, O, O, K, I, E}

Find all frequent itemsets using Apriori

b) Give an example to show that items in a strong association rule actually may be negatively correlated. **(6)**

5. a) Write the FP-growth algorithm. **(6)**

b) Can we design a method that mines the complete set of frequent item sets without candidate generation? If yes, explain with an example. **(6)**

6. a) Explain tree pruning. **(6)**

b) Explain the working of a Bayesian classifier. **(6)**

7. a) Prove that in DBSCAN, the density-connectedness is an equivalence relation. **(6)**

b) Suppose that the data mining task is to cluster points (with (x,y) representing location) into three clusters, where the points are

A1(2,10), A2(2,5) , A3(8,4),B1(5,8),B2(7,5),B3(6,4),C1(1,2), C2(4,9))

The distance function is Euclidean distance. Suppose initially we assign A1, B1, and C1 as the center of each cluster, respectively. Use the k-means algorithm to show only The three cluster centers after the first round of execution. **(6)**

8. Write notes on any **Two** of the following: **(2×6=12)**

a) Data Preprocessing

b) Multi-level association rules

c) PAM algorithm

d) Hierarchical Clustering methods.

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PG3S-399-A-23
M.Sc. III Semester (CBCS) Degree Examination
COMPUTER SCIENCE
E-Commerce
Paper : OET :3.1
(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to candidates:

1 *Section A is Compulsory.*

2 *Answer any five questions from section B.*

SECTION-A

Answer the following questions. **(10×2=20)**

1. a) What are the various components of electronic commerce applications?

   b) List out advantages of e-commerce.

   c) List any two cutting edge technologies in e-commerce.

   d) Define Router.

   e) What is a server?

   f) List out advantages of internet.

   g) What do you mean e-Business?

   h) What is e-enterprise?

   i) List out different payment process.

   j) Give an overview process of OTP authentication.

SECTION-B

(5×12=60)

2. a) What are the key technologies for B2B E-commerce? Explain architectural models of B2B E-Commerce. **(6)**

   b) Discuss how E-commerce is helpful to business success. **(6)**

3. a) Write a note on E-Commerce framework. **(6)**

   b) Enlist the differences between traditional commerce and e-commerce. **(6)**

4. a) What do you understand by WWW? What is the use of hypertext links in internet access? **(6)**

   b) Explain the Architectural framework for electronic commerce. **(6)**

5. a) Explain server operating system. **(6)**

   b) What are the different layers of TCP/IP protocol stack? Discuss their function briefly. **(6)**

6. a) Explain the different business models of E-Commerce with suitable examples. **(6)**

   b) Discuss the factors influencing the success of E-Commerce. **(6)**

7. a) What is EDI? Discuss its structure. **(6)**

   b) What are the security issues of E-Commerce? **(6)**

8. Write notes on any Two of the following. **(2×6=12)**

   a) Road map of E-commerce

   b) Network infrastructure

   c) E-Commerce Sales Life Cycle model (ESLC)

   d) Electronic Funds Transfer.

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PG3S-396-A-23

M.Sc. III Semester (CBCS) Degree Examination

COMPUTER SCIENCE

Software Engineering

Paper - HCT 3.2

(New Syllabus)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section A is compulsory
2) Answer any **Five** questions from Section - B

SECTION - A

Answer the following questions **(10×2=20)**

1. a) Define Stakeholders. Mention any two stakeholders.
   b) What is meant by Inception in Requirement Engineering?
   c) Define Software Engineering.
   d) What is meant by unstructured loop?
   e) Define Orthogonal Array testing.
   f) Define software design.
   g) Write the formula to determine cyclomatic complexity.
   h) What is independent program paths?
   i) Define Software Process Improvement.
   j) What is PROD?

SECTION - B

2. a) Explain general principles of software engineering. (6)
   b) Define Software. Explain its types. (6)
3. a) Describe tasks of Requirement engineering. (6)
   b) Explain Waterfall Process model in detail. (6)
4. a) Explain Unit testing in detail. (6)
   b) Draw UML Use case diagram for Library Management System. (6)

5. a) Explain classification of Cohesion (6)

b) Explain Performance testing in detail. (6)

6. a) Describe with a neat diagram flow graph notation. (6)

b) Explain the attributes of good test. (6)

7. a) Explain stages of COCOMO II model in detail. (6)

b) Explain LOC estimate in detail. (6)

8. Write notes on any two of the following: (2×6=12)

a) Scenario based Modeling

b) Coupling

c) Graph Matrices

d) Software scope
