

Code No: 126EP

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**B.Tech III Year II Semester Examinations, May - 2016**  
**WEB TECHNOLOGIES**  
 (Common to CSE, IT)

Max. Marks: 75

Time: 3 hours

**Note:** This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A (25 Marks)**

- 1.a) Give any two advantages of PHP. [2]
- b) How can you create array in PHP? Explain. [3]
- c) Discuss the common tags of XHTML. [2]
- d) How can you declare attributes in XML? Give an example. [3]
- e) What does Servlet config interface do? [2]
- f) When a Servlet accepts a call from a client, it receives two objects. What are they? [3]
- g) What is Session tracking? Explain. [2]
- h) What is the purpose of using Cookies? How they are created? [3]
- i) What is the difference between GET and POST method in Java Script? [2]
- j) How does one access cookie in a java script? [3]

**PART - B (50 Marks)**

- 2.a) Discuss about various functions used in PHP with examples. [5+5]
  - b) Write a PHP script to add and remove users from a MySQL table. [5+5]
- OR**
- 3.a) Describe about various types of PHP interpreters. [5+5]
  - b) Write a PHP script for searching a website URL for a keyword or sentence. [5+5]
- 4.a) Explain document structure description with example code in XML. [5+5]
  - b) What are the XML namespaces and how are they declared? [5+5]
- OR**
- 5.a) Explain about various types of XML parsers. [5+5]
  - b) How are XHTML elements and attributes represented in the java script binding to DOM? Explain. [5+5]
- 6.a) Write note on Common Gateway Interface (CGI). [5+5]
  - b) What potential advantages do servlets have over CGI programs? Explain. [5+5]
- OR**
- 7.a) Describe the life cycle of a java servlet and write a simple servlet that reads three parameters from the form data. [5+5]
  - b) Explain the differences between Generic Servlet and HttpServlet. [5+5]

8.a) Discuss about the features of JSP pages.  
Write in brief about JSP tag extensions and libraries.

[5+5]

**OR**

9.a) How does a Servlet communicates with a JSP page? Explain.  
b) What is Bean? Discuss how to create beans in JSP.

[5+5]

10.a) Explain various operators and data types available in java script.

[5+5]

b) Explain Document Object Model with suitable examples and code.

**OR**

11.a) Explain about object, methods and events in Java Scripts.

b) Write short notes on simple Ajax application.

[5+5]

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Code No: 126EV  
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
 B.Tech III Year II Semester Examinations, May - 2016  
**CLOUD COMPUTING**  
 (Information Technology)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.  
 Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A**

(25 Marks)

- 1. a) Define the concept of cluster. [2]
- b) List and explain the elements of parallel computing. [3]
- c) What is cloud computing paradigm? [2]
- d) What are the Challenges of SaaS Paradigm? Explain. [3]
- e) Define T Systems? [2]
- f) Illustrate the steps in virtual machine provisioning process? [3]
- g) What is AWS cloud? [2]
- h) Discuss in detail about the services offered by Amazon AWS. [3]
- i) State data security in cloud. [2]
- j) Mention the pros and cons of content level security? [3]

**PART - B**

(50 Marks)

- 2. Explain the characteristics and types of virtualization in cloud computing. [10]
- OR
- 3. What are the various technologies used for distributed computing? Explain any one of them in detail. [10]
- 4. List and explain in detail about various types of cloud. [10]
- OR
- 5. With a neat diagram explain the architecture of cloud reference model. [10]
- 6. With a neat diagram explain virtual machine life cycle. [10]
- OR
- 7. List and explain the various scientific applications of cloud. [10]
- 8. Describe in detail about Automated Policy-based Management. [10]
- OR
- 9. Explain how Performance Prediction is done for HPC on Clouds. [10]
- 10. With a neat sketch explain in detail about cloud services life cycle. [10]
- OR
- 11. Discuss the Framework to Comprehend the Competitive Environment. [10]

Answer All the Questions

1. (a) List the disadvantages of hype cycle.
- (b) List the advantages of programming level virtualization
- (c) What is VIM?
- (d) Discuss in brief about various types of cloud service brokerages.
- (e) What points should be considered for proper migration of VM?
- (f) What is elasticity rule? Also mention its types.
- (g) Write about session-based algorithm.
- (h) Write about rackspace cloud files.
- (i) Write short notes on reward and management system.
- (j) Explain the term,
  - (i) Process
  - (ii) Skills and competencies

PART – B (Marks 5 x 10 = 50)

2. (a) What is a cloud? Discuss the three service models of cloud computing in a cloud landscape.
- (b) Explain in detail about SSI

OR

3. Discuss about hardware support for virtualization.
4. Explain in details about the roots of cloud computing.

OR

5. Write a detailed note on SaaS integration products.
6. (a) Describe VM provisioning process
- (b) What is Eucalyptus? Explain the architecture of Eucalyptus.

OR

7. (a) What is T-system? Give a brief account on what enterprises demand of cloud computing.
- (b) Write short notes on,
  - (i) SAGA
  - (ii) SAGA Montage

8. (a) What are the two types of SLAs from the perspective of application hosting? What are the challenges of provisioning the infrastructure on demand?

(b) List out the issues that must be considered for grid and cloud integration. What are the two approaches that have been proposed for grid and cloud integration?

OR

9. Give the entity relationship diagram for meta CDN database and explain its architecture.
10. Discuss in detail about deming cycle.

OR

11. Discuss in detail about various cloud computing models.

B.Tech. IV – I Semester Examination  
Model Paper – II  
CLOUD COMPUTING  
(INFORMATION TECHNOLOGY)  
PART – A (Marks 25)

Answer All the Questions

1. (a) Write short notes on MapReduce?
- (b) Write short notes on independent checkpointing?
- (c) What is automatic computing?
- (d) What are the four adoption strategies?
- (e) List the characteristics of private cloud?
- (f) Explain the need for cloud mashups?
- (g) List out the issues that arise while adopting cloud paradigm in HPC context?
- (h) What is a service application?
- (i) Define organizational readiness.
- (j) What is an information card?

PART – B (Marks 5 x 10 = 50)

2. Explain various file handling utilities and process utilities ?

OR

3. What are the performance metrics associated with distributed system? Discuss various dimensions of scalability?

4. What is a virtual infrastructure manager (VIM)? Give its features?

OR

5. Explain the various cloud integration mythologies?

6. Explain in detail about VM migration on services?

OR

7. Discuss in detail about CaaS service design?

8. Explain the principles and fundamental requirements of cloud providers to migrate grow and shrink the virtual applications?

OR

9. What is AWS? Explain the best practices that help in building an application in the cloud?

10. Briefly explain the change management maturity model?

OR

11. Explain in detail about cloud service life cycle and its stages?

Answer All the Questions

1. (a) What are cyber physical systems?
- (b) What is authentication in distributed systems?
- (c) Discuss any three features of IaaS.
- (d) Write short notes on SaaS cloud service offering
- (e) What are the three forms of lease?
- (f) What are the key motivations for autonomic cloud bursts?
- (g) List out the issues for a grid and cloud integration.
- (h) Explain the need for cloud mashups
- (i) Write short notes on environment factors.
- (j) Define production readiness.

PART – B (Marks 5 x 10 = 50)

2. Explain in detail about grid infrastructure

OR

3. (a) Write short notes on check pointing.
- (b) List the feature and applications of MOSIX
4. (a) Discuss briefly the features of PaaS provider.
- (b) Explain in detail the steps to be followed in order to migrate into a cloud.

OR

5. Explain in detail the adoption and consumption strategies.
6. Write any two secure methods used in different commercial cloud services.

OR

7. Explain with a neat diagram the architecture of workflow management system.
8. Explain the comparison between classical HPC systems and the new cloud paradigm.

OR

9. Write a short notes on,
  - (a) User-centric clouds
  - (b) Multimedia streaming
10. (a) Discuss in brief about the cloud computing and data security risk.
- (b) List the pros and cons of content level security.

OR

11. Define the term service management and discuss the producer-consumer relationship.



Time: 3 hours

Max. Marks: 75

**Note:** This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

## PART - A

(25 Marks)

1. a) Define concept hierarchy. [2]  
 b) What is meta data repository? [3]  
 c) What are the challenges of KDD? [2]  
 d) What is data mining? [3]  
 e) Define association rule. [2]  
 f) Define maximal frequent itemset. [3]  
 g) Why is tree pruning useful in decision tree induction? [2]  
 h) Define Bayesian belief network. [3]  
 i) What is clustering? [2]  
 j) How does Chameleon work? [3]

## PART - B

(50 Marks)

2. a) Explain any two of the schemas for multidimensional databases.  
 b) Describe Fully Addictive, Semi-Addictive, Non Addictive Measures. [5+5]

OR

3. a) What are OLAP operations in the multidimensional data model? Explain.  
 b) Describe efficient computation of data cubes. [5+5]

4. a) Discuss about dimensionality reduction.  
 b) Explain in detail about data cleaning. [5+5]

OR

5. a) List and describe the five *primitives* for specifying a data mining task.  
 b) In real-world data, tuples with *missing values* for some attributes are a common occurrence. Describe various methods for handling this problem. [5+5]

6. Write the the Apriori algorithm for discovering frequent item sets for mining Boolean association rules. [10]

OR

7. a) How can we mine closed frequent item sets? Explain.  
 b) Write the FP-growth algorithm. [5+5]

8.

Compare the advantages and disadvantages of *eager* classification (e.g., decision tree, Bayesian, neural network) versus *lazy* classification (e.g., *k*-nearest neighbor, casebased reasoning) [10]

OR

9.a) What are the measures for selecting the Best Split? Explain.

b) What are the general approaches for classification problems? Explain. [5+5]

10.a) Write and explain about the k-medoids algorithm.

b) Describe distance based outlier detection. [5+5]

OR

11. Briefly describe the following approaches to clustering: partitioning methods, hierarchical methods, density-based methods, grid-based methods, model-based methods, methods for high-dimensional data, and constraint-based methods. Give examples in each case. [10]

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Time: 3 hours

Max. Marks: 75

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A**

(25 Marks)

- 1.a) What is the need for 'Value Education' in technical and other professional institutions? [2]
- b) What is the difference between 'belief' and 'understanding'? [3]
- c) Suggest any 2 programs that you can undertake to improve the health of your body? [2]
- d) How do we go into conflicts when our activities are not guided by one natural acceptance? [3]
- e) Explain the term "Anu - Sangita". [2]
- f) What can be the basis of an undivided society- the "World family"? [3]
- g) Define sah-astitva? [2]
- h) Explain the term "nature submerged in space" with reference to existence? [3]
- i) What are the objectives of professional ethics? [2]
- j) Differentiate existence and co-existence. [3]

**PART - B**

(50 Marks)

- 2.a) Justify the role of self exploration as in the process of Value Education? [5+5]
- b) What are pre conditions? What is their source?
- OR**
- a) Critically examine the prevailing notion of happiness and prosperity and their consequences? [5+5]
- b) What is the true essence of happiness and prosperity?
- a) What are the consequences of confusion between Sukh and Suvidha? [5+5]
- b) "Human being is more than just the Body"- explain?
- OR**
- a) Why are the Physical facilities required? What do you mean by right utilization of Body? [5+5]
- b) How does realization and understanding lead to definiteness of human conduct?

~~9.a)~~ The major crisis in today's society is that of Trust and Respect-Elucidate?  
b) What is "Justice" what are its four elements? Is it a continuous or a temporary need? [5+5]

**OR**

a) Explain the dimensions of human Endeavour in society conducive to manaviya Vyavastha?  
b) What is the meaning of Education and Sanskara? How does Sanskara follow education? [5+5]

~~10.a)~~ Briefly explain the holistic perception of harmony at all levels of existence.  
b) Describe the recyclability and self-regulation of nature. [5+5]

**OR**

~~9.a)~~ Explain the four orders in nature.  
b) Differentiate between units and space. How are units self-organized in space? [5+5]

10. Mention the steps that you can take to promote ethics among your colleagues over unethical practices prevailing? [10]

**OR**

a) Explain the holistic alternatives and describe the vision for the holistic alternatives.  
b) Explain the competence process in professional ethics. [5+5]

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Code No: 126EQ

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2016

OBJECT ORIENTED ANALYSIS AND DESIGN

(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- 1 a) What is an artifact? [2]
- b) What are the adornments in the UML? [3]
- c) What is navigation? [2]
- d) Explain the levels of visibility. [3]
- e) What is use case diagram? [2]
- f) What are interaction diagrams? [3]
- g) What is a component? [2]
- h) What is a deployment diagram? [3]
- i) What are the common uses of deployment diagrams? [2]
- j) What are the three kinds of components? [3]

PART - B

(50 Marks)

- 2 a) What are behavioral things? Explain. [5+5]
  - b) What is UML? Where can the UML to be used? [5+5]
- OR**
- 3 a) What are the principles of modeling? Explain. [5+5]
  - b) Draw the architecture of a software-intensive system and explain. [5+5]
- 4 a) What are the various kinds of Classifiers? Explain. [5+5]
  - b) How to model the seams in a system? [5+5]
- OR**
- 5 a) Explain about generalization with an example. [5+5]
  - b) Describe interfaces, types and roles with examples. [5+5]
- 6 a) Explain about use cases and actors and use cases and flow of events. [5+5]
  - b) How to model a flow of control? [5+5]
- OR**
- 7 a) Explain sequence diagram with suitable example. [5+5]
  - b) How to model the requirements of a system? [5+5]

8.a) Explain the following:

- i) History states
- ii) Time and space

How to model an API?

[5+5]

OR

9. How to model an embedded system?

b) Differentiate the following:

- i) Components and classes
- ii) Nodes and components.

[4+6]

Explain the following:

- a) Patterns and architecture
- b) Modeling an executable release.

[5+5]

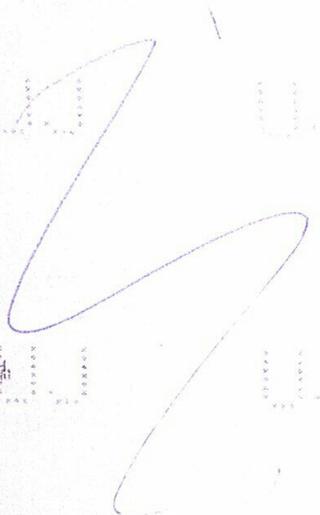
OR

11. Draw the following diagrams for the unified library application:

- a) Class diagrams
- b) Interaction diagrams.

[5+5]

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Code No: 126ER

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year II Semester Examinations, May - 2016

SOFTWARE TESTING METHODOLOGIES

(Common to CSE, IT)

Max. Marks: 75

Time: 3 hours

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

- 1. a) Define testing and debugging. [2]
- b) What are the elements of flow graph? [3]
- c) What is Data-flow testing? [2]
- d) Give an example of a transaction-flow. [3]
- e) What is domain testing? [2]
- f) Define linear vector space. [3]
- g) What are distributive laws? [2]
- h) Give examples of four variable KV-chart. [3]
- i) Define state-transition table. [2]
- j) What is partial ordering relation? [3]

PART - B

(50 Marks)

- 2. a) Distinguish the following: [5+5]
  - i) Function vs structure
  - ii) The builder vs Buyer
- b) How should you go about quantifying the nightmare? Explain.

OR

- 3. a) Is complete testing possible? Explain. [5+5]
- b) What are the three kinds of loops? Explain with example.
- 4. a) Describe the complications of transaction flows. [5+5]
- b) What are data-flow anomalies? Explain.

OR

- 5. a) Define transaction flow testing. Explain transaction flow structure. [5+5]
- b) Explain about the data-flow model with example.

- 6. a) What are the restrictions of domain testing? Explain. [5+5]
- b) How to test two-dimensional domains? Explain.

OR

- 7. a) What is the strategy of domain testing? Explain in brief. [5+5]
- b) Discuss about domains and testability.

8) Explain about the mean processing time of a routine with example.  
Justify the following statement:  
"Decision tables can also be used to examine a program's structure".

[5+5]

OR

9. a) Explain Push/Pop arithmetic with example.  
b) What are the rules of Boolean algebra? Explain.

[5+5]

10. Explain the following:

- a) Impact of bugs in state testing
- b) Number of states in a state graph.
- c) Properties of relations.

[3+4+3]

OR

11. Explain the following:  
a) Software implementation of state graphs.  
b) Applications of graph matrices.

[5+5]