

9452

(2113)

B.Tech. 5th Semester (Computer Engineering)

CLOUD COMPUTING

Paper-BCSE-532/BCSE-513

(From the Session 2020-2021)

Time : Three Hours]

[Maximum Marks : 60

- Note :**
1. Section A is compulsory and comprises of 12 questions of 1 mark each.
 2. Section B comprises of 4 questions of 2 marks each.
 3. Section C comprises of 4 questions of 4 marks each, each question shall have two alternatives, out of which student will be required to attempt *one*.
 4. Section D comprises of 4 questions of 6 marks each, each question shall have two alternatives, out of which student will be required to attempt *one*.
 5. Assume any missing data if required any.

SECTION - A

- (i) What are the disadvantages of virtualization?
- (ii) What are the major advantages of cloud computing?
- (iii) Give the names of some popular software-as-a-service solutions?

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- (iv) Discuss the use of hypervisor in cloud computing
- (v) Discuss the security challenges in cloud computing
- (vi) Compare Cloud and on-premises Computing
- (vii) Define cloud computing and identify its features?
- (viii) Explain the cloud ecosystem.
- (ix) What is Para-virtualization?
- (x) What is meant by federation in Cloud? What is the need for it?
- (xi) Name any four PaaS vendors?
- (xii) What is Windows Azure? (1x1)

SECTION-B

2. Differentiate Parallel Computing and Distributed Computing.
3. What is Public Cloud? Explain various service offerings provided by Public Cloud.
4. Discuss about data security risks in cloud? Explain how digital identity can overcome these risks.
5. Explain the selection criteria for cloud deployment

SECTION-C

6. What is VM migration? Explain various VM migration techniques and distinguish them.

7. What are the advantages and disadvantages of public cloud. Name four public cloud players. 4
8. What is multi-Cloud? Explain the implementation of Right Scale Cloud Management System. 4
9. Explain the future technology trends in Cloud Computing focused on Cloud deployment models. 4

SECTION-D

10. What is Server Virtualization? Explain various types of server virtualization with suitable diagrams and examples. 6
11. Explain when and why to opt for public cloud over the other cloud types. Also discuss the implementation of AWS Cloud. 6
12. Explain security reference model in detail with diagram. Briefly discuss about the malicious insiders and shared technology issues. 6
13. Write short note on :
(a) Business Intelligence in Cloud.
(b) Big Data Analytics on Cloud. 6

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SECTION - A

1. (i) What are the disadvantages of virtualization?
- (ii) What are the major advantages of cloud computing?
- (iii) Give the names of some popular software-as-a-service solutions?

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- (iv) Discuss the use of hypervisor in cloud computing.
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(1x)

SECTION-B

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(a) Business Intelligence in Cloud.
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B.Tech. 5th Semester (Computer Engineering)

PYTHON AND ITS FRAMEWORK

Paper-BCSE-533

(From the Session 2022-2023 & Common with Cloud
Technology & Information Security and Data Science)

[Time : Three Hours] [Maximum Marks : 60]

Note : Attempt all questions.

SECTION-A

1. (a) What is use of NumPy library in Python?
- (b) Python use static or dynamic data types? How?
- (c) What will be output of following :

 $A = 20$
 $B = 10$
 $A,B = B,A$
 $Print(A,B)$
- (d) What is role of Model in MVT Architecture?
- (e) What are Migrations in Django?
- (f) Differentiate among MVT and MVC Framework.
- (g) What is purpose of action and method attribute in form processing?

- (h) Differentiate among app and project in Django.
- (i) What is CRUD?
- (j) What is class based views? Where they are useful?
- (k) What is version control in Django?
- (l) What is use of Django ORM? (12x1=12)

SECTION-B

2. What are Web Frameworks? Why and when these required?
3. What do you mean by code reusability in Django? Describe.
4. What is URL mapping? Why and where it is required?
5. Explain the use of 'migrate' and 'makemigration' command(s) in Django. (4x2=8)

SECTION-C

6. Differentiate among the following :
- Mutable and Immutable data Types. (1+1=2)
 - Django and Flask. (2x1=2)
7. What is the significance of Views in Django project? Can we directly import a function in URL? (2+2=4)
8. Develop a model named Employee in models.py file of App and re-write the code in forms.py to generate form from existing model. (2+2=4)

- (h) Differentiate among app and project in Django.
- (i) What is CRUD?
- (j) What is class based views? Where they are useful?
- (k) What is version control in Django?
- (l) What is use of Django ORM? (12x1=12)

SECTION-B

2. What are Web Frameworks? Why and when these required?
3. What do you mean by code reusability in Django? Describe.
4. What is URL mapping? Why and where it is required?
5. Explain the use of 'migrate' and 'makemigration' command(s) in Django. (4x2=8)

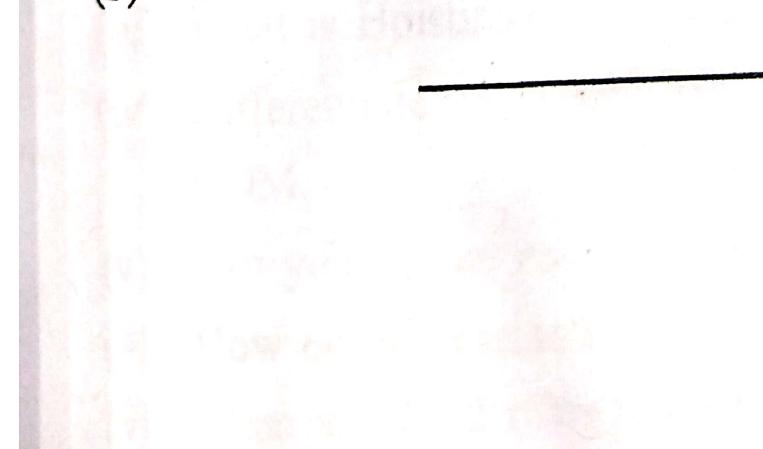
SECTION-C

6. Differentiate among the following :
- (a) Mutable and Immutable data Types.
- (b) Django and Flask.
7. What is the significance of Views in Django project? Can we directly import a function in URL?
8. Develop a model named Employee in models.py file of App and re-write the code in forms.py to generate form from existing model.

How a Django project is deployed? Describe in detail with help of suitable example. (4x4=16)

SECTION-D

0. Define Data Visualization. Explain different python libraries/tools used for visualization of data.
1. Describe the following features regarding Django
 - (a) Template.
 - (b) Code Reusability.
2. Develop a base template named Base.html and create new template by using concept of template inheritance. Write down the steps to demonstrate the mapping among URL patterns and concerned views.
3. Write a note on the following by taking suitable examples:-
 - (a) Function based views.
 - (b) Generic Views.



9456**(2113)****B.Tech. 5th Semester (Computer Engineering)****JAVASCRIPT AND ITS FRAMEWORK****Paper-BCSE-534**

(From the Session 2022-2023 and Common with Cloud
Technology & Information Security and Data Science)

Time : Three Hours]

[Maximum Marks : 60

Note : All questions are compulsory.

SECTION – A

- (i) Is it necessary to call super () inside a constructor? 1
- (ii) What is the Spread Operator? 1
- (iii) What is Hoisting? 1
- (iv) Differentiate between Real DOM and Virtual DOM. 1
- (v) Can you update props in react? 1
- (vi) How do you create an event in React? 1
- (vii) What are the 2 rules you must follow while using Hooks? 1
- (viii) Difference between Redux and Flux. 1
- (ix) What is React Router? 1

(x) How to install axios library using NPM in JS?

(xi) Why do you need a promise?

(xii) What is the difference between state and prop

SECTION-B

2. Explain Higher Order Functions or first-class Functions in JavaScript with programming code.
3. Create a simple counter app in React with State Component.
4. Explain Effect Hook with an example.
5. What is Redux in React JS? State the core principles of Redux.

SECTION-C

6. What are arrow functions? Write a JavaScript code to add, multiplication, subtraction and division of numbers with user defined function using arrow function syntax.
7. Difference between html and react event handling. Explain different ways to bind 'this' keyword to the event handler with example. Create Toggle component renders a button that lets the user toggle between "ON" and "OFF" state.

8. How to pass data from one component to another in React JS? Create a Comment component that accepts author (an object with properties name and avatar URL), text (a string) and date (a date) as props and describes a comment on a social media website. 4

9. Build a simple Search app that looks up results from an array set. If the typed characters match anything on the list, they will be filtered out and all other entries will be dismissed. 4

SECTION-D

10. Write a JavaScript code to create a class to represent a Student details include the Student Roll No, Name of the Student, Branch, year, location and college. Assign initial values using constructor. Calculate average of marks of o subjects ana calculate attendance percentage. 6

11. What are forms in React? How do you create forms in React? Create a simple login form with input fields (email and password), checkbox and submit button. 6

12. Create a simple web page, with navigation links for Home page, Login page and Signup page using Reactstrap Navbar component. Implement the same using React Route concepts. 6

13. Create a static API using JSON server containing Restaurant JSON data with the details of Dish ID, Image of the Dish, Comments of the dish and Description and also develop CRUD App in React JS with this API.

SECTION-2

- Q) Explain the concept of inheritance in C#?
- A) Inheritance is a mechanism of reuse of code. It is used to define a new class based on an existing class. The new class is called derived class and the existing class is called base class.

↳ Inheritance is a mechanism of reuse of code. It is used to define a new class based on an existing class. The new class is called derived class and the existing class is called base class.

↳ Create a simple web based food ordering system with multiple components.





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B.Tech. 5th Semester (Computer Engineering)

UI / UX DESIGN

(From the Session 2022-2023)

Paper-BCSE-542

Time : Three Hours]

[Maximum Marks : 60

Note : All questions are compulsory. Section-A: 12 questions of 1 mark. Section-B: 4 questions of 2 marks. Section-C: 4 questions of 4 marks. Section-D: 4 questions of 6 marks.

SECTION-A

- (a) Define the term "Design".
- (b) Define Task Flow.
- (c) Differentiate between Template vs. Content.
- (d) What are the *two* main types of Interaction Design?
- (e) Define the term Mockup.
- (f) Which option should NOT be included in a wireframe?
 - (i) Graphic elements.
 - (ii) Dummy text.
 - (iii) Actual design.

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- (g) Define User Persona.
- (h) List the methods used for User Research.
- (i) Differentiate between good and bad UX design.
- (j) Why is data visualization important?
- (k) Name *two* Wireframing tools.
- (l) What are the objectives of database auditing?

SECTION-B

- 2. (a) What are the formal and active elements of Interface Design?
- (b) What are the three basic principles of usability?
- (c) Explain the need and importance of Information Architecture.
- (d) What are "quantitative" and "qualitative" methods of user research?

SECTION-C

- 3. (a) How to develop and release your design?
- (b) Explain a brief historical overview of Interface Design.
- (c) What are the core principles of UI Design?
- (d) Explain the term Wireframe. Also explain the different types of Wire framing.

SECTION-D

- (a) Differentiate between UI/UX.
 - (b) Explain in detail the methods of UX Design.
 - (c) Explain Heuristic Evaluation conducted in User Interface Design.
 - (d) Define User Interface. Describe the good design benefits.
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