[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3616 **L**

Unique Paper Code : 6332493602

Name of the Paper : E-Commerce

Name of the Course : **B.VOC (WEB DESIGNING)**

Semester : VI

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** Questions in **Section-A** are compulsory.
3. Attempt any **four** questions from **Section-B**.
4. Parts of a question should be attempted together.

Section A

1.	a)	What do you understand by E-commerce?	(3)
	b)	Write a short note on driving forces of E-commerce.	(3)
	c)	What is a business model?	(3)
	d)	Define World Wide Web (WWW).	(3)
	e)	What is e-marketing?	(3)
	f)	What is online shopping?	(3)
	g)	Define e-auction.	(3)
	h)	What is e-tailing?	(3)
	i)	Identify whether the following are online services or traditional services: (i) Online banking (ii) Shopping from local store (iii) Paying electricity bill through website	(3)
	j)	List any three features of E-commerce.	(3)

Section B

2.	a)	Explain the concept and significance of E-commerce in modern business.	8
	b)	Describe the driving forces of E-commerce with examples.	7
3	a)	What is an E-commerce business model? Explain its key elements.	8
	b)	Discuss the importance of internet technologies in E-commerce.	7

P.T.O.

4	a)	Explain how online portals and e-services are used in daily life.	8
	b)	Explain the concept of e-publishing and e-entertainment.	7
5	a)	Explain the working and benefits of online learning platforms.	8
	b)	What are the challenges faced in online business transactions?	7
6	a)	Describe the role of E-commerce in banking and utility services.	8
	b)	What is an online portal? Explain its types and uses.	7
7	a)	Explain the importance of website design in E-commerce success.	8
	b)	Discuss the challenges in maintaining an E-commerce website.	7

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3620 **L**

Unique Paper Code : 6332493603

Name of the Paper : Android Programming

Name of the Course : **B.Voc (Web Designing) (NEP-UGCF)**

Semester : VI

(For Admissions of 2019 onwards)

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Question No. **1** is compulsory in **Section-A**.
3. Attempt any **four** questions from **Section-B**.
4. Parts of a question should be attempted together.

Section A

Q1. (a) Explain the concept of Inheritance in Object-Oriented Programming with reference to function overriding. 3

(b) Explain the different types of layouts used in Android application development. 3

(c) Differentiate between CheckBox and RadioButton in Android. Also explain how CheckBox can be implemented using Kotlin. 3

(d) What is a Spinner in Android? Explain its working with a suitable example. 3

(e) Which of the following languages can be used in the Android development: 3

(1) Java
(2) CSS

(f) Explain TextView in android? 3

(g) Write a small program to display the Notification from the Top middle using Toast class? 3

(h) Discuss working of Content Provider? 3

(i) Discuss SQLite databases for developing android applications. 3

(j) How can we insert toggle buttons in an activity in android using kotlin? 3

Section B

Q2. (a) Design a Simple Calculator with operations addition, and division. Use only a single activity without any intents. 12

(b) What is Broadcast Receivers. Discuss with suitable example? 3

Q3. (a) Explain the working of an Android application that displays the population of a country by taking the country name as input and fetching the population data using the given API. 12

API: https://knowyourworld/getpopulation/from/country

Request Body: Country Name

Response: Population (in crores)

(b) How can we test our android application in Desktop view? 3

Q4. (a) Create a function in kotlin as an android application with following details: Function will take an integer as input and find its square and return the result 8

(b) Discuss Activity Lifecycle. 7

Q5. (a) Discuss following callback methods with respect to activity: 9

(1) onCreate()
(2) onStart()
(3) onResume()

(b) What is the usage of android Manifest.xml file? 6

Q6. (a) Explain Android Architecture with a suitable diagram. 8

(b) What is SQLite database? How to provide that database connection using SQLite database. 7

Q7. (a) Discuss steps to create notifications in Android? 8

(b) Differentiate between Implicit intent and explicit intent? 7

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper	:	**3606** L
Unique Paper Code	:	6332494801
Name of the Paper	:	Advanced Java Programming and Web Technologies
Name of the Course	:	**B.VOC (WEB DESIGNING)**
Semester	:	VIII

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** Questions in **Section-A** are compulsory.
3. Attempt any **four** questions from **Section-B**.
4. Parts of a question should be attempted together.

Section A

Q1.	i.	Explain MVC Architecture in Java Swing and discuss its advantages.	5
	ii.	Describe JDBC Architecture and explain the role of JDBC Drivers.	5
	iii.	Explain RMI Architecture and discuss the role of RMI Registry.	5
	iv.	Define J2EE Architecture. Explain the significance of n-Tier applications.	5
	v.	Explain the Servlet Life Cycle with the help of init(), service(), and destroy() methods.	5
	vi.	Discuss Expression Language (EL) and JSTL in JSP programming.	5

Section B

Q2.	(a)	Discuss the event-handling mechanism in Swing. Explain how listeners and adapters are used with Toggle Buttons, Checkboxes, and Radio Buttons.	8
	(b)	Explain Swing Architecture and discuss the role of Swing components in Java GUI applications.	7

P.T.O.

Q3. (a) Explain the core interfaces of the java.sql package. Describe how Connection, Statement, and ResultSet objects work together. 8

(b) Explain the concepts of Content Handlers and Protocol Handlers. How do they extend Java networking capabilities? 7

Q4. (a) Analyze the importance of Object Serialization in distributed systems. Why is it necessary for transmitting complex objects? 8

(b) Discuss Internationalization (I18N) in Java. Explain how Java applications adapt to regional languages and cultural formats. 7

Q5. (a) Compare Web Containers and Application Servers. Explain their respective roles in Java web applications. 8

(b) Discuss J2EE Architecture and explain how it supports large-scale Enterprise Applications. 7

Q6. (a) Explain Session Handling mechanisms in Servlets. Discuss Cookies, URL Rewriting, Hidden Fields, and HttpSession.

(b) Elaborate on the purpose and implementation of Servlet Filters. Explain how they modify HTTP requests and responses. 7

Q7. (a) Explain JSP translation into Servlets and discuss JSP Life Cycle. 8

(b) Discuss Expression Language (EL) and Tag Extensions in JSP development. 7

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Your Roll No.....

Sr. No. of Question Paper : 7159 **L**

Unique Paper Code : 6333490010

Name of the Paper : ADVANCED COMPILER DESIGN

Name of the Course : **B.VOC WEB DESIGNING**

Semester : VIII

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Question No. 1 is compulsory in Section-A.
3. Attempt any four questions from Section-B.
4. Parts of a question should be attempted together.

Section A

Q1. (a) What is Left Recursion? Why is it problematic for Top-Down parsers? 3

(b) Construct a Syntax Tree for the expression: a * b + c * d 3

(c) Define a sentinel. How is it used in lexical analysis buffers to optimize input reading? 3

(d) What are Tokens, Patterns, and Lexemes? Give an example. 3

(e) Differences between compiler and Interpreter. 3

(f) Define Regular Expressions and Regular Grammar. 3

(g) List the various error recovery strategies for a lexical analysis. 3

(h) Define a viable prefix. State its significance in bottom-up parsing. 3

(i) Explain the following terms a) Ambiguous Grammar b) Lexemes 3

(j) Differences between SLR,CLR, LALR parsers.

Section B

Q2. (a) Explain Compiler with its all phases? 8

(b) Construct the transition diagram for the following 7

A) (ab*)*

B) ((a|b)c*)*

C) (a|b)*abb

Q3. (a) Construct LALR parsing table for given grammar 8

S->aa

A->aA

A->b

(b) Define quadruple, Triple, Indirect Triple? Write 3 address code, Quadruple, Triple and indirect triple for expression: 7

-(a+b)*((-d)*c)

Q4. (a) Construct SLR parsing table for following Grammer 8

S-> E

E-> E+T/T

T-> T*F/F

F-> id

(b) Construct the FIRST and FOLLOW sets for the following grammar: 7

$S \rightarrow A$

$A \rightarrow aB \mid \varepsilon$

$B \rightarrow bC$

$C \rightarrow c \mid \varepsilon$

Q5. (a) Given the following grammar: 8

$A \rightarrow A\,d \mid A\,e \mid b\,d \mid b\,c$

i) Show that the grammar contains left recursion and eliminate it.

ii) After removing left recursion, perform left factoring.

(b) Perform Shift Reduce Parsing for the following 7

i) S->(L)|a L->L,S|S input string- (a,(a,a))

ii) E-> E+E / E*E / (E) / id input string- (id*id+id)

Q6. (a) Define Symbol table. Explain different types of Data structure for symbol table 8

(b) Draw the format of Activation Record in stack allocation and explain each field in it. 7

Q7. (a) Describe the various strategies in register allocation. 8

(b) Construct the DAG for the following statement. 7

a+b*c+d+b*c

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7837 **L**

Unique Paper Code : 6333490011

Name of the Paper : Cloud Computing Security (NEP UGCF)

Name of the Course : **B.Voc (Web Designing)**

Semester : VIII

Duration : 3 Hours Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Question No. **1** is compulsory in **Section-A**.
3. Attempt any **four** questions from **Scction-B**.
4. Parts of a question should be attempted together.

Section A

Q1.	a)	Define cloud computing and state its key characteristics.	(3)
	b)	Differentiate between SaaS and PaaS.	(3)
	c)	List any four benefits of cloud computing	(4)
	d)	Explain public and private cloud models.	(4)
	e)	Define confidentiality and integrity in cloud security.	(4)
	f)	Describe secure development practices in cloud computing.	(4)
	g)	List any four security challenges in cloud computing.	(4)
	h)	Explain identity management and its importance in cloud environments	(4)

Section B

Q2.	a)	Describe the different cloud deployment models. Differentiate between public and private cloud with suitable examples.	(8)
	b)	Explain the architecture of cloud computing. Discuss the role of different components in the architecture.	(7)
Q3.	a)	Discuss the secure software development practices in cloud computing. Explain their significance in maintaining cloud security.	(8)

	b)	Explain cloud security services and design principles with suitable examples.	(7)
Q4.	a)	Analyze the privacy and compliance risks in cloud computing. Suggest appropriate mitigation strategies.	(8)
	b)	Discuss various types of security policies in cloud environments and their implementation challenges.	(7)
Q5.	a)	Explain trusted cloud computing and secure execution environments. Highlight their importance in modern cloud systems.	(8)
	b)	Discuss access control issues in cloud computing and suggest methods to overcome them.	(7)
Q6.	a)	Explain autonomic security in cloud computing. Discuss how it helps in maintaining system resilience.	(8)
	b)	Describe the risks associated with cloud service providers and suggest methods to mitigate these risks.	(7)
Q7.		Explain the Following terms :-	(3×5)

a. IaaS

b. Identity management in cloud computing

c. Secure cloud software requirement

(6)

[This question paper contains 2 printed pages.]

Your Roll No.....

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Sr. No. of Question Paper : 8515

Unique Paper Code : 6333490012

Name of the Paper : Foundations of Deep Learning (NEP UGCF)

Name of the Course : **B.Voc (Web Designing)**

Semester : VIII

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. All Questions in Section-A are compulsory.
3. Attempt any four questions from Section - B.
4. Parts of a question should be attempted together.

Section A

Q1.	i.	State the importance of Deep Learning in automation and prediction systems.	5
	ii.	Explain learning rate and its effect on model convergence.	5
	iii.	Define feature map and explain how it is generated in CNN.	5
	iv.	Define GRU and explain its advantage over standard RNN.	5
	v.	Explain dimensionality reduction using Autoencoders.	5
	vi.	What is cross-validation in machine learning evaluation?	5

Section B

Q2.	(a)	Explain Logistic Regression assumptions and limitations in Deep Learning.	8
	(b)	Compare Batch Gradient Descent, SGD, and RMSProp optimizer.	7

Q3.	(a)	Explain the architecture of Artificial Neural Networks and hidden layers.	8
	(b)	Discuss hyperparameter tuning methods used in Deep Learning..	7
Q4.	(a)	Explain convolution and pooling operations in CNN with examples..	8
	(b)	Compare CNN and Fully Connected Networks for visual tasks.	7
Q5.	(a)	Explain LSTM architecture with gates and working principle.	8
	(b)	Compare LSTM and GRU with suitable points.	7
Q6.	(a)	Explain Autoencoders for feature learning and compression.	8
	(b)	Explain GAN architecture and major training challenges.	7
Q7.	(a)	Explain model evaluation metrics such as accuracy, precision, recall, and F1-score.	8
	(b)	) Write notes on Transformers and Transfer Learning.	7