Enrolment No. 210131041010

410

SILVER OAK UNIVERSITY

B.Tech- CE/CS Android Programming VI ESE/Remedial - Summer '23

92381492

Subject Code: 1010043364 **Date: 27/05/2023**

Subject Name: Android Programming

Time: 2.30pm to 4.30pm **Total Marks: 60**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**

			Marks
Q.1	(a)	How can we stop the services in android?	03
	(b)	Differentiate between fragment and activity?	04
	(c)	Explain the lifecycle of fragments with examples in an Android Application and how to create it.	08
Q.2	(a)	How to monitor and manage the Wi-Fi.	03
		OR	
	(a)	How Accelerometer sensor & gyroscope works	03
	(b)	Explain UI Components of Android application	04
		OR	
	(b)	Explain various types of Android Permission?	04
	(c)	What is intent? Explain the types of intents in android with examples.	08
		OR	
	(c)	What is Activity and How to create activity in android?	08
Q.3	(a)	1.What is the name of android version 8?	01
		2.What are the three animation systems used in Android applications	02
	(b)	Explain the notification service with web application	04
	(c)	Explain Various Android Layouts with Descriptions.	08
		OR	
Q.3	(a)	What is RestAPI and write various methods of it.	03
	(b)	What is Text view and using which method we can assign or print value?	04
	(c)	Explain Realm-Nosql Database with examples.	08
Q.4	(a)	List out the types of various Google Map	03
	(b)	Explain signing the Android Application.	04
	(c)	Explain with examples various methods of Async tasks in detail.	08
		OR	
Q.4	(a)	How to work with 2D graphics	03
	(b)	What is Google Maps and how to add maps in android?	04
	(c)	Explain in detail about multimedia in Android with examples.	08

Enrolment No. 210330411019

335

SILVER OAK UNIVERSITY

B.TECH CE SEMESTER VI EXAMINATION- SUMMER '23

S2321646

Subject Code:1010043320

Subject Name: Internet Of Things **Date: 31/05/2023**

Time: 02:30 PM TO 04:30 PM

Instructions: **Total Marks: 60**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			Marks
Q.1	(a)	Explain the difference between analog and digital sensor interfacing.	03
	(b)	What is sensor? List the types of sensors.	04
	(c)	Draw and Explain Architecture of IoT Security.	08
Q.2	(a)	Write Application areas of IoT	03
		OR	
	(a)	Explain IoT challenges.	03
	(b)	Write a short not: Things in IoT	04
		OR	
	(b)	List and explain Characteristics of IoT	04
	(c)	Write a short not: IPv4	08
		OR	
	(c)	Write a short not: IPv6	08
Q.3	(a)	How can IoT help in improving food safety?	03
	(b)	Explain Microcontrollers	04
	(c)	Explain Fog computing.	08
		OR	
Q.3	(a)	What are some of the key benefits of using IoT technology in healthcare?	03
	(b)	Explain ARM	04
	(c)	How can cloud-based platforms be used to analyze and manage IoT data?	08
Q.4	(a)	What is the role of cloud computing in IoT	03
	(b)	Write a Various application of IoT.	04
	(c)	What is Arduino. Explain Programming and Application in Arduino.	08
		OR	
Q.4	(a)	What is a URI, and what is its role in IoT?	03
	(b)	Explain Driver Assistance application of IoT.	04
	(c)	What is Raspberry Pi. Explain Programming and Application in Raspberry Pi	08

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

Enrollment No: 210133041010

College of Technology
Constituent Institutes of Silver Oak University

Semester:	VI	Programme:	B.TECH CE/IT/CC
Mid Semester Examination (Summer 2023)			
Subject Code:	1010043320/1010103363/1010053362	Subject Name:	Internet of Things/ Introduction to IoT
Date:	13/4/2023	Time:	3:15 PM to 4:45 PM
Duration	90 Minutes	Total Marks:	50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	1 Define IoT. Write Application areas of IoT.**(3 Marks)** 2 Explain IoT challenges.**(3 Marks)** 3 Write a short not: Things in IoT.**(3 Marks)** 4 Explain Microcontrollers.**(3 Marks)** 5 List Types of sensors.**(2 Marks)**	14
Q.2 (A)	Difference between Ipv4 and IPv6	3
	OR	
Q.2 (A)	Different between IoT and cloud	3
Q.2 (B)	Explain IoT level 1,2 ad 3	3
	OR	
Q.2 (B)	Explain IoT level 4,5 and 6	3
Q.2 (C)	What is Protocol? Explain Messaging protocols	6
	OR	
Q.2 (C)	Explain Transport protocols.	6
Q.3 (A)	Write a short not: Security in cloud	3
Q.3 (B)	Explain following application of IoT: Food and Healthcare	3
Q.3 (C)	Explain ARM in detail.	6
	OR	
Q.3 (A)	Define Fog computing.	3
Q.3 (B)	Explain following application of IoT: Water quality	3
Q.3 (C)	Explain microcontroller 8051 in detail.	6
Q.4	**Attempt any 4 out of 6 (Each Question of 3 Marks)**	12
(1)	Explain IoT and cloud.	
(2)	Explain components of Cloud.	
(3)	Difference between private cloud and public cloud.	
(4)	Use of IoT in Lavatory maintenance	
(5)	What is the Internet?	
(6)	Explain IEEE802.15.4	

Enrolment No. 220133041020

575

SILVER OAK UNIVERSITY

B.Tech _Computer Engineering _ SEMESTER:-6 __ Regular/Remedial End Semester Examination- SUMMER '23

S23E1181

Subject Code: 1010043319 **Date: 20/05/2023**

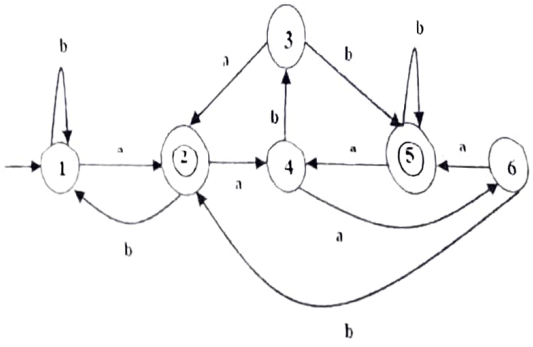
Subject Name: Theory of Computation

Time: 02:30 pm to 04:30 pm **Total Marks: 60**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			Marks
Q.1	(a)	Draw Finite Automata to accept following: Strings that ends in 11 or 10.	03
	(b)	Using Principle of Mathematical Induction, Prove that For every n >= 1, $$\sum_{i=1}^{n} i^2 = \frac{n\,(n+1)(2n+1)}{6}$$	04
	(c)	Minimize the following DFA (If Possible).	08



Q.2	(a)	Write Regular Expressions for the following languages of all strings in {0,1}* (i) The language of all strings containing both 101 and 010 as substrings. (ii) Strings that begin or end with 00 or 11.	03
		OR	
	(a)	Define Nondeterministic Finite Automata (NFA) and write down recursive definition of δ* for NFA- Λ.	03
	(b)	Explain one-to-one, onto and bijection function with suitable example.	04
		OR	
	(b)	Write definition of Finite Automata and draw FA for the strings: The string with next to last symbol as 0.	04

(c) Convert NFA-^ to NFA and DFA. Initial State: A , Final State: D **08**

Q	δ(q, ^)	δ(q, 0)	δ(q, 1)
A	{B}	{A}	ϕ
B	{D}	{C}	ϕ
C	ϕ	ϕ	{B}
D	ϕ	{D}	ϕ

OR

(c) Write a short note on Universal Turing Machine. **08**

Q.3 (a) Give the difference between Top Down Parsing And Bottom Up Parsing. **03**

(b) For the following CFG's, describe the language it accepts. **04**

1. S → SS | XaXaX | ^
X →bX | ^

2. S → aM | bS
M → aF |. bS
F → aF | bF | ^

(c) Convert following CFG to equivalent Chomsky Normal Form (CNF). **08**

S → AACD | ACD | AAC | CD | AC | C
A → aAb | ab
C → aC | a
D → aDa | bDb | aa | bb

OR

Q.3 (a) Give definitions of the following. **03**
[1] Initial Functions
[2] Composition
[3] The Primitive Recursive Functions

(b) Give the context free grammar for the following languages: (011 +1)* (01)* **04**

(c) Design Turing Machine(TM) to accept Palindrome over {a,b}, even as well as odd. **08**

Q.4 (a) Write Short note on Halting Problem. **03**

(b) Write transition table for PDA recognizing following language: {a^{i}b^i | i>=1}. **04**

(c) Design a PDA(Push Down Automata) for the language L = { xcx^r/ x ∈ {a,b}* } (Palindrome with middle character=c), and trace it for string "abacaba" **08**

OR

Q.4

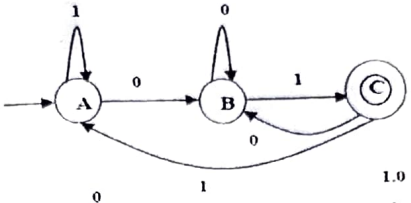
(a) Prove that following CFG is Ambiguous and convert it into unambiguous. **03**

$S \rightarrow S + S \mid S * S \mid (S) \mid a$

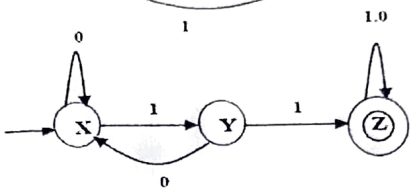
(b) Explain P and NP completeness. **04**

(c) Let M1 and M2 be the FAs pictured below, recognizing languages L1 and L2 respectively. **08**

M_1 =



M_2 =



Draw the FAs recognizing the following languages.

i. L1 U L2

ii. L1 ∩ L2

iii. L1 - L2

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

Enrollment No: 210233941020

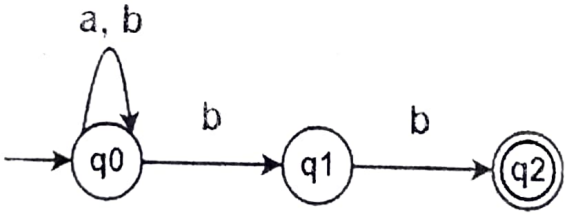
College of Technology
Silver Oak College of Engineering & Technology

Semester:	VI	Programme:	B.Tech CE
Mid Semester Examination (Summer 2023)			
Subject Code:	1010043319	Subject Name:	Theory of Computation
Date:	10/04/2023	Time:	3:15PM to 4:45PM
Duration	90 Minutes	Total Marks:	50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	1. Write regular expression for the following languages:(i) The language of all strings in {0,1}* that do not end with 11,(ii) Strings that start with 1 and do not end with 10.(iii) Strings that begin or end with 00 or 11.	3
	2. Using Principle of Mathematical Induction,prove that for every n>= 1,7 + 13 + 19 + . . . + (6n + 1) = n(3n +4)	3
	3. Define DFA,NFA & NFA-^.	3
	4. Differentiate Ambiguous grammar and Unambiguous grammar.	3
	5. Define PDA(Explain all the tuples).	2
Q.2 (A)	Convert the following Non-Deterministic Finite Automata (NFA) to Deterministic Finite Automata (DFA)-	3



OR

Q.2 (A)	Explain CNF.	3
Q.2 (B)	Write relationship between Derivation and Derivation tree.	3

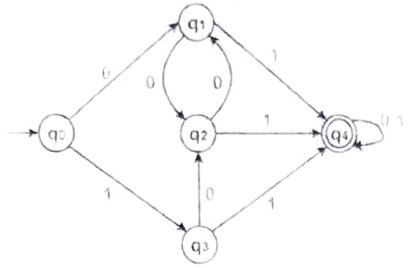
OR

Q.2 (B)	Construct a DFA that accepts a language L over input alphabets ∑ = {a, b} such that L is the set of all strings starting with 'aa' or 'bb'.	3
Q.2 (C)	Describe the language accepted by following CFG: i) S → aSa | bSb | a | b | Λ ii)S → SS | XaXaX | Λ X →bX | Λ iii)S → aM | bS M → aF | bS F → aF | bF | Λ iv)S → aS | bS | a | b | Λ	6

OR

Marks

Q.2 (C) Minimize the following DFA.



6

OR

Q.3 (A) Design a PDA for palindrome strings. 3

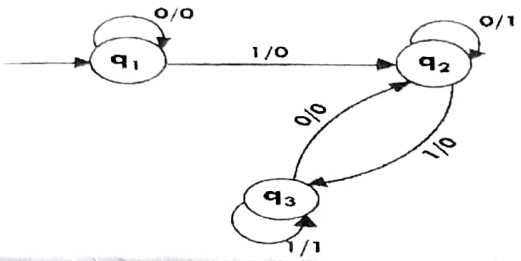
Q.3 (B) Difference between Moore machine and Mealy machine. 3

Q.3 (C) Design a PDA for accepting a language $\{a^n b^{n+m} c^m \mid n>=1\}$. 6

OR

Q.3 (A) Explain regular grammar and its types. 3

Q.3 (B) Convert the following Mealy machine into an equivalent Moore machine.



3

Q.3 (C) Convert the following grammar to a PDA that accepts the same language.

S → 0S1 | A

A → 1A0 | S | ε 6

Q.4 Attempt any 4 out of 6 (Each Question of 3 Marks) 12

(1) Prove that the following CFG is Ambiguous.

S → S + S | S * S | (S) | a 3

(2) Obtain CFG for the PDA given as below.

(q0,0,Z)=(q0,AZ)

(q0,1,A)=(q0,AA) 3

(q0,0,A)=(q1,^)

(3) Define One-to-one and Onto Functions. Also explain Compositions and Inverse of functions. 3

(4) Write down the rules to convert CFG into PDA. 3

(5) Construct a Moore machine that takes a set of all strings over an alphabet (a,b) as input and counts no of occurrences of ab. 3

(6) Define CFG,moore machine & mealy machine. 3

Enrollment No: 210330107010

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

College of Technology
Constituent Institutes of Silver Oak University

Semester:	VI	Programme:	B.Tech CE/IT
Mid Semester Examination (Summer 2023)			
Subject Code:	1010043341/1010103320	Subject Name:	Artificial Intelligence and Machine Learning/ Artificial Intelligence
Date:	11/04/2023	Time:	3:15-4:45 PM
Duration	90 Minutes	Total Marks:	50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	1 Explain Logistic Regression.(3 M) 2 Difference between: Classification and Regression (3 M) 3. List down the python libraries and explain any two.(3 M) 4.Explain SVM.(3 M) 5 List down the problem characteristics of AI.(2 M)	14
Q.2 (A)	Difference between: ANN and BNN.	3
	OR	
Q.2 (A)	What is AI? List down the application of AI and explain anyone.	3
Q.2 (B)	Explain Box-Plot summary.	3
	OR	
Q.2 (B)	Explain 3Ms.	3
Q.2 (C)	Explain sample distribution with its type.	6
	OR	
Q.2 (C)	Explain cross validation with its type.	6
Q.3 (A)	Explain unsupervised learning. List down the problems of unsupervised learning.	3
Q.3 (B)	Explain Linear Regression.	3
Q.3 (C)	Explain Decision Tree.	6
	OR	
Q.3 (A)	Explain supervised learning. List down the problems of supervised learning	3
Q.3 (B)	Explain K-means	3
Q.3 (C)	Explain Random Forest.	6
Q.4	**Attempt any 4 out of 6 (Each Question of 3 Marks)**	12
(1)	What is Exploratory data analysis?	
(2)	Difference between: Data and Histogram	
(3)	Explain the concept of probability.	
(4)	Difference between: Descriptive and Inferential statistics.	
(5)	Explain types of Random Variables.	
(6)	Explain Bayesian theorem with its importance	

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Enrolment No. 210133041010

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SILVER OAK UNIVERSITY

B.Tech - Department of Computer Engineering, Semester-VI , REGULAR / REMEDIAL End Semester Examination-SUMMER-2023

S23E1347

Subject Code: 1010043341 **Date: 24/05/2023**

Subject Name: Artificial Intelligence and Machine Learning

Time: 02:30 PM TO 04:30 PM **Total Marks: 60**

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			Marks
Q.1	(a)	List down the problem characteristics of AI	03
	(b)	What is AI? List down the application of AI and explain anyone.	04
	(c)	List down the python libraries and explain any two.	08
Q.2	(a)	Explain supervised learning	03
		OR	
	(a)	Explain unsupervised learning	03
	(b)	Difference between: ANN and BNN.	04
		OR	
	(b)	Difference between: Classification and Regression	04
	(c)	Explain Decision Tree with an example. List down the advantages and disadvantages of Decision Tree.	08
		OR	
	(c)	Explain Random Forest with an example. List down the advantages and disadvantages of Random Forest.	08
Q.3	(a)	What is Exploratory data analysis?	03
	(b)	Explain the concept of probability.	04
	(c)	Explain Topologies of Neural Network.	08
		OR	
Q.3	(a)	Explain the basic elements of data science.	03
	(b)	What is an optimizer? List down the types of optimizer and explain anyone.	04
	(c)	Explain RNN. List down the advantages, disadvantages and application of RNN.	08
Q.4	(a)	Explain SVM. List down the advantages and disadvantages of SVM.	03
	(b)	Explain K-Means. List down the advantages and disadvantages of K-Means.	04
	(c)	Explain PCA. List down the advantages and disadvantages of PCA.	08
		OR	
Q.4	(a)	What is regression? List down the types of regression and explain any one.	03
	(b)	Explain Box-Plot	04
	(c)	Explain 3Ms.	08

Enrollment No: 220233040120

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

College of Technology
Constituent Institutes of Silver Oak University

Semester:	VI	Programme:	Computer Engineering
Mid Semester Examination (Summer 2023)			
Subject Code:	1010043364	Subject Name:	Android Programming
Date:	12.04.2023	Time:	03:15 PM to 04:45 PM
Duration	90 Minutes	Total Marks:	50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	Write a Full form of SDK,AVD.(3M) What is the difference between fragment and activity?(3M) List all versions of android operating system.(3M) Write various Google Map types in detail.(3M) What is Frame Animation in Android ?(2M)	14
Q.2 (A)	What is Google Maps and how to add maps in android ?	3
	OR	
Q.2 (A)	What is use of the Media Player class and writing various methods.	3
Q.2 (B)	What is RestAPI and write various methods of it.	3
	OR	
Q.2 (B)	What is Textview and using which method we can assign or print value ?	3
Q.2 (C)	What is JSON and write use of JSON with merits and demerits.	6
	OR	
Q.2 (C)	List various methods of Asynctask.Explain any one in detail.	6
Q.3 (A)	What is Fragment and write syntax to create fragment ?	3
Q.3 (B)	What is Linear Layout and Describe in Details.	3

Enrollment No: 210233041020

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

College of Technology
Constituent Institutes of Silver Oak University

Semester:	VI	Programme:	B.Tech in Computer Engineering / Computer Engineering - Cloud Computing / Information Technology
Mid-Semester Examination (Summer 2023)			
Subject Code:	1010043339 / 1010053339	Subject Name:	Advance Java
Date:	15/04/2023	Time:	3:15 PM to 4:45 PM
Duration	90 Minutes	Total Marks:	50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	1. Difference between TCP and UDP. 2. Explain ResultSetMetaData with a suitable example. 3. Explain the advantages of Filter API? 4. What happens if you add a main method to the servlet? 5. List JSTL core tags.	14
Q.2 (A)	Differentiate the GET and POST methods with example.	3
	OR	
Q.2 (A)	Differentiate between @include and <jsp:include>	3
Q.2 (B)	What is JDBC driver? List out the different types of JDBC drivers. Explain any one JDBC driver in detail.	3
	OR	
Q.2 (B)	Explain JDBC Architecture.	3
Q.2 (C)	Write an RMI application where client supplies two numbers and server response by summing it. Provide your custom security policy for this application.	6
	OR	
Q.2 (C)	Write a program to insert student records (student_name, Enrollement_no, Semester, branch) to database using prepared statement	6
Q.3 (A)	Explain various Session tracking mechanisms in servlet with example.	3
Q.3 (B)	What is Servlet? Briefly explain the Servlet life cycle.	3
Q.3 (C)	Write line(s) of code in JSP for following. I. Session read and write II. URL rewriting sending and retrieving parameter(s) III. URL redirection	6
	OR	
Q.3 (A)	Explain Directives. Give its type and explain any one in detail.	3
Q.3 (B)	What is JSP? Briefly explain the JSP life cycle.	3
Q.3 (C)	Explain GenericServlet and HTTPServlet with example.	6
Q.4	**Attempt any 4 out of 6 (Each Question of 3 Marks)**	12
(1)	Difference between socket and server socket.	
(2)	What are cookies? Explain various methods in cookies.	
(3)	What is Request Dispatcher? What is the difference between the Request dispatcher's forward() and the include() method?	
(4)	Explain JSP Object scope: (i)Page (ii)Request (iii)Session (iv)Application withh example.	
(5)	List advantages of JSP over Servlet	
(6)	List out JSP action tags. Explain any one action tag in detail.	

Enrolment No. 210233042070 (950)

SILVER OAK UNIVERSITY

BACHELOR OF TECHNOLOGY - CE/CC/IT

S23E1790/91 SEMESTER VI EXAMINATION- SUMMER '23

Subject Code:1010043339/ 1010053339 **Date: 03/06/2023**

Subject Name: Advanced Java

Time: 2.30 PM to 4.30 PM **Total Marks: 60**

1. **Instructions:**
2. **Attempt all questions.**
3. **Make suitable assumptions wherever necessary.**
4. **Figures to the right indicate full marks.**

			Marks
Q.1	(a)	Explain type 3 JDBC driver in detail with diagram	03
	(b)	Explain types of JSP scope in detail	04
	(c)	Write client- server program in java using TCP where the client sends 10 numbers and server responds with the numbers in sorted order.	08
Q.2	(a)	List and explain JSTL core tags with example.	03
		OR	
	(a)	Explain the following classes with their use: Socket and ServerSocket class	03
	(b)	Explain lifecycle of Servlet with example	04
		OR	
	(b)	Explain JSP Directives. Give its type and explain any one in detail	04
	(c)	Explain Model-View-Controller architecture in detail	08
		OR	
	(c)	Explain Prepared statement and callable statement with suitable example	08
Q.3	(a)	Explain various Session tracking mechanisms in servlet.	03
	(b)	Explain Request and Response object in Servlet Explain.	04
	(c)	Write the queries in Hibernate Query Language for following clauses: i. Select ii. Where iii. Order By iv. Group By	08
		OR	
Q.3	(a)	Explain why POST method is secure over Get method in HTTP	03
	(b)	Draw and Explain architecture of Hibernate	04
	(c)	Write lines of code in JSP for the following: i. URL Rewriting sending and Retrieving parameters ii. Include other JSP file statically. iii. Expression to display date as output Session read and write	08
Q.4	(a)	Differentiate between include directive and jsp:include action tag	03
	(b)	What is servlet filter? List different filter interfaces with methods.	04
	(c)	Explain in detail Java Sever Faces request processing Life Cycle with diagram	08
		OR	
Q.4	(a)	Explain Bean Lifecycle	03
	(b)	List and Explain JSF facelets tags	04
	(c)	Write servlet code for the following information to be displayed: i. Client Browser ii. Client IP Address iii. Method used by client iv. Server IP Address	08