GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

(An Autonomous Institute of Government of Maharashtra)

TERM EXAMINATION EVEN 2018

COURSE NAME : ADVANCE JAVA   COURSE CODE : IT501E

PROGRAMME : Diploma in Information Technology/Computer Engineering

TIME : 3 Hours   MAXIMUM MARKS : 70

ENROLLMENT NO. : 1 7 0 7 8 0 2

INSTRUCTIONS :
1) All questions are compulsory.
2) Illustrate your answers with neat sketches wherever necessary.
3) Use of Non Programmable Electronic Pocket Calculators is permissible.
4) Figure to the right indicate full marks
5) Assume suitable additional data if necessary.
6) Mobile phones & other similar electronic gadgets are strictly prohibited inside examination hall

Marks

Q. 1   Attempt ANY FIVE   (10)
a) Enlist the differences of TCP/IP and UDP (Datagram) protocol (Any two).
b) State the need of Serialization?
c) State use of java Bean API.
d) Define cookies in servlet.
e) State the use of declarative tag in JSP. Also give syntax and example.
f) Define URL format. State its format.
g) Enlist the object databases available.

Q. 2   Attempt ANY THREE   (12)
a) Describe the limitation of using JDBC.
b) Describe following with example.
   i) Factory method
   ii) Instance method
c) Describe the Httpservlet class methods with its uses (any four).
d) Design input form by using following swing components.
   JTextField, JLabel, JButton, JTextArea
e) Describe the use of statement interface with any four methods defined in it.

Q. 3   Attempt ANY THREE   (12)
a) Describe the security considerations in JDBC.
b) Describe the advantages of Java Bean (Any four).
c) Describe the uses of ComboBox Component in swing with JSP program.
d) Describe limitations of awt.
e) Write a java program to demonstrate the use of sessions in servlet.

Q. 4   Attempt ANY THREE   (12)
a) Describe the Bound properties of java Bean.
b) Describe the Scroll Pane component of swing with example program.
c) Write a program to create a TCP server which can read/receive text message from multiple TCP client.
d) Describe the proxy server and its uses (any four uses).
e) Describe the role of ServletRequest and Servlet Response classes in java.

Q. 5   Attempt ANY TWO   (12)
a) Write a program to generate the form given in **Figure 1**.
b) Write a java program to create Login page using JSP. If username and password entered by the user is correct then user will redirected to the welcome page.
c) Describe the architecture of CORBA in detail with neat diagram.

Q. 6   Attempt ANY TWO   (12)
a) Write a program which connects with Webdatabase "All-Books" and display the total number of books of author "Herbert Schildt" available in database.
b) Write a program to create a servlet which accepts two integers from the Web page and display the addition, subtraction, multiplication and division on the next web page.
c) Write a java program which demonstrate connecting to a web database with driver manage in JSP.

P.T.O.

New Student Registration Form

Student First Name

Student Last Name

Email Address

Confirm Email Address

Password

Confirm Password

Date of Birth   [Select Year ▼]   [Select Month ▼]   [Select Day ▼]

     ○ Male   ○ Female

Department   ○ Civil

     ○ Computer Science and Engineering

     ○ Electrical

     ○ Electronics and Communication

     ○ Mechanical

[Submit]   [Cancel]

Figure 1

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR

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TERM EXAMINATION EVEN 2018

COURSE NAME : LINUX PROGRAMMING   COURSE CODE : IT403E

PROGRAMME : Diploma in Information Technology

TIME : 3 Hours   MAXIMUM MARKS : 70

INSTRUCTIONS :   ENROLLMENT NO. : 1 7 0 7 8 0 2

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			Marks	COs
Q. 1		**Attempt ANY FIVE**	**(10)**	
1R2	a)	Define Linux distribution.		CO1
1R2	b)	State any two features of init process.		CO1
4U2	c)	Write any two advantages of user private group (UPG).		CO1
6U2	d)	State any two points of difference between POP3 and STMP protocol.		CO2
6R2	e)	Define : i) Telnet ii) Xinetd		CO2
3R2	f)	Define shell script.		CO5
4R2	g)	State any two features of Sudo.		CO3
Q. 2		**Attempt ANY THREE**	**(12)**	
2R4	a)	List any four features of extended file system (ext) of Linux.		CO3
1U4	b)	Describe Logins via terminal in Linux operating system. Draw flowchart of it.		CO1
2U4	c)	Describe Grand unified bootloader (GRUB).		CO1
2U4	d)	Describe SYSV Init process. State its runlevels.		CO1
2U4	e)	Give the syntax and example of following internal and external commands : i) Type ii) Who iii) CP iv) Cat		CO3
Q. 3		**Attempt ANY THREE**	**(12)**	
3U4	a)	Describe any four of each of following Vi Editor commands : i) Cursor positioning commands. ii) Text deletion commands.		CO3
4U4	b)	Describe GNU'S GNOME desktop environment.		CO2
5R4	c)	Define pluggable Authentication Module (PAM). Write any four advantages of it.		CO2
1R4	d)	State and describe any four advantages of Linux operating system.		CO1
1U4	e)	Define : i) Multics ii) GNU/ GPL license.		CO1
Q. 4		**Attempt ANY THREE**	**(12)**	
5U4	a)	Differentiate between Host-based security and Network-based security. (Any four points)		CO2
6U4	b)	Describe : i) ssh (secure shell) ii) rsh (remote shell)		CO2
6U4	c)	Describe the working of DNS server with neat labeled diagram.		CO2
3U4	d)	Write the steps for creation and execution of shell script using Vi editor by considering an example of addition of two numbers.		CO5
4R4	e)	Describe RAID technology supported under Linux.		CO2
Q. 5		**Attempt ANY TWO**	**(12)**	
1A6	a)	Write the steps for creating a user using terminal in Linux. List the steps for logging-in and logging-out of terminal in Linux.		CO3
2A6	b)	Write shell commands to perform the following task and describe them : i) List all files in a directory, including hidden files. ii) Copy a file into present working directory. iii) Edit the contents of a file.		CO6
5A6	c)	Describe types of permissions in Linux sytem. Write the command to assign the set of permissions to a file and describe it with an example.		CO3

P.T.O.

Q. 6		Attempt ANY TWO	(12)	
3A6	a)	Write shell programs using Vi editor : i) To find the greatest number among the given three numbers. ii) To find the given number is even or odd.		CO5
4A6	b)	"The root account is the most privileged account in Linux system". State true or false. Justify your answer.		CO3
6A6	c)	Write the process of applying DHCP protocol to allocate IP addresses to the host of the network in Linux.		CO2

Course Outcomes :

CO1	Access and manipulate the operating system parameters.
CO2	Apply services of Linux Operating System for implementing various types of applications.
CO3	Analyze Linux file system by accessing file and directory attributes.
CO4	Install and Operate Linux Operating System.
CO5	Develop programs using shell programming.
CO6	Execute various commands of Linux Operating System.

COURSE NAME : NETWORK ADMINISTRATION AND SECURITY

COURSE CODE : IT405E

PROGRAMME : Diploma In Information Technology

TIME : 3 Hours

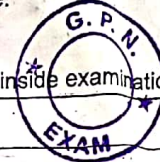MAXIMUM MARKS : 70

ENROLLMENT NO. : 1 7 0 7 8 0 2

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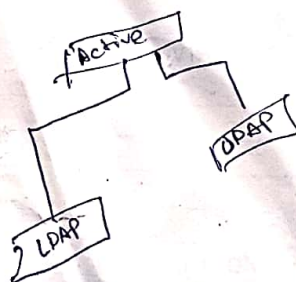6) Mobile phones & other similar electronic gadgets are strictly prohibited inside examination hall.

			Marks	COs
Q. 1		**Attempt ANY FIVE**	**(10)**	
1R2	a)	Define hacking.		CO1
4R2	b)	State any two reasons, why Network Architecture is required.		CO1
5R2	c)	List any four Network Services.		CO3
6R2	d)	State any two features of windows 2003 server.		CO2
4R2	e)	Define object in Active Directory Service.		CO2
1R2	f)	List three security goals.		CO1
3R2	g)	Define protocol.		CO2
Q. 2		**Attempt ANY THREE**	**(12)**	
1R4	a)	State any four characteristics of computer Intrusion.		CO1
2U4	b)	State any four impacts of installing unauthorized software/ hardware.		CO1
3U4	c)	Give any two reasons as to why HTTPS should be used instead of HTTP.		CO1
5U4	d)	Describe steps for creating windows 2003 server boot disk.		CO3
2U4	e)	State any two advantages and any two disadvantages of biometric technologies.		CO1
Q. 3		**Attempt ANY THREE**	**(12)**	
1R4	a)	List and define at least three kinds of security threats a company could experience from unauthorized viewing of confidential company data.		CO1
2U4	b)	Give any four reason, how piggybacking is different from shoulder surfing.		CO1
4U4	c)	Describe Public Switched Telephone Network.		CO3
5U4	d)	Describe steps for adding web based Administration in windows server 2003.		CO3
3U4	e)	State any four reasons behind Network vulnerability.		CO1, CO2
Q. 4		**Attempt ANY THREE**	**(12)**	
2U4	a)	Give any four responsibilities of individual uses in Network Security.		CO1
5U4	b)	Describe any two terms used for choosing server for Network design.		CO1, CO3
6U4	c)	Describe public key encryption services.		CO1
1U4	d)	Describe any two defence mechanism against hacking		CO1
2R4	e)	Define Dumpster Diving. Give any two solutions to protect against it.		CO1
Q. 5		**Attempt ANY TWO**	**(12)**	
3A6	a)	Describe any four types of firewalls.		CO1, CO2
4U6	b)	Justify your answer, why directory service is a customizable information. Store that functions as a single point? Also describe Active Directory Service.		CO2, CO3
6A6	c)	Give steps for creating user accounts in windows 2003 server. State options required for Deleting or Disabling a user account.		CO3

P.T.O.

Q. 6		Attempt ANY TWO	(12)	

5A6	a)	Answer the following questions based on meeting Network needs:
		   i) Suggest a network structure for any educational institute campus.
		   ii) Give the server configuration for the same.
				CO2,
				CO3

6A6	b)	Write the steps required for the installation of a Network printer in window 2003 server environment. Also give steps to test this installation from another PC.		CO3
4U6	c)	Describe Virtual Private Network (VPN). State any four security vulnerabilities addressed by VPN.		CO3

Course Outcomes :

CO1	Justify the solutions for real world problems regarding security of computer.
CO2	Design the computer Network.
CO3	Configure the networking resources and software from the server.
CO4	Troubleshoot network devices in the case of breakdown.
CO5	Use the different types of network technologies for internet connection.
CO6	Identify and repair network faults.

GOVERNMENT POLYTECHNIC, SADAR, NAGPUR
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TERM EXAMINATION EVEN 2018

COURSE NAME : INTERNETWORKING WITH TCP/IP

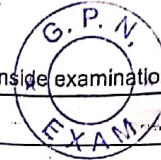PROGRAMME : Diploma In Information Technology   COURSE CODE : IT407E

TIME : 3 Hours

MAXIMUM MARKS : 70

INSTRUCTIONS :   ENROLLMENT NO. : 1 7 0 7 8 0 2

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Q. 1		Attempt ANY FIVE	Marks	COs
1R2	a)	Define TCP.	(10)	CO1
2R2	b)	Draw block diagram of TCP/IP protocol suite.		CO4
3R2	c)	State any two uses of port address.		CO1
4R2	d)	Define ping command.		CO1
5R2	e)	State any two reasons, why subnet masking is done.		CO2
2R2	f)	Define multiplexing.		CO3 CO4
6R2	g)	State the purpose of "Nslookup" command.		CO6
Q. 2		Attempt ANY THREE	(12)	
1U4	a)	State any four features of TCP/IP protocol suite.		CO4
1U4	b)	State any four roles that OSI reference model plays in computer networking.		CO1 CO2
2U4	c)	Describe internet control message protocol (I CMP).		CO4
3U4	d)	Describe PORT. List any four types of ports with their services.		CO1
4R4	e)	Relate various protocols : (i) FTP and TFTP (ii) HTTP and HTTPS		CO5
Q. 3		Attempt ANY THREE	(12)	
2U4	a)	Classify UDP connectionless services.		CO5
3U4	b)	Describe multicasting IP streaming.		CO3
4U4	c)	Describe the following : (i) DNS (ii) NAT		CO5
4U4	d)	Describe the following : (i) SMTP (ii) PoP 3		CO5
5U4	e)	Describe classless addressing with its need and uses.		CO2
Q. 4		Attempt ANY THREE	(12)	
6R4	a)	Describe DIG (Domain Information Gropper).		CO6
5U4	b)	Differentiate Host ID and network ID components of IP address.		CO2
6U4	c)	Describe commands and utilities used for troubleshooting in TCP/IP model.		CO6
5U4	d)	Describe IPV6 address structure.		CO2
6U4	e)	Classify troubleshooting problems based on remote access.		CO6
Q. 5		Attempt ANY TWO	(12)	
2A6	a)	"Excessive flow of data overflow the size of buffer". Considering above statement apply the suitable methods of flow control.		CO3 CO4
4A6	b)	Identify the reason, FTP does not have a message format. Illustrate with various functions of FTP.		CO2 CO4
1A6	c)	Compare TCP and UDP on the basis of : (i) Connection (ii) Usage (iii) Use by application layer protocol (iv) Ordering of data segment (v) Acknowledgement (vi) Flow and error control		CO4

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P.T.O.

Q. 6		Attempt ANY TWO	(12)	
5A6	a)	Draw a diagram of a network with address 8.00.0 that is connected through a router to a network with IP address 131.45.0.0. Choose IP addresses for each interface of the Router. Also show some hosts on each network with their IP addresses and the class of each network.		CO2
6A6	b)	Consider a scenario. In a MNC a local branch host is unable to access main branch server. What will be the action taken to troubleshoot the problem.		CO6
2A6	c)	Describe similarities and differences between protocols RARP, BOOTP and DHCP according to their functionality.		CO5

Course Outcomes :

CO1	Configure different versions of Ethernet and their operations.
CO2	Perform IP addressing and subnetting.
CO3	Perform the operation of protocols such as IP, TCP, UDP and application layer protocols.
CO4	Implement TCP/IP protocol architecture.
CO5	Determine TCP/IP applications and its utilities.
CO6	Troubleshoot small office networks.