

Registration No:

SCHOOL OF IT (Networking)
SECOND IN-SEMESTER EXAMINATION – 2018
WINTER SEMESTER, B. VOC. PROGRAM

ITN1001 Introduction to Computers

Time:1 Hour

Max. Marks: 20

Instructions: Attempt All Questions.

Section-A

(5x1) Marks

1. Which one of the following is typically the longest?
A) Bit B) Byte C) Nibble D) Word
2. Which one of the following is the number of input combinations for a 4-input gate?
A) 9 B) 8 C) 16 D) 15
3. Which one of the following is the responsibility of the logical unit in the CPU of a computer?
A) To produce result B) To compare numbers
C) To control flow of information D) None of these
4. Which one of the following is used to translate assembly language programs?
(A) Compiler B) Interpreter C) Linker D) None of these
5. Which one of the following is machine independent program?
A) High level language B) Low level language
C) Assembly language D) Machine language

Section-B *Short-Answer Questions*

(3x2) Marks

1. Write the difference between Microprocessor and Microcontroller with diagrams.
2. Define: I) System Bus II) Address Bus III) Register IV) Byte
3. Expand: I) CIR II) OSI III) SMTP IV) USB

Section-C *Essay Questions*

(3x3) Marks

1. Explain the function of Computer Architecture with block diagram. How Computer Architecture is characterized?
2. Explain the function of System Software and Application Software with examples. Write their advantages and disadvantages.
3. What do you mean by high level, middle level and low-level languages? Give an example for each.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail. The text also mentions that proper record-keeping is essential for identifying and correcting errors in a timely manner.

2. The second part of the document focuses on the role of internal controls in preventing fraud and misstatements. It highlights that a strong internal control system is necessary to ensure that all transactions are properly authorized, recorded, and reviewed. The text also notes that internal controls should be designed to be effective and efficient, and should be regularly evaluated and updated as needed.

3. The third part of the document discusses the importance of transparency and communication in financial reporting. It emphasizes that providing clear and concise information to stakeholders is essential for building trust and confidence in the organization's financial performance. The text also mentions that transparency is a key component of good corporate governance.

4. The fourth part of the document discusses the importance of ethical behavior in financial reporting. It emphasizes that all financial reporting should be done in accordance with the highest standards of integrity and honesty. The text also notes that ethical behavior is essential for maintaining the credibility of the financial statements and for ensuring the long-term success of the organization.

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WINTER SEMESTER, B. VOC. PROGRAM

Course Code: ITN1001

Time: 1 Hour

Course Name: Introduction to Computers

Max. Marks: 20

ANSWER SHEET

Section-A *Objective Type Questions*

(5x1) Marks

1. Which one of the following is typically the longest: bit, byte, nibble, word?
A) Bit B) Byte C) Nibble D) Word

Answer: D

2. Which one of the following is the number of input combinations for a 4-input gate?
A) 9 B) 8 C) 16 D) 15

Answer: C

3. Which one of the following is the responsibility of the logical unit in the CPU of a computer?

- A) To produce result B) To compare numbers
C) To control flow of information D) None of these

Answer: B

4. Which one of the following is used in assembly language programs translation?

- (A) Compiler B) Interpreter C) Linker D) None of these

Answer: D

5. Which one of the following is machine independent program?

- A) High level language B) Low level language
C) Assembly language D) Machine language

Answer: A

Section-B *Short-Answer Questions*

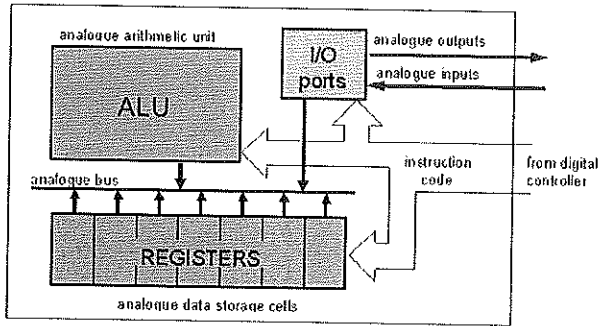
(3x2) Marks

1. Write the difference between Microprocessor and Microcontroller with diagram.

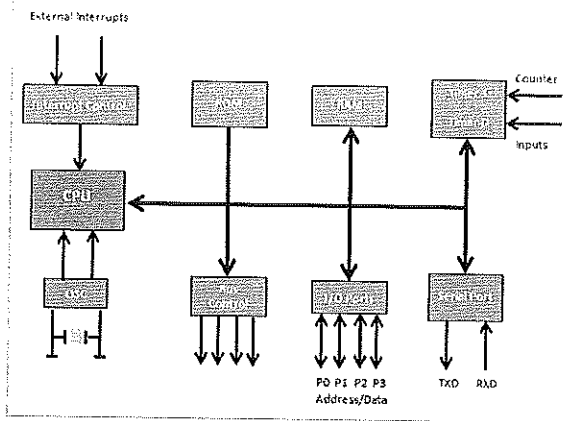
Answer:

Key difference in both of them is presence of external peripheral, where microcontrollers have RAM, ROM, EEPROM embedded in it while we have to use external circuits in case of microprocessors.

Microprocessor



Microcontroller

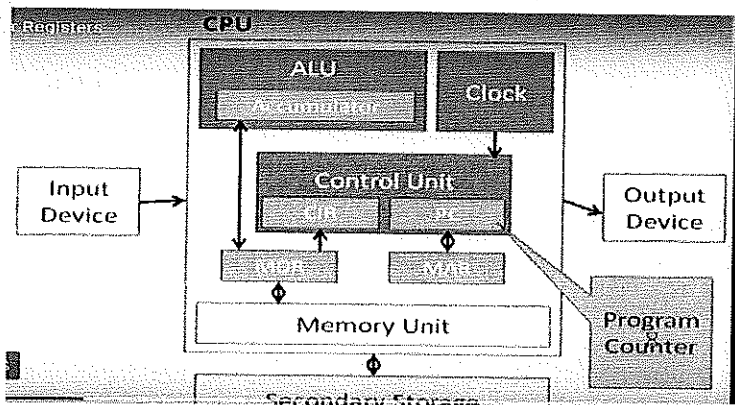


2. Define: I) System Bus II) Address Bus III) Register IV) Byte
 3. Expand: I) HTTPS II) TCP/IP III) SMTP IV) USB

Section-C Essay Questions

(3x3) Marks

1. Explain the function of Computer Architecture with block diagram? How Computer Architecture is characterized?



✓ The computer architecture is characterized into three categories

- **System Design**
- **Instruction Set Architecture (ISA)**
- **Microarchitecture**

2. Explain the function of System Software and Application Software with examples. Write their advantages and disadvantages.

Answer:

System Software: (Operating System) It is the background software that enables the application software to interact with each other.

Function:

Control the hardware, the memory and the application software

Manages the information on the disk

Runs computer programs

Manages the startup process

Application Software: It is a group of programs designed to accomplish a single task or a group of related tasks

Function:

Also known as Bespoke Software or Tailor-Made Software

These types of software are designed and developed specifically for the company or organization

Advantages and Disadvantages

3. What do you mean by high level, middle level and low-level languages? Give an example for each.

Answer:

High level languages –

- These level languages provide almost everything that the programmer might need to do as already build into the language.
- Example: Java, Python

Middle level languages –

- These languages don't provide all the built-in functions found in high level languages, but provide all building blocks that we need to produce the result we want.
- Example: C, C++

Low level languages –

- These languages provide nothing other than access to the machine's basic instruction set.
- Example: Assembly language



Registration No.....

Bhartiya Skill Development University
School of IT & Networking
1st Semester / 2nd In-Sem. Examinations
B. Voc. Program, Winter Semester (2017-18)

ITN1002 Computer Assembling & Peripheral Installation

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

5x1 Marks

1. Which one of the following is BIOS used for?
 - a. Updating system information on network
 - b. Loading operating system
 - c. routing
 - d. For taking inputs from keywords and other devices
2. Which one of the following are components of Central Processing Unit (CPU)?
 - a. Arithmetic logic unit, Mouse
 - b. Arithmetic logic unit, Control unit
 - c. Arithmetic logic unit, Integrated Circuits
 - d. Control Unit, Monitor
3. Which one of the following is not part of the boot process?
 - a. Loading the operating system in to RAM
 - b. The power on self-test
 - c. Activating the basic input/ output system (BIOS)
 - d. Loading application programs
4. Which one of the following provides updated current date and time?
 - a. DVRAM
 - b. CMOS
 - c. RAM
 - d. ROM
5. Which one of the following device is used to interface IDE /SATA with Mother board?
 - a. ALU
 - b. RAM
 - c. Processor
 - d. Hard disk

Section-B

3x2 Marks

1. List two benefits of having a UPS on a system.
2. Describe the difference between a brownout and a blackout.
3. What is the difference between impact and non-impact printers?

Section-C

3x3 Marks

1. Differentiate between Serial and Parallel Ports.
2. Explain how the laser printer works.
3. List the components on a Motherboard and give the function of any four.

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School of IT & Networking
1st Semester / 2nd In-Sem. Examinations
B. Voc. Program, Winter Semester (2017-18)

ITN1002 Computer Assembling & Peripheral Installation

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

5x1 Marks

1. Which one of the following is BIOS used for?
 - a. Updating system information on network
 - b. Loading operating system
 - c. routing
 - d. For taking inputs from keywords and other devices

ANS- b

2. Which one of the following are components of Central Processing Unit (CPU)?
 - a. Arithmetic logic unit, Mouse
 - b. Arithmetic logic unit, Control unit
 - c. Arithmetic logic unit, Integrated Circuits
 - d. Control Unit, Monitor

ANS- b

3. Which one of the following is not part of the boot process?
 - a. Loading the operating system in to RAM
 - b. The power on self-test
 - c. Activating the basic input/ output system (BIOS)
 - d. Loading application programs

ANS- d

4. Which one of the following provides updated current date and time?
 - a. DVRAM
 - b. CMOS
 - c. RAM
 - d. ROM

ANS- b

5. Which one of the following device is used to interface IDE /SATA with Mother board?
 - a. ALU
 - b. RAM
 - c. Processor
 - d. Hard disk

ANS- d

Section-B

3x2 Marks

1. List two benefits of having a UPS on a system.

ANS-

- Data Protection- Keep our data safe due to sudden power cuts
- System Protection- keeps our system safe from un-even voltage supply.

[Answer Key]

2. Describe the difference between a brownout and a blackout.

ANS-

Brownout - A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. The reduction lasts for minutes or hours, as opposed to short-term voltage sag (or dip).

Blackout - A blackout is a complete interruption of power in a given service area. Rolling blackouts are controlled and usually preplanned interruptions of service. A brownout is a partial, temporary reduction in system voltage or total system capacity. Blackouts come without warning, last for indeterminate periods, and are typically caused by catastrophic equipment failure or severe weather.

3. What is the difference between impact and non-impact printers?

ANS-

	Impact Printers	Non-Impact Printers
1	It produces print on paper by striking mechanism.	It produces print on paper with a non-striking mechanism
2	It uses pins, hammers or wheel to strike against an inked ribbon to print on a paper..	It uses laser, spray of special ink, or heat and pressure to print on paper.
3	Normally impact printers use continuous paper sheet.	Non-Impact printers normally use individual paper sheets.
4	Impact printers are normally less expensive.	Non-Impact printers are more expensive.

Section-C

3x3 Marks

1. Differentiate between Serial and Parallel Ports.

ANS-

Subject	Serial Port	Parallel Port
Pins	9 pins	25 pins
Type of port	Male port	Female Port
Color	usually Purple in color	Usually Green in color
Data Transfer Rate	Slower than Parallel Port	Faster than Serial Port
Moving Bits	Serial move bits inline, one at a time.	Parallel moves bits next to each other
Usage of Wire	Serial ports are only used 2 wires for transmitting and receiving data	Parallel Port used 8 or more wire for transmitting and receiving data.

[Answer Key]

2. Explain how the laser printer works.

ANS: Laser printer works in four phase-

- **Writing**

In this stage, a laser light or beam hits the photosensitive drum. In the spots where the light hits the drum, a negative charge is dissipated to the center of the drum which is grounded. **Developing**

The second stage, also known as the developing stage, allows the electrostatic image to be transformed into a visible image on the drum. Areas that have been exposed to the laser light in the previous stage become covered in toner. Areas that have a negative charge repel the toner.

- **Transfer**

In the transfer phase, which is the third stage of the laser printing process, the toner image is transferred onto the paper electrostatically. The positively charged toner is attracted to the negatively charged paper, which allows the image to be transferred to the paper and become a visible image.

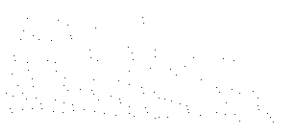
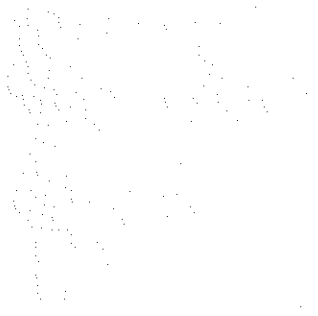
- **Fusing**

The final step in the laser printing process is the fusing stage. The paper and toner on the paper are heated by a fuser assembly. The toner is melted onto the paper, which absorbs the toner, to retain the image on the paper.

3. List the components on a Motherboard and give the function of any four.

ANS-

- **Central Processing Unit (CPU)**- It is responsible for fetching, decoding, and executing program instructions as well as performing mathematical and logical calculations.
- **RAM**- where active programs and data are loaded so that any time the processor requires them, it doesn't have to fetch them from the hard disk.
- **BIOS** - BIOS stands for Basic Input/Output System. BIOS is a "read only" memory, which consists of low-level software that controls the system hardware and acts as an interface between the operating system and the hardware
- **CMOS**- The CMOS RAM is used to store basic information about the PC's configuration for instance



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SCHOOL OF IT (Networking)
SECOND IN-SEMESTER EXAMINATION – 2018
WINTER SEMESTER, B. VOC. PROGRAM

Course Code: ITN1003

Time: 1 Hour

Course Name: Internet Basics

Max. Marks: 20

Instructions: Attempt All Questions.

Section-A

(5x1) Marks

1. Which one of the following communication protocol is used by Internet?
A) HTTP B) WWW C) TCP/IP D) FTP
2. A proxy firewall filters at which one of the following layers?
A) Physical layer B) Data link layer C) Network layer D) Application layer
3. Which one of the following is a private IP address?
A) 172.15.14.36 B) 192.168.24.43 C) 168.172.19.39 D) 12.0.0.1
4. Which one of the following simple protocol is used for fetching e-mail from a mailbox?
A) POP2 B) POP3 C) IMAP D) None of these
5. Which one of the following layer does HTTP protocol work?
A) Application layer B) Transport layer C) Network layer D) None of these

Section-B *Short-Answer Questions*

(3x2) Marks

1. Differentiate between Domain and Workgroup.
2. Define: I) DHCP scope II) Firewall
3. Expand: I) FTP II) HTML III) TCP/IP IV) HTTPS

Section-C *Essay Questions*

(3x3) Marks

1. What is a Proxy Server and why do we need to use it?
2. Discuss Private IP address and Public IP address with examples.
3. What is ipconfig? How are IP addresses arranged and displayed?

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific requirements for record-keeping, including the need to maintain original documents and to ensure that all records are stored in a secure and accessible manner. It also discusses the importance of regular audits and the role of internal controls in ensuring the accuracy of the records.

()

3. The third part of the document provides a detailed overview of the various types of records that must be maintained, including financial statements, contracts, and correspondence. It also discusses the importance of ensuring that all records are properly indexed and filed for easy retrieval.

4. The final part of the document discusses the importance of maintaining records for a sufficient period of time to allow for the detection and investigation of any potential issues. It also discusses the importance of ensuring that all records are properly disposed of in a secure and confidential manner.

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SECOND IN-SEMESTER EXAMINATION – 2018

WINTER SEMESTER, B. VOC. PROGRAM

Course Code: ITN1003

Time: 1 Hour

Course Name: Internet Basics

Max. Marks: 20

ANSWER SHEET

Section-A Objective Type Questions

(5x1) Marks

1. Which one of the following communication protocol is used by Internet?

- A) HTTP B) WWW C) TCP/IP D) FTP

Answer: C

2. A proxy firewall filters at which one of the following?

- A) Physical layer B) Data link layer C) Network layer D) Application layer

Answer: D

3. Which one of the following is a private IP address?

- A) 172.15.14.36 B) 192.168.24.43 C) 168.172.19.39 D) 12.0.0.1

Answer: B

4. Which one of the following simple protocol is used for fetching e-mail from a mailbox?

- A) POP2 B) POP3 C) IMAP D) None of these

Answer: B

5. Which one of the following layer protocol is HTTP?

- A) Application layer B) Transport layer C) Network layer D) None of these

Answer: A

Section-B Short-Answer Questions

(3x2) Marks

1. Differentiate between Domain and Workgroup.

Answer:

Domain	Workgroup
a. centralized network model	decentralized network
b. Domain is controlled by DC	No centralized control
c. Centralised login	Local login
d. centralised user database	local user databased
e. Easy and centralised management	NA
f. good for large network	good for small network

2. Define: I) DHCP scope II) Firewall

Answer:

DHCP Scope: DHCP scopes are used to define ranges of addresses from which a DHCP server can assign IP addresses to clients.

Firewall:

A firewall is a network security system, either hardware- or software-based, that uses rules to control incoming and outgoing network traffic.

firewall acts as a barrier between a trusted network and an untrusted network.

3. Expand: I) FTP II) HTML III) TCP/IP IV) HTTPS

Section-C Essay Questions

(3x3) Marks

1. What is a Proxy Server and Why do we need to use it?

Answer:

A proxy server provides Internet access to different users at same time i.e. by sharing a single Internet connection. A good proxy server also provides for caching of the requests, which helps to access data from local resources rather fetching the data from web thus reducing access time and bandwidth.

2. Discuss about Private IP address and Public IP address with example.

Answer:

Public IP address is an IP address that can be accessed over the Internet. Like postal address used to deliver a postal mail to your home, a public IP address is the globally unique IP address assigned to a computing device.

Private IP address, on the other hand, is used to assign computers within your private space without letting them directly expose to the Internet. For example, if you have multiple computers within your home you may want to use private IP addresses to address each computer within your home. In this scenario, your router gets the public IP address, and each of the computers, tablets and smartphones connected to your router (via wired or wifi) gets a private IP address from your router via DHCP protocol.

3. What is ipconfig? How are IP addresses arranged and displayed?

Answer:

Ipconfig is a utility program that is commonly used to identify the addresses information of a computer on a network. It can show the physical address as well as the IP address.

IP addresses are displayed as a series of four decimal numbers that are separated by period or dots. Another term for this arrangement is the dotted decimal format. An example is 192.168.101.2.



Registration No.....

Bhartiya Skill Development University

School of IT & Networking

1st Semester / 2nd In-Sem. Examinations

B. Voc. Program, Winter Semester (2017-18)

ITN1004 Basics of Networking

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

(5x1) = 05 Marks

1. Which one of the following ports is used for Telnet service?
a) 21 b) 22 c) 23 d) 24
2. Which one of the following protocols works at the Network layer?
a) UDP b) ARP c) TCP d) All of the Above
3. Which one of the following is an IEEE Wireless Standard?
a) 802.2 b) 802.3 c) 802.5 d) 802.11
4. Which one of the following is associated with the Transport Layer?
a) ARP b) TCP c) ICMP d) None of the Above
5. Which one of the following is the number of hosts possible in /23 networks?
a) 254 b) 510 c) 1022 d) 2046

Section-B

(3x2) = 06 Marks

1. What is the difference between Hub & Switch. Explain
2. What are Broadcast and collision domains? How many Broadcast & collision domains are there in 12 port Hubs and in Switches?
3. What is the use of network protocols ARP & ICMP?

Section-C

(3x3) = 09 Marks

1. Calculate Subnets, Hosts, Subnet ID, Broadcast ID, Valid IP range for 192.168.5.6/28
2. Differentiate between TCP & UDP protocols.
3. What are Telnet, Repeater and Router? Give the functions of each.

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Registration No.....

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School of IT & Networking
1st Semester / 2nd In-Sem. Examinations
B. Voc. Program, Winter Semester (2017-18)

ITN1004 Basics of Networking

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

(5x1) =05 Marks

1.Which one of the following ports used for Telnet service?

- a) 21 b) 22 c) 23 d) 24

Answer C

2.Which one of the following protocols works at Network layer?

- a) UDP b) ARP c) TCP d) All of the Above

Answer B

3.Which one of the following IEEE Standard is for Wireless Standard?

- a) 802.2 b) 802.3 c) 802.5 d) 802.11

Answer D

4.Which one of the following is associated with the Transport Layer?

- a) ARP b) TCP c) ICMP d) None of Above

Answer B

5.Which one of the following hosts possible for /23 networks?

- a) 254 b) 510 c) 1022 d) 2046

Answer B

Section-B

(3x2) =06 Marks

1.What is the difference between Hub & Switch.

2.How many Broadcast & collision domains for 12 port Hub & Switch .

3.What are the use of network protocols ARP & ICMP ?

Section-C

(3x3)= 09 Marks

1.Calculate Subnets, Hosts, Subnet ID, Broadcast ID, Valid IP range for 192.168.5.6/28

2.Describe TCP & UDP .

3.Describe Telnet, Repeater, Router

SECTION B

1) Comparison of Hub vs Switch

Sr	Hub	Switch
1	Works at Physical layer of OSI Model	Works at Data link layer of OSI Model

2	Single Broadcast & Collision Domains	Single Broadcast & multiple collision domains as per ports
3	Send packets to all computers connected in network.	Send packets to desired computer in network .
4	Speed is 10Mbps	Speed is 100Mbps/1Gbps
5	Types are Active & Passive	Types Manage, Unmanaged, POE
6	Don't have RAM	Maintain MAC table in RAM
7	Obsolete now a days	Mostly used in network.

2) **Collision domain**, as the name implies, a part of a network where packet collisions can occur. A collision occurs when two devices send a packet at the same time on the shared network segment. The packets collide and both devices must send the packets again, which reduces network efficiency.

Broadcast domain is a domain in which a broadcast is forwarded. A broadcast domain contains all devices that can reach each other at the data link layer (OSI layer 2) by using broadcast. Broadcast domain is one & collision domains is one for 12 port Hub while Broadcast domain is one & collision domains is 12 for 12 port Switch.

3) **ARP** is used to find the hardware MAC address of the remote machine in the network. All operating systems maintain ARP caches that are checked before sending an ARP request message. We can display ARP entries in Windows by using the `arp -a` command.
ICMP (Internet Control Message Protocol) is a network layer protocol that reports errors and provides information related to IP packet processing. ICMP is used by network devices to send error messages indicating, for example, that a requested service is not available or that a host isn't reachable.
 ICMP is commonly used by network tools such as **ping** or **traceroute**.

Section C

1) Subnets, Hosts, Subnet ID, Broadcast ID, Valid IP range for 192.168.5.6/28

a) Subnets = $(2)^4=16$

b) Hosts = $(2)^4=16 -2 = 14$

c) Block Size = $256-240 =16$

d) Subnet ID	Valid IP range	Broadcast ID
192.168.5.0	1 to 14	192.168.5.15
192.168.5.16	17 to 30	192.168.5.31
192.168.5. 240	241 to 254	192.168.5.255

2) Some of the key differences are listed below in the table:

TCP

UDP

Stands for:

Transmission Control Protocol

User Datagram Protocol or
Universal Datagram
Protocol

Type of Connection:	It is a connection oriented protocol	It is a connection less protocol
Usage:	TCP is used in case of applications in which fast transmission of data is not required	UDP is preferred in case of the applications which have the priority of sending the data on time and on faster rates
Examples:	HTTP, FTP, SMTP Telnet etc	DNS, DHCP, TFTP, SNMP, RIP, VOIP etc
Ordering of data packets:	It rearranges data packets in the order specified	No inherent ordering, the data packets of same message may be ordered differently
Speed of transfer:	Comparatively slow	Comparatively fast
Reliability:	Reliable (defines that data will be definitely sent across)	Unreliable
Header Size:	TCP header size is 20 bytes	UDP Header size is 8 bytes
Fields:	1. Sequence Number, 2. Ack number, 3. Data offset, 4. Reserved, 5. Control bit, 6. Window, 7. Urgent Pointer, 8. Options, 9. Padding, 10. Check Sum, 11. Source port, 12. Destination port.	1. Length, 2. Source port, 3. Destination port, 4. Check Sum.
Streaming of data:	Data is read as a byte stream, thus no distinguishing indications are transmitted to the signal message	Packets are sent individually and after the arrival the packets are rearranged
Weight:	It is heavier as it requires three packets to set up a socket connection, before any user data can be sent. TCP handles reliability and congestion control.	UDP is lightweight due to no ordering of messages, no tracking connections, etc.

3) **Telnet** is a network protocol used on the Internet or local area networks to provide a bidirectional interactive communications facility. Typically, telnet provides access to a command-line interface on a remote host via a virtual terminal connection which consists of an 8-bit byte oriented data connection over

the Transmission Control Protocol (TCP). TELNET is a client server protocol, based on a reliable connection oriented transport. Typically this protocol used to establish a connection to TCP port 23.

A repeater operates at the physical layer. Its job is to regenerate the signal over the same network before the signal becomes too weak or corrupted so as to extend the length to which the signal can be transmitted over the same network. An important point to be noted about repeaters is that they do not amplify the signal. When the signal becomes weak, they copy the signal bit by bit and regenerate it at the original strength. It is a 2 port device.

A router is a device like a switch that routes data packets based on their IP addresses. Router is mainly a Network Layer device. Routers normally connect LANs and WANs together and have a dynamically updating routing table based on which they make decisions on routing the data packets. Router divide broadcast domains of hosts connected through it.

SCHOOL OF IT (Networking)
SECOND IN-SEMESTER EXAMINATION – 2018
WINTER SEMESTER, B. VOC. PROGRAM

**ITN1005 Operating Systems Basics &
Windows Client Administration**

**Time: 1 Hour
Max. Marks: 20**

Instructions: Attempt all questions.

Section-A Objective Type Questions

(5x1) Marks

1. Which one of the following is a function of an OS?
(a) It boots the computer system
(b) It provides a user interface
(c) All of the above
(d) None of the above
2. Which one of the following is correct for Microsoft DOS?
(a) DOS is multiuser OS
(b) DOS is single user OS
(c) DOS is multiprocessor OS
(d) None of the above
3. Which one of the following are the main goals of an OS?
(a) Resource Management
(b) Resource Abstraction
(c) Both of the above
(d) None of the above
4. Scheduling Algorithms are used to schedule which one of the following?
(a) Processes and threads
(b) User Programs
(c) Compilers and Interpreters
(d) Interrupts
5. Which one of the following is true for a critical section of a process?
(a) They cannot be preempted
(b) They have to be executed as an atomic action
(c) All of the above
(d) None of the above

Section-B Short-Answer Type Questions

(3x2) Marks

1. Write a note on Long Term Scheduler.
2. What is a Program Counter? Discuss.
3. What is a stack? Differentiate between LIFO and FIFO stacks.

Section-C Essay Type Questions

(3x3) Marks

1. What are threads? Explain with the help of a diagram.
2. Explain the function of the Process Control Block.
3. Explain what you understand by Context Switch.

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SCHOOL OF IT (Networking)
SECOND IN-SEMESTER EXAMINATION – 2018
WINTER SEMESTER, B. VOC. PROGRAM

**ITN1005 Operating Systems Basics &
Windows Client Administration**

**Time: 1 Hour
Max. Marks: 20**

Instructions: Attempt all questions.

Section-A Objective Type Questions

(5x1) Marks

1. Which one of the following is a function of an OS?
(a) It boots the computer system
(b) It provides a user interface
(c) All of the above
(d) None of the above

Ans: C

2. Which one of the following is correct for Microsoft DOS?
(a) DOS is multiuser OS
(b) DOS is single user OS
(c) DOS is multiprocessor OS
(d) None of the above

Ans: B

3. Which one of the following are the main goals of an OS?
(a) Resource Management
(b) Resource Abstraction
(c) All of the above
(d) None of the above

Ans: C

4. Scheduling Algorithms are used to schedule which one of the following?
(a) Processes and threads
(b) User Programs
(c) Compilers and Interpreters
(d) Interrupts

Ans: A

5. Which one of the following is true for a critical section of a process?
(a) They cannot be preempted
(b) They have to be executed as an atomic action
(c) All of the above
(d) None of the above

Section-B Short-Answer Type Questions

(3x1) Marks

1. Write a note on Long Term Scheduler.

Ans: **Long Term Scheduler:**

Long term scheduler runs less frequently. Long Term Schedulers decide which program must get into the job queue. From the job queue, the Job Processor, selects

processes and loads them into the memory for execution. Primary aim of the Job Scheduler is to maintain a good degree of Multiprogramming.

2. What is Program Counter?

Ans: Program counter is a special register which contains the address of next instruction to be executed hence it helps to identify the next instruction in the sequence.

3. What is stack? Differentiate between LIFO and FIFO.

Ans: Stack is a group of memory locations in the Read/Write memory. It is used for storage of temporary information during the execution of a program.

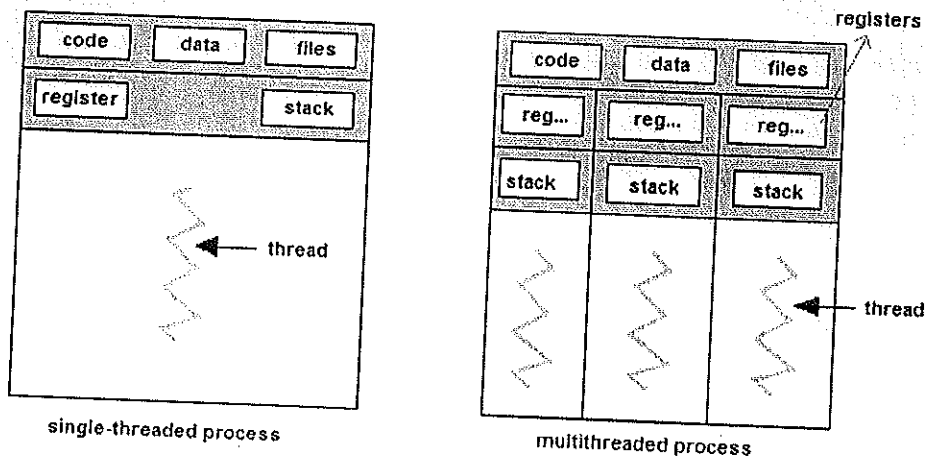
Data values are inserted and removed according to the last-in first-out (LIFO) principle i.e., data which is pushed last will be popped out first, example a **stack** of books.

Data values that are inserted and removed according to the first-in first-out (FIFO) principle, example students waiting in a **queue** for their turn.

Section-C Essay Type Questions

(3x3) Marks

1. What are threads? Explain with the help of a diagram.



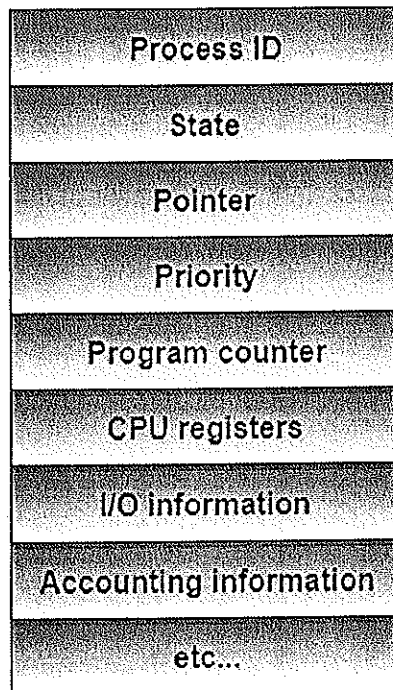
Ans: Thread is an execution unit which consists of its own program counter, a stack, and a set of registers. Threads are also known as Lightweight processes. Threads are popular way to improve application through parallelism. The CPU switches rapidly back and forth among the threads giving illusion that the threads are running in parallel.

As each thread has its own independent resource for process execution, multiple processes can be executed in parallel by increasing number of threads.

2. Explain Process Control Block.

Ans: There is a Process Control Block for each process, enclosing all the information about the process. It is a data structure, which contains the following:

- Process State - It can be running, waiting etc.
- Process ID and parent process ID.
- CPU registers and Program Counter. Program Counter holds the address of the next instruction to be executed for that process.
- CPU Scheduling information - Such as priority information and pointers to scheduling queues.
- Memory Management information - Eg. page tables or segment tables.
- Accounting information - user and kernel CPU time consumed, account numbers, limits, etc.
- I/O Status information - Devices allocated, open file tables, etc.



3. Explain Context Switch.

Ans: Context Switch

Switching the CPU to another process requires saving the state of the old process and loading the saved state for the new process. This task is known as a context switching.

The context of a process is represented in the Process Control Block(PCB) of a process. When a context switch occurs, the Kernel saves the context of the old process in its PCB and loads the saved context of the new process scheduled to run.

Context switch time is pure overhead, because the system does no useful work while switching. Its speed varies from machine to machine, depending on the memory speed, the number of registers that must be copied, and the existence of special instructions (such as a single instruction to load or store all registers). Typical speeds range from 1 to 1000 microseconds.

Context Switching has become such a performance bottleneck that programmers are using new structures (threads) to avoid it whenever possible.



Registration No.....

Bhartiya Skill Development University
School of IT & Networking
1st Semester / 2nd In-Sem. Examinations
B. Voc. Program, Winter Semester (2017-18)

ITN1006 Network Devices

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

(5x1) =05 Marks

1. Which one of the following ports is associated with DNS Service?
a) 50 b) 51 c) 52 d) 53
2. Which one of the following is used to find Physical address of a LAN Card?
a) ICMP b) IPCONFIG/ALL c) TELNET d) FTP
3. Which one of the following is the used for user creation through CLI mode?
a) dsmod b) dsquery c) dsadd d) None of them
4. Which one of the following uses NSLOOKUP services?
a) DHCP b) DNS c) FTP d) TELNET
5. Which one of the following is used to create users by Active Directory users & computers snap-in?
a) Left Click the OU in which we want to create a user, select new & choose user.
b) Right Click the OU in which we want to create a user, select new & choose user.
c) Registry editor
d) Msconfig

Section-B

(3x2) = 06 Marks

1. Differentiate between workgroup & domain.
2. Write different editions of Windows Servers 2012 with their memory specifications.
3. Write the steps to join a client machine with the Domain server.

Section-C

(3x3) = 09 Marks

1. What are the advantages of Domain over Workgroup? How can it be implemented?
2. What are the Network features /Components for communication between computers?
3. How can a drive letter be assigned to user login at client machine? Write the steps for it.

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Bhartiya Skill Development University
School of IT & Networking
1st Semester / 2nd In-Sem. Examinations
B. Voc. Program, Winter Semester (2017-18)

ITN1006 Network Devices

Time: 1 Hour

Max. Marks: 20

Instructions: Attempt all questions.

Section-A

(5x1) =05 Marks

- Which one of the following port is associated with DNS Service?
a) 50 b) 51 c) 52 d) 53 **Answer D**
- Which one of the following is used to find Physical address of LAN Card?
a) ICMP b) IPCONFIG/ALL c) TELNET d) FTP **Answer B**
- Which one of the following is the used for user creation through CLI mode?
a) dsmod b) dsquery c) dsadd d) None of them **Answer C**
- Which one of the following uses **NSLOOKUP** services?
a) DHCP b) DNS c) FTP d) TELNET **Answer B**
- Which one of the following is used to create users by Active Directory users & computers snap-in?
a) Left Click the OU in which we want to create a user, select new & choose user.
b) Right Click the OU in which we want to create a user, select new & choose user.
c) Registry editor
d) Msconfig **Answer B**

Section-B

(3x2) = 06 Marks

- Differentiate between workgroup & domain?
- Write different editions of Windows Servers 2012 with memory specification?
- Write the steps to join client machine with Domain server?

Section-C

(3x3) = 09 Marks

- What are the advantages of Domain over Workgroup? How can it be implemented?
- What are the Network features /Components for the communication between computers?
- How can drive letter be assigned to user login at client Machine? Write the steps for it.

Section B

1) Comparison of workgroup and domain:

	Workgroup	Domain
Network type	Peer-to-peer Windows computer network	Client/server network

Log in	User needs to have separate log in id and password at each workstation	User can log on at any workstation via their account and access domain resources
Workstations	Computers are limited to maximum 10	There can be up to 2000 computers
Administrator	Each user controls the resources and security locally on their PC's	One administrator to administer the domain and its users and resources.
Location	All computers must be on the same local network or subnet.	The computers can be on different local networks, i.e. anywhere in the world.
Computer's settings	Each user controls the settings on their own computer. No central settings.	One can make only limited changes to a computer's settings because network administrators often want to ensure consistency among computers.
Changes	Each computer must be changed manually or once changed must be transferred to each computer.	Changes made to one are automatically made to all computers
Security	User needs to have separate log in id and password at each workstation, but once logged in can access the computer.	Domain users must provide a password or other credentials each time they access the domain.

2) The Windows Server 2012 has four editions: Foundation, Essentials, Standard and Datacenter. Specifications related to maximum memory limit are Foundation (32GB), Essentials (64GB), Standard (4TB) Datacentre (4TB) respectively.

3) Steps to join client machine with Domain server:-

On Windows Server Static IP should be provided & in Domain network. At client machine need to check the IP, Subnet mask, DNS. IP should be on same network. DNS IP is of Server IP. Provide domain name as provided at Server it will ask for the user credentials. Once provided it will give welcome to domain name.

Section C

1) Advantages of Domain over Workgroup

Domain:

- 1) Centralized Administration.
- 2) Security of Data, User & Groups
- 3) Server & Clients Based
- 4) Windows 2000 & 2003 Server or Advance Support For Server Configuration
- 5) File, Folder & User & Group Permission we can assign.

WORKGROUP:

- 1) No Centralized Administration.
- 2) Not much security for Data, User & Groups. (Depends on Configuration)
- 3) No Server & Client Matter.. Each pc reacts like a Client as well as Server.
- 4) Basically Windows 98 & XP is going to be used in Clients side.
- 5) We can assign permission to drives & folder & files but much security than Domain

We require NTFS partition, administrative rights, Static IP address, In network. Earlier dcpromo command used. In windows 2012 ADDS check mark with post configuration required like domain name, netbios name etc.

- 2) Network features /Components for the communication between computers are :-
 - a) Network Adapter – Wired or Wireless
 - b) Client for Microsoft
 - c) Service as File & Print Sharing
 - d) Protocol TCP/IP

Once physical connection established, we have to provide the IP address, should be on same network. its can send the data over the network .Shared files & folders can be accessed at remote location.

- 3) We have to establish Server Client network i.e On the client machine it should be domain instead of workgroup.

On Windows Server open Active directory users & computers =>profile then Choose Home folder with desired drive like z: etc provide UNC path i.e /Servername/PATH/%username%.

Share a folder with share name with appropriate rights.

Login with user credentials it will reflect drive i.e z: etc in my computer .User can save the data which is saved at server location not on local computer.

