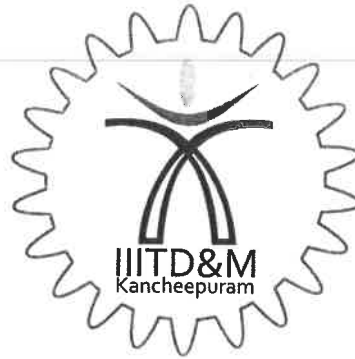


JT (CSS)

L-1

May 2023



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

Question Paper for Written Test (Level-1)

Post : Junior Technician (CSE)

Instructions to the Candidates:

- The test booklet contains 100 objective MCQ type questions which needs to be answered in the OMR sheet given separately.
- Each correct answers will carry 1 mark and wrong answers will have 0.25 negative mark.
- No sheet will be given separately for rough work and candidates are requested to do all rough works in this booklet only.
- Return the OMR sheet and question booklet after the exam is over.
- Duration of the exam is 120 Minutes.

001) What are the minimal hardware requirements for installing Windows 10?

- Option A) Processor Speed $\geq$ 1GHz
- Option B) RAM $\geq$ 1GB
- Option C) HDD $\geq$ 16GB
- Option D) All of the above

002) Which of the following is most closely related to GPT?

- Option A) ChatGPT
- Option B) Globally Unique Identifier Partition Table
- Option C) Graphical User Interface
- Option D) MBR

003) What is the maximum size of the drive on a 64-bit LBA with 512 byte sector?

- Option A) 8 ZiB
- Option B) 2 ZiB
- Option C) 16 ZiB
- Option D) None of the above

004) Which of the following is False?

- Option A) MBR is older than GPT
- Option B) MBR contains Boot Loader
- Option C) MBR is more tolerant to corrupt partitions
- Option D) MBR offers lesser storage capacity than GPT

005) Consider the following statements for installing Ubuntu on top of Windows 10 on a BIOS system. Which of the following sequences is most appropriately correct?

S1: Install Linux; S2: Connect Ubuntu boot device; S3: Open BIOS settings; S4: Create Linux partition; S5: Interactive Ubuntu OS loader; S6: Specify boot device in BIOS; S7: Select correct partition for Format column; S8: Perform Format column

- Option A) S1, S2, S3, S4, S5, S6, S7, S8
- Option B) S2, S5, S1, S3, S6, S4, S7, S8
- Option C) S2, S3, S6, S5, S4, S7, S8, S1
- Option D) S2, S3, S6, S4, S5, S8, S7, S1

006) Which of the following is True about GPT?

S1 - MSR can store user data; S2 - GPT may have up to 128 partitions; S3 - MSR does not receive partition id; S4 - Recovery partition is typically after before Windows partition

- Option A) Only S1
- Option B) Only S2
- Option C) S1 and S2
- Option D) S2 and S4

007) Which of the following is *not* a BitLocker concept?

- Option A) Linux security feature
- Option B) TPM hardware chip
- Option C) USB startup key
- Option D) Encryption and decryption of drives

008) What is the most appropriate answer regarding GUID?

- Option A) Globally unique identifier
- Option B) It has 128 bits
- Option C) It is related to GPT
- Option D) All of the above

009) What is UEFI in the context of Windows installation?

- Option A) unified extensible firmware interface
- Option B) universal extensible file interface
- Option C) uninterrupted external file integration
- Option D) None of the above

010) What of the following are True? Select the most appropriate answer.

- Option A) BIOS stands for Basic Input Output System
- Option B) UEFI provides booting
- Option C) UEFI requires GPT on Windows
- Option D) All of the above

011) Which of the following is the most appropriate order for netboot?

S1: BIOS prompts for PXE; S2: Local boot service executes; S3: TFTP to fetch NBP; S4: DHCP to discover boot server; S5: Start the received boot program; S6: Select network boot in BIOS;

Option A) S1, S2, S3, S4, S5, S6

Option B) S6, S1, S2, S4, S3, S5

Option C) S6, S1, S5, S4, S3, S2

Option D) S1, S2, S3, S4, S6, S5

012) Consider the following statements for installing Windows on top of Ubuntu. Which of the following sequences is most appropriately correct?

S1: create primary NTFS partition; S2: install Gparted on Ubuntu; S3: grub menu shows Windows option; S4: select Windows boot device in BIOS; S5: connect USB Windows installation drive; S6: boot repair grub; S7: select Ubuntu boot device in BIOS; S8: install Windows into NTFS partition; S9: connect USB Ubuntu installation drive

Option A) S1, S2, S3, S4, S5, S6, S7, S8, S9

Option B) S2, S1, S5, S4, S8, S9, S7, S6, S3

Option C) S2, S1, S5, S4, S8, S9, S6, S7, S3

Option D) S1, S2, S5, S4, S8, S7, S9, S6, S3

013) Which of the following lines is responsible for preventing reset in the following script snippet?

Line 1: create partition primary size=100

Line 2: format quick fs=ntfs label="Utility1"

Line 3: assign letter="U"

Line 4: set id=27

Option A) Line 1

Option B) Line 4

Option C) Line 2

Option D) Line 3

014) Which is the most appropriate Windows boot sequence?

S1: Windows boot manager starts Winload.exe; S2: PC firmware loads MBR and starts Windows boot manager; S3: Load registry and start Smss.exe; S4: Load essential drivers and start Kernel;

- Option A) S2, S1, S4, S3
- Option B) S1, S2, S3, S4
- Option C) S4, S3, S2, S1
- Option D) S2, S3, S4, S1

015) Consider the scenario where Windows is not booting and just a blank screen with a blinking cursor is shown. Which of the following could be the reasons?

- Option A) Boot configuration data is missing
- Option B) MBR is corrupted
- Option C) Bootmgr is missing
- Option D) All of the above

016) Consider the following list of commands. Which subset of them are valid?

S1: BOOTREC /FIXMBR; S2: BOOTREC /FIXBOOT; S3: BOOTREC /ScanOS; S4: BOOTREC /rebuildbcd; S5: BOOTREC /REPAIR; S6: BOOTREC /FIXGPT.

- Option A) S1, S2, S3, S5
- Option B) S5, S6
- Option C) S1, S2, S3, S4
- Option D) Only S1

017) Refer to the following commands. What would be the most appropriate output?

`diskpart`

Inside the prompt of the above command,

`list disk`

`select disk 0`

`detail disk`

- Option A) Formats the disk
- Option B) Formats the partition
- Option C) Displays volume, file system, size and other information
- Option D) None of the above

018) Which of the following file systems is not supported by Linux, via any extensions?

- Option A) EXT3
- Option B) NTFS
- Option C) FAT32
- Option D) None of the above

019) Which of the following is a process administration and monitoring utility?

- Option A) ps, kill, top
- Option B) htop, pgrep, pkill
- Option C) systemctl
- Option D) All of the above

020) Which of the following commands can change the file access permissions?

- Option A) chown
- Option B) chmod
- Option C) chgrp
- Option D) All of the above

021) Which variable holds the number of arguments specified as input to a bash script?

- Option A) \$0
- Option B) \$#
- Option C) \$*
- Option D) \$?

022) Which of the following is accomplished by the following command?

```
find . -name "*.py" -exec grep "import" {} \; | head
```

- Option A) Find packages imported in all python files under the present directory
- Option B) Find all file names having the word "import" and ending with ".py"
- Option C) Invoke the function import on a file and print its first 10 lines
- Option D) Print first 10 lines of all python files in the present directory named "import"

023) Which of the following apt package(s) is required for network troubleshooting?

- Option A) net-utils
- Option B) ufw
- Option C) iputils
- Option D) All of the above

024) Which of the following is a user administration and monitoring utility?

- Option A) adduser, useradd, deluser, userdel, passwd
- Option B) id, w, who
- Option C) last, finger, loginctl
- Option D) All of the above

025) Which of the following is a standard Linux utility?

- Option A) sfc
- Option B) chkdsk
- Option C) fsck
- Option D) diskpart

026) What is the apt package that provides disk quota management utilities?

- Option A) edquota
- Option B) quota
- Option C) repquota
- Option D) None of the above

027) What is the most appropriate apt command to resolve dependencies for installing a local package?

- Option A) apt-get install
- Option B) apt install
- Option C) apt install -f
- Option D) apt upgrade

028) Consider the following types of commands for adding a new repository source. Which of the following is the most appropriate option?

S1: Add "<entry>" to /etc/apt/sources.list; S2: sudo add-apt-repository "<entry>"; S3: Add entry to /etc/apt/sources.list.deb

- Option A) Only S1
- Option B) Only S2
- Option C) Both S1 and S2
- Option D) S3

029) Which of the following commands are most appropriate for custom installation of a debian package to a directory?

- Option A) dpkg --root
- Option B) dpkg -i
- Option C) apt-get install
- Option D) apt install

030) What is the tool used for securing apt packages?

- Option A) pgp
- Option B) gpg
- Option C) openssl
- Option D) certtool

031) What is one of the applications of PGP?

- Option A) Device Security
- Option B) Mobile Security
- Option C) Email Security
- Option D) None of the above

032) Which of the following are *not* part of MS Office suite?

- Option A) MS Excel
- Option B) MS Word
- Option C) MS Visio
- Option D) None of the above

033) Which is the installation software in Python?

- Option A) pip
- Option B) python
- Option C) apt
- Option D) None of the above

034) Consider the following statements for setting up a LAN in the Linux environment. Which of the following options are most appropriately correct?

S1: Identify the interface using “ifconfig” or “ip addr” command; S2: For static ip, configure address, netmask and gateway; S3: For dhcp client, enable dhcp in the interface configuration file; S4: Apply the new configuration and request and dhcp ip address; S5: Restart networking service; S6: Check the interface status using “ifconfig” or “ip addr show” command

- Option A) Only S1, S2, S5, S6
- Option B) Only S1, S3, S4, S6
- Option C) A or B
- Option D) None of the above

035) Which of the following is the most preferred configuration for Enterprise LANs?

- Option A) STP
- Option B) RSTP
- Option C) MSTP
- Option D) All of the above

036) Which of the following is true about a switch?

S1: Maintains MAC to Port mapping; S2: Uses source MAC for learning; S3: Uses target MAC for learning; S4: Loop avoidance; S5: Forward decision; S6: Filter decision

- Option A) S1, S2, S4, S5, S6
- Option B) S1, S2, S3, S5, S6
- Option C) S1, S2, S4, S5
- Option D) S1, S2, S4, S6

037) Which of the following is most appropriately true about a switch and a router?

- Option A) Switch requires IP address

Option B) Router does not require IP address

~~Option C) Switch determines the best path~~

Option D) Router determines the best path

038) Which of the following is not related to switch configuration?

Option A) Sticky MACs

Option B) Sticky IPs

Option C) Static IP assignment

Option D) DHCP IP reservation

039) What is a switching device that links two different protocol networks?

Option A) Bridge

Option B) Switch

Option C) Gateway

Option D) Router

040) What is the technical term for legacy Ethernet?

Option A) CSMA/CA

Option B) CSMA/CD

Option C) Slotted Aloha

Option D) CSMA/CR

041) What is SSID abbreviation for in Wireless LANs?

Option A) Service Security Identifier

Option B) Service Set Identifier

Option C) Secure Service Identifier

Option D) Secure Set Identifier

042) What is the Internet?

Option A) A homogeneous collection of networks

Option B) A heterogeneous collection of networks

Option C) A collection of LANs

Option D) A collection of WANs

043) Which of the following terminologies are related to WLANs?

- Option A) SSID, WAP, OSS, BSS
- Option B) SSID, BSS, CSS, WDS
- Option C) SSID, BSS, ESS, WAN
- Option D) SSID, WAP, BSS, ESS

044) What is the full form of EAP, a supplicant authentication framework?

- Option A) Extensible Access Point
- Option B) Extended Access Protocol
- Option C) Extensible Authentication Protocol
- Option D) None of the above

045) Which of the following protocols is used for IP network diagnostics and troubleshooting?

- Option A) SNMP
- Option B) IGMP
- Option C) ICMP
- Option D) Network Analyzer

046) Which of the following is a port administration and monitoring utility?

S1: netstat; S2: lsof; S3: nmap; S4: ss

- Option A) Only S1
- Option B) Only S2
- Option C) Only S3
- Option D) S1, S2, S3, S4

047) Which command is used to check the IP configuration of a network interface in Windows *only*?

- Option A) ifconfig
- Option B) ipconfig
- Option C) netstat
- Option D) ifup

048) Which command is used to display the routing table in Linux?

- Option A) route
- Option B) traceroute
- Option C) netstat
- Option D) ip route

049) Which command is used to ping a specific port number in Linux?

- Option A) ping -p
- Option B) ping -s
- Option C) ping -n
- Option D) nmap -p

050) Which command is used to test network connectivity using ICMP echo requests in Windows?

- Option A) ping
- Option B) tracert
- Option C) netstat
- Option D) ipconfig

051) Which command is used to release the IP address obtained from a DHCP server in Windows?

- Option A) ipconfig /renew
- Option B) ipconfig /release
- Option C) ifdown
- Option D) dhcpcd

052) Which is the correct statement about the range or extent of networks?

- Option A) LAN > MAN > WAN > PAN
- Option B) WAN > MAN > LAN > PAN
- Option C) WAN > PAN > LAN > MAN
- Option D) WAN > MAN > PAN > LAN

053) Which command is used to display active network connections and listening ports in Windows?

- Option A) `ifconfig`
- Option B) `ipconfig`
- Option C) `netstat`
- Option D) `nmap`

054) Which command is used to flush the DNS cache in Windows?

- Option A) `ifconfig /flushdns`
- Option B) `nslookup /flushdns`
- Option C) `ipconfig /flushdns`
- Option D) `netstat /flushdns`

055) What is the use of `wget`?

- Option A) a utility to mainly get information about a user
- Option B) a download utility in linux
- Option C) mainly used for scheduling jobs
- Option D) a utility to mainly invoke http get method

056) Who allocates and assigns Public IP addresses?

- Option A) ISPs
- Option B) IANA
- Option C) IETF
- Option D) ISO

057) How many are the IPv4 address classes?

- Option A) 3
- Option B) 4
- Option C) 5
- Option D) None of the above

058) Which of the following is *not* correct about TCP?

- Option A) Congestion control and Flow control
- Option B) Window scaling and Three-way handshake
- Option C) Connection oriented and Transmission control
- Option D) Fast recovery and Resource reservation

059) What lookup tables are involved for end-to-end communication, say, for web browsing over the Internet?

- Option A) DNS lookup table
- Option B) ARP table
- Option C) IP routing table
- Option D) All of the above

060) Which of the following is not a DNS record?

- Option A) A
- Option B) AAA
- Option C) AAAA
- Option D) CNAME

061) Which of the following is incorrect about DHCP?

- S1: Assigns IP addresses to network devices dynamically
- S2: Reserve specific IP addresses to specific devices
- S3: Uses UDP protocol over port 67
- S4: DHCP clients send DHCPDECLINE message to decline an IP address offered
- S5: Can allocate network addresses from an IP pool
- S6: DHCP clients can retain the same IP address with lease reservation
- S7: DHCP lease time for IP addresses is 7 days, by default
- S8: DHCP clients use DHCPDISCOVER message to request an IP address

- Option A) Only S1, S2 and S3
- Option B) Only S4, S5 and S6
- Option C) Only S7 and S8
- Option D) None of the above

062) What is the primary advantage of VLSM?

- Option A) Simplified network configuration
- Option B) Faster convergence
- Option C) Better performance
- Option D) Efficient use of IP addresses

063) Which routing protocol does not support VLSM?

- Option A) RIP
- Option B) OSPF
- Option C) BGP
- Option D) IGRP

064) Which one of the following routing algorithms can be used within an Autonomous system?

- S1: link-state
- S2: distance-vector
- S3: shortest-path
- S4: software-defined

- Option A) S1, S2, S3, S4
- Option B) S1, S2
- Option C) S3, S4
- Option D) None of the above

065) What is the recommended value of the TTL field?

- Option A) 8
- Option B) 128
- Option C) 64
- Option D) 40

066) What are the ways to address IP fragmentation and Reassembly?

- Option A) Path MTU discovery
- Option B) TCP MSS setting
- Option C) Re-assembly at destination

Option D) All of the above

067) What are the typical port(s) to which a keyboard can be connected?

- Option A) Only PS/2
- Option B) Only USB
- Option C) PS/2 and HDMI
- Option D) PS/2 and USB

068) Consider the following code snippet related to USB virus targeting Windows and the statements below. Which of the following options are true?

```
[autorun]
Open=PlayMe.exe
ShellExecute=PlayMe.exe
UseAutoPlay=1
```

S1: PlayMe.exe file needs to exist on the USB drive; S2: autorun.inf needs to exist on the USB drive; S3: May execute automatically when the USB drive is plugged-in; S4: User needs to click on some file or directory after opening a USB drive in explorer.

- Option A) Only S1
- Option B) Only S2
- Option C) S1, S4
- Option D) S1, S2, S3

069) Which of the following provides byte-level striping?

- Option A) RAID 0
- Option B) RAID 1
- Option C) RAID 3
- Option D) RAID 5

070) There are 4 RAM slots on a motherboard and 2 RAM chips. Which of the following is the common practice for plugging in the two chips in those slots?

- Option A) Select adjacent slots
- Option B) Select non adjacent slots
- Option C) Select any two slots randomly
- Option D) Refer to motherboard manual

071) Which of the following are true about mixing two different RAM chips plugged-in to the same motherboard?

- Option A) It is possible to have different capacities, like 8GB and 16GB
- Option B) The two chips can be from different DDR generations
- Option C) Not possible to combine if speeds are different
- Option D) Not possible to combine if the brands are different

072) Which of the following is True about Linear Power Supply (LPS) and SMPS?

- Option A) LPS has more power efficiency than SMPS
- Option B) SMPS includes control circuitry based on pulse width modulation (PWM)
- Option C) SMPS can not serve multiple output voltages
- Option D) UPS has the same functionality as SMPS

073) Which of the following statements are true about standard VGA connection?

- Option A) Computer and monitor have DE 15 male sockets
- Option B) Computer and monitor have DE 15 female sockets
- Option C) Cable has two ends both DE 15 female sockets
- Option D) None of the above

074) Which of the following is true about connecting a graphics card to a motherboard?

- Option A) Use peripheral component interconnect express slots
- Option B) Use memory slots
- Option C) Use high definition multimedia interface
- Option D) None of the above

075) Which is most appropriately true about SATA-III?

- Option A) The cable is typically a red coloured male-to-male connector
- Option B) Hard disk is connected to PCI slot
- Option C) Bandwidth of Sata I is higher than Sata III
- Option D) The motherboard has Sata III female ports

~~076) Which is False about the Nvidia DXR?~~

- Option A) Uses GeForce GPUs
- Option B) Provides ray tracing
- Option C) It supports Microsoft OS
- Option D) None of the above

077) Which of the following is the most appropriate command for identifying display cards?

- Option A) lspci
- Option B) lshw
- Option C) lsscsi
- Option D) ls

078) Which API *cannot* be used by the printer drivers on Microsoft windows?

- Option A) GDI Print API
- Option B) Print Document Package Print API
- Option C) Print Spooler API
- Option D) None of the above

079) Which is the most cost-effective printing solution: LAN printer or USB printer?

- Option A) Depends on the overall usage
- Option B) Depends on the use case
- Option C) Depends on the scale
- Option D) Depends on the TCO

080) What is the *sed* command used for?

- Option A) video stream editing
- Option B) text stream selective editing or display
- Option C) file system operations
- Option D) pipe operations

081) Which option best describes what OWASP provides?

- Option A) Security protocol
- Option B) Security guidelines
- Option C) Security protocol
- Option D) All of the above

082) What is ensured by Encryption?

- Option A) Confidentiality
- Option B) Integrity
- Option C) Authentication
- Option D) Non-repudiation

083) Which coding scheme uses 4-bit codes?

- Option A) ASCII
- Option B) UTF
- Option C) BCD
- Option D) EBCDIC

084) How many layers are defined in the ISO/OSI model?

- Option A) Eight
- Option B) Four
- Option C) Seven
- Option D) Six

085) Which layer in the ISO/OSI model do datagrams belong to?

- Option A) Data-link layer
- Option B) Application layer
- Option C) Network layer
- Option D) Transport layer

086) What is MAC, abbreviation of, in Cryptography?

- Option A) Message Authentication Control
- Option B) Message Authentication Code
- Option C) Message Authentication Cipher
- Option D) All of the above

087) What is Data mirroring equivalent to?

- Option A) RAID 3
- Option B) RAID 2
- Option C) RAID 1
- Option D) RAID 0

088) What is the purpose of `grep -r hello /sys/ 2> /dev/null`

- Option A) move all files in /sys/ to trash
- Option B) move all files having the word 'hello' to a directory named 2
- Option C) output redirection to console
- Option D) not to display errors

089) Which of the following is the default recommended file system for Windows PC?

- Option A) FAT32
- Option B) NFS
- Option C) NTFS
- Option D) ReFS

090) What is swap space?

- Option A) Secondary storage
- Option B) Secondary memory
- Option C) Shadow memory
- Option D) Physical memory

091) Which of the following is the most common & vulnerable cybersecurity attacks?

- Option A) Phishing
- Option B) DoS / DDoS
- Option C) Malware
- Option D) SQL Injection

092) Which command is more suitable for searching for a file?

- Option A) ls
- Option B) grep
- Option C) find
- Option D) locate

093) Which of the following is not a type of computer network?

- Option A) Ethernet
- Option B) SONET
- Option C) Unix.NET
- Option D) ATM

094) Which protocol is used to send Email to a server?

- Option A) POP3
- Option B) IMAP4
- Option C) SMTP
- Option D) All of the above

095) What command is used to install software packages in Debian-based Linux distributions?

- Option A) apt-get
- Option B) yum
- Option C) pacman
- Option D) dnf

096) Which of the following has a different attack vector than others?

S1: Cross-site scripting; S2: Cross-site request forgery; S3: Man-in-the-middle;
S4: Code Injection; S5: None of the above

- Option A) S1
- Option B) S2
- Option C) S3
- Option D) S4

097) What is the pwd at the end of the following command sequence?

```
pwd
cd ~/proj
cd src
cd generic
cd .
pwd
```

- Option A) /proj/src/generic
- Option B) ~/src/generic
- Option C) ~/proj/src/generic
- Option D) None of the above

098) How do you print the lines of a <file> between 5 and 10, both inclusive?

- Option A) cat <file> | head | tail -6
- Option B) cat <file> | head | tail -5
- Option C) cat <file> | tail +5 | head
- Option D) cat <file> | tail -5 | head -10

099) What is the purpose of the pr command in Linux?

- Option A) Partitioning hard disk
- Option B) Convert text files for printing
- Option C) Install printer
- Option D) None of the above

100) Which of the following is one of the oldest malware?

- Option A) Morris Worm
- Option B) Stuxnet
- Option C) CryptoLocker

Option D) Nimba