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ST BENEDICT'S COLLEGE



SUBJECT
GRADE
EXAMINER
NAME
CLASS

Information Technology

11

Mrs Kench

Memo

DATE

July 2016

MARKS

120

MODERATOR

DURATION

2 hours

COGNITIVE LEVELS

LOW ORDER

45 %

**MIDDLE
ORDER**

27 %

HIGH ORDER

28 %

INSTRUCTIONS
COMMENT

**TEACHER'S
SIGNATURE**
**PARENT'S
SIGNATURE**

QUESTION 1**20 MARKS**

Write down the term that best matches the description provided:

- 1.1 Utilities. ✓
- 1.2 ALU. ✓
- 1.3 UDP ✓
- 1.4 POP3 ✓
- 1.5 Multi mode. ✓
- 1.6 Cross talk ✓
- 1.7 Node ✓
- 1.8 Assembly language ✓
- 1.9 Delphi or Java ✓
- 1.10 Interpreter ✓
- 1.11 Dual boot ✓
- 1.12 Buffer ✓
- 1.13 BIOS ✓
- 1.14 Point to point ✓
- 1.15 Disk cache ✓
- 1.16 Firmware ✓
- 1.17 CD ✓
- 1.18 Seek time ✓ + latency ✓
- 1.19 Serial ✓

QUESTION 2**34 MARKS**

- 2.1 4 ✓ (1)
- 2.2 Multi processing – more than one processor✓ on a single chip✓
Hyperthreading – two sets of registers✓ on aCPU. ✓
Multi processing✓ (5)
- 2.3 DRAM – Dynamic RAM has capacitors, ✓
Synchronised – refresh sync with CPU, ✓
DDR double data rate transfer data twice per clock tick✓ (3)
- 2.4 Quad Core Intel Atom Z3735F Processor, 1.33 GHz ✓
2 GB DDR SDRAM✓
HDMI port✓ (3)
- 2.5 32 GB SSD✓
3 USB 2.0 connectors ✓
MicroSD card slot
Ethernet port ANY TWO (2)
- 2.6
- 2.6.1 FETCH✓, DECODE✓, EXECUTE✓, TRANSFER✓ (4)
- 2.6.2 FETCH✓, DECODE✓ (2)
- 2.7
- 2.7.1 Permanently✓ store programs and data✓ (2)
- 2.7.2 Magnetic hard drive. ✓ Uses platters with moving read write heads✓ (2)
- 2.7.3 Less noise✓, no fragmentation✓less wear and tear, no moving parts ANY TWO (2)
- 2.8
- 2.8.1 Video output✓ (1)
- 2.8.2 High definition✓, transfer both sound and video ANY ONE (1)
- 2.9
- 2.9.1 CPU will multiply the system clock✓ by a clock multiplication factor✓. To overclock this factor✓ will be increased. ✓ (4)
- 2.9.2 Yes✓ the CPU detects the system clock speed and then multiplies by a factor✓ (2)

QUESTION 3**25 MARKS**

- 3.1 Provide a GUI✓
Load and run programs✓
Control hardware and software resources✓ (3)
- 3.2 Out of paper✓, printer jam, load toner ANY ONE (1)
- 3.3 Process cannot run due to IO request interrupts CPU✓, process is suspended, CPU switches to next process, ✓ interrupt occurs when input arrives, current process terminates interrupt generated suspended process runs✓ (3)
- 3.4 Multitasking more than one program in RAM, ✓ CPU switches between them✓
Multithreading – one program contains more than one thread✓ that can run at the same time✓
Both thread and task need CPU time✓ (5)
- 3.5
- 3.5.1 Each process gets enough CPU time✓
Each process gets the resources it needs✓
CPU is used efficiently✓ (3)
- 3.5.2 Use the hard drive as an extension to RAM✓. Programs divided into pages✓ which are swapped in and out of RAM✓ (3)
- 3.5.3 NO✓. Hard drive is much slower than RAM. ✓ (2)
- 3.6 Driver – software✓ that is part of the operating system to communicate with device✓
Controller – hardware circuitry✓ to determine how the device works✓ (4)
- 3.7
- 3.7.1 To automatically install devices✓ (1)

QUESTION 4**26 MARKS**

- 4.1 Faster, ✓ not susceptible to EMI✓, crosstalk✓, attenuation, eavesdropping ANY THREE (3)
- 4.2 Address Resolution Protocol✓ – stores a table in the NIC as well as other devices in the network✓ (2)
- 4.3
- 4.3.1 Switch✓
- 4.3.2 Repeater✓
- 4.3.3 Gateway✓
- 4.3.4 CSMA/CD✓ (4)
- 4.4
- 4.4.1 Home router✓ (1)
- 4.4.2 Has a firewall✓, wireless access point✓, switch✓ (3)
- 4.4.3 Yes✓ since any device can connect to the WAP if they have the password✓ (2)

- 4.4.4 Wireless bridge✓. The bridge will connect the two network segments✓ wirelessly ✓ (3)
- 4.4.5 WPA2✓ (1)
- 4.5 Wi-Max has larger range✓ and faster speed✓ (2)
- 4.6 Different screen size✓, screen resolution✓, operating system✓, web languages not supported, memory capacity too small, dynamic content not supported ANY THREE (3)
- 4.7 IMAP✓ (1)

QUESTION 5

22 MARKS

- 5.1 When the flag assumes that the array is sorted✓, if the inner loop executes with no swapping ✓ the sort terminates✓ as the array must be sorted. ✓ (4)

5.2

- 5.2.1 Search for an item in the array✓ (1)

- 5.2.2 Int array []✓ = new int[20] ✓ (2)

- 5.2.3 The loop is forced to terminate✓ with a break✓ (2)

5.2.4

```
int c = 0; ✓
boolean found = false; ✓
while(c < 20 && found == false) ✓
{
    if (array[c] == item
        {
            System.out.println(item + " is at " + (c + 1));
            found = true; ✓
        }
    c++; ✓
}
```

(5)