22232

3 Hours / 70 Marks   Seat No.

Instructions :   (1)   All Questions are *compulsory.*

(2)   Answer each next main Question on a new page.

(3)   Illustrate your answers with neat sketches wherever necessary.

(4)   Figures to the right indicate full marks.

(5)   Assume suitable data, if necessary.

(6)   Use of Non-programmable Electronic Pocket Calculator is permissible.

(7)   Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   **Attempt any FIVE of the following :** $5 \times 2 = 10$

(a)   Define form factor of motherboard.

(b)   Explain procedure for speed-test in laptops.

(c)   Write configuration of battery settings in laptop.

(d)   Define cold testing and hot testing in smartphones.

(e)   State any two uses of application performance management tool.

(f)   Write working principles of wired and wireless keyboard.

(g)   Define :

(i)   Performance tuning

(ii)   Performance analysis

2. **Attempt any FOUR of the following :** 4 × 3 = 12

   (a) List different motherboard components and explain any two.

   (b) Describe Mini Molex connector with pins.

   (c) Describe any three performance test tools for troubleshooting various hardware issues in smartphones.

   (d) Write steps to modify attributes of connected device.

   (e) Explain step by step procedure for disk defragmentation.

3. **Attempt any FOUR of the following :** 4 × 3 = 12

   (a) Write selection criteria for motherboard.

   (b) Explain any three smart phone charger specifications.

   (c) Explain any three sensors used in smartphones.

   (d) Describe Handheld & flatbed scanners with respect to their operations.

   (e) Describe cross-platform benchmark test for smart phones.

4. **Attempt any THREE of the following :** 3 × 4 = 12

   (a) Draw and explain functional block diagram of laptop motherboard.

   (b) Explain Random Access memory (RAM) in computer with its types.

   (c) Describe configuration of wireless internet in a laptop.

   (d) Troubleshoot below printer issues :

       (i) Printer is not taking paper.

       (ii) A blank sheet of paper prints after each time of printing.

   (e) Describe CPU benchmark test using nbench and nmon tools.

5. **Attempt any THREE of the following :** 3 × 4 = 12

    (a) Describe the I/O and memory specifications of motherboard.

    (b) Explain major pins P1 & P4 of PSU.

    (c) Explain the terms :

        (i) Response time for system

        (ii) Mean Time Between Failure

    (d) Draw neat and labelled block diagram of a LED monitor.

    (e) System is having sufficient quantity of area to satisfy memory request but these areas are non-contiguous. Write steps to troubleshoot such fragmentation.

6. **Attempt any TWO of the following :** 2 × 6 = 12

    (a) Describe procedure to create storage device, as boot media for operating system installation. Also explain storage device configurations for such installations.

    (b) Draw the neat labelled block diagram of smart phone and explain function of each block.

    (c) Explain step by step procedure to check status of connected devices.

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