

Q. P. Code: 34361

(2 ½ Hours)

[Total Marks: 75]

- N.B. 1) All questions are compulsory.
 2) Figures to the right indicate marks.
 3) Illustrations, in-depth answers and diagrams will be appreciated.
 4) Mixing of sub-questions is not allowed.

Q. 1 Attempt the following**(a) Select the correct alternative****(5M)**

- (i) IT contributes about _____ % of GHG emission
 a. 7-8% b. 2-3% c. 10-12% d. 15-16%
- (ii) A typical desktop uses about _____ amount of power?
 a. 120 W b. 180 W c. 115 W d. 70 W
- (iii) P-State saves energy by satisfying _____ equation?
 a. $P=CVF$ b. $P=CVF^2$ c. $P=C^2VF$ d. $P=CV^2F$
- (iv) _____ is one of the main ingredient of PVC?
 a. Arsenic b. Vinyl Chloride c. Mercury d. Cadmium
- (v) _____ restricts the usage of hazardous substance.
 a. REACH b. WEEE c. RoHS d. EPEAT

(b) Fill in the blanks with the help of the options given in the pool below: (Hibernator, C6, e-commerce, C2, e-waste, server farm, grid computing)**(5M)**

- (i) In _____ state CPU is in Power Down Mode.
 (ii) _____ is discarded computer parts.
 (iii) _____ is a disk array design for optimizing storage power consumption
 (iv) _____ is the process of buying and selling goods and services through computer or mobile systems via internet etc.
 (v) A server cluster is also known as _____

(c) Answer the following in one or two lines:**(5M)**

- (i) What is Energy Star?
 (ii) What is a Green IT Audit?
 (iii) State the various states of a Hard Drive.
 (iv) What is CUE?
 (v) Define Green Washing?

Q. 2 Attempt the following (Any THREE)**(15M)**

- (a) What is Green IT? What are the various IT-enabled approaches to improve environmental sustainability?
 (b) Write a short note on Holistic Approach to Greening IT.
 (c) Explain the drivers of environmental sustainability and green IT.
 (d) Explain the Life Cycle of a Device or Hardware.
 (e) Explain any two tools for tuning software for performance and energy efficiency.
 (f) State the metrics of various Software sustainability attributes.

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Q. 3 Attempt the following (Any THREE) (15M)

- What are the steps involved in developing a green IT strategy.
- Write a short note on Grid Computing.
- What are the energy implications for data centre facility infrastructure?
- State the objectives Green Networking.
- Discuss in short the business drivers of green IT.
- Write a short note on NAS.

Q. 4 Attempt the following (Any THREE) (15M)

- What is LCA? State and explain its four stages.
- Explain in brief Energy reuse effectiveness (ERE), Data centre energy productivity (DCeP) and Data centre computer efficiency (DCcE).
- Explain the various SICT Capacity building blocks.
- Write a short note on Corporate Sustainability, Social Responsibility and IT.
- What is EPEAT? Explain its three-tiered, point-based system.
- Write a short note on SITS value curve.

Q. 5 Attempt the following (Any THREE) (15M)

- State and explain the Three R's of Green IT.
- Discuss the environmental Impacts of IT.
- How SSD's are better than Hard Disks?
- What are the factors that drive the development of sustainable IT?
- Discuss the various software sustainability attributes.