201 / F4CS / Green Tech. (07)

[Time: 2:30 Hours]   [Marks:75]

Please check whether you have got the right question paper.

N.B: 1) All questions are compulsory.
            2) Figures to the right indicate marks.
            3) Draw suitable diagrams and illustrations wherever necessary.
            4) Mixing of sub-questions is not allowed.

Q.1   Attempt All the Questions   5M
       A. Choose the correct alternative
          i.   The Three R of Green IT are -------------, --------------, and -------------.
                a) reuse, return, recycle   b) reuse, refurbish, recycle
                c) return, refurbish, recycle   d) record, recover, recycle
          ii.   SITS refers to ----------------.
                a) Stable IT services   b) Suitable IT services
                b) Sustainable IT services   c) Sustainable information services
          iii. KPI refers to ------------------.
                a) Key performance indicators   b)Key path Indicators
                c) Key performance Index   d) Key performance instruments
          iv.   Random access causes -------------- head movements than sequential accesses, and thus leads to
                higher head power consumption.
                a) less   b) equal
                c) no   d) more
          v.   NAS stand for ------------------.
                a) Network-access score   b) Network-attached storage
                c) Network-active storage   d) Network-attached service

       B. Fill in the blanks (Choose one from the pool)
       {C-states, stable state, P-states, Green IT Policy, environmentally, standby, emergency, running, solid state} 5M
          i.   --------------------- (also called sleep states) are core power states that define the degree to which the
                processor the is 'sleeping'.
          ii.   ERBS stand for --------------- responsible business strategy.
          iii. --------------- encompasses the frameworks the organization puts in place to apply environmental
                criteria in IT-related activities
          iv.   Hard drives are in one of the following states -- Active, ----------- idle or Sleep.
          v.   SSD means -------------- drive.

       C Explain the following in one for two lines
          i.   Green enterprise   5M
          ii.   G-readiness
          iii. Role of virtualization in energy management.
          iv.   Green IT metrics
          v.   Green washing

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Q.2   Attempt the following: (Any THREE)   15M
       A.   Write a note on Environmental impacts of IT.
       B.   Write a note on software Energy Efficiency Techniques.
       C.   Write a note on Sustainable Software Methodology.
       D.   Explain how software can negatively impact the environment?
       E.   What are Energy Metrics? List them.
       F.   Explain the holistic approach to green IT.

Q.3   Attempt the following: (Any THREE)
       A.   What are green data centre? Explain
       B.   Write a note on business drivers of Green IT strategy.   15M
       C.   Briefly describe the Organizational Sustainability dimensions.
       D.   Outline key sustainability challenges associated with data centres.
       E.   What are the challenges in implementing green IT strategies?
       F.   Explain how storage systems' energy consumption could be managed effectively at the system
            level.

Q.4   Attempt the following: (Any THREE)   15M
       A.   What a note on Hierarchy of Sustainability Models.
       B.   How do you ensure organisations G- readiness?
       C.   List and explain the SICT capability building blocks.
       D.   What are the various issues faced in greening the inter-organizational enterprise activities?
       E.   Explain the 4 business dimensions for greening enterprise.
       F.   Discuss the factors that drive the development of sustainable IT.

Q.5   Attempt the following: (Any THREE)   15M
       A.   List methods to reduce energy consumption during software development.
       B.   Highlight the impact of 'electronic devices' on the environment during each phase of their life
            cycle, and possible causes for this impact.
       C.   Highlights different energy management techniques for hard disks.
       D.   Write a note on Multilevel Sustainable Information.
       E.   Write a note on Green IT standards.