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1 SEM TDC CAP G 1

2017

(November)

COMPUTER APPLICATION

(General)

Course : 101

(Computer Fundamentals)

Full Marks : 80

Pass Marks : 32/24

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following briefly : 1×10=10

(a) Give one example each of input device and output device.

(b) How many bits are there in a kilobyte?

(c) How many bits are required to represent a hexadecimal digit?

(d) What is logic gate?

(e) Give an example of combinational circuit.

(f) What is UNIX?

(g) What are the full forms of RAM and ROM?

(h) What is computer network?

(i) What is HTTP?

(j) Name any two types of network topologies.

2. Answer the following : 4×5=20

(a) Describe four important applications of computer.

(b) Explain briefly about BCD and Unicode systems.

(c) State De Morgan's theorem.

(d) Explain the two types of software with example.

(e) Explain the memory hierarchy.

3. Answer the following :

(a) 5×4=20

(i) Subtract $(1101111)_2$ from $(11001010)_2$.

(ii) Add $(110110.111)_2$ with $(101101.011)_2$.

(iii) Find 2's complement of $(45)_{10}$.

(iv) Find 1's complement of $(100110101)_2$.

(v) Add $(+46)_{10}$ with $(-75)_{10}$ using 8-bit 2's complement method.

(Continued)

(b) What are the universal gates? Explain with logic symbols and truth tables. Why are these called universal gates?

(c) Describe different types of programming languages.

(d) Write briefly about Web Browsers and Search Engines.

4. Answer the following : 6×5=30

(a) Convert the following :

(i) $(235)_8$ into its hexadecimal equivalent

(ii) $(A79B)_{16}$ into its binary equivalent

(iii) $(100111.11101)_2$ into its octal equivalent

(b) Explain the basic components of computer system with suitable block diagram.

(c) What is operating system? Describe the functions of operating system.

(d) Describe any three types of network topologies with suitable diagram.

(e) What is flip-flop? Explain different types of flip-flops.

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