9. (a) Explain communication between various units of a computer system.   6

(b) Explain the different types of computer networks.   8

10. (a) What is an Universal Gate ? Implement AND, OR gate using Universal Gate.   5

(b) What is RAM ? Explain its different types.   5

(c) What are optical disks ? Explain its different types.   4

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(c) Differentiate between System Software and Application Software. 4

3. (a) Explain the different ways to connect to internet. 5

(b) Explain different types of ROM. 5

(c) Differentiate between impact and non-impact printers. 4

4. (a) Explain how does the e-mail works. Also explain in detail the different e-mail protocols. 6

(b) What are the advantages and disadvantages of Computers ? 4

(c) Convert the decimal number 127 to octal and hexadecimal system. 4

5. (a) Explain the different types of network topologies. What are the advantages and disadvantages of using these topologies ? 8

(b) What are the main components of CPU ? Discuss them in detail with diagram. 6

6. (a) Convert the decimal number 82.67 to its binary, octal and hexadecimal eqivalents. 6

(b) Add $(20)_{10}$ and $(-16)_{10}$ using 2's complement. 4

(c) Prove the following Boolean identities using the laws of Boolean algebra : 4

(i) $(A+B)(A+C) = A+BC$

(ii) $ABC + AB'C + ABC' = A(B+C)$

7. (a) What are the characteristics of different generation of computers ? Explain them. 6

(b) What are the advantages and disadvantages of using internet ? 4

(c) Differentiate between algorithm and pseudo-code. 4

8. (a) Explain input devices with suitable examples. 6

(b) Explain different forms of virus attacks and the ways to get protection from these attacks. 8

2016

Full Marks : 70

Time : 3 hours

Answer any five questions.

The figures in the right-hand margin indicate marks

Candidates are required to give their answer in their own words as far as practicable

1. (a) Explain the different generation of computer languages. 5

   (b) What is an Operating System ? Explain its different types with examples. 5

   (c) Differentiate between Primary Memory and Secondary Memory. 4

2. (a) Explain different components of computer networks. 6

   (b) What are storage devices ? Explain its different types. 4