

Sum
2013 - 14

BANGABASI COLLEGE
PART-III (1+1+1) TEST EXAMINATION 2014
SUBJECT-COMPUTER SCIENCE (HONOURS)
FIFTH & SIXTH PAPER

FULL MARKS:100

TIME:4 HRS

(GROUP-A)

1. Answer any Ten questions

(10X2=20)

- a) If both HOLD & TRAP input of 8085 MPU are activated simultaneously, which one will be served first? State reason.
- b) Why is the ALU of a typical processor does not contain a subtractor?
- c) What is the machine control operations used in 8085 MPU?
- d) How does a MPU distinguish whether a number stored in the memory is an unsigned number or a signed number?
- e) What is the function of DNS?
- f) List out the layers of TCP/IP model.
- g) What is the full form of CDMA?
- h) What is the function of Control Bus?
- i) Write two advantages of Networking.
- j) Distinguish between PROM & EPROM?
- k) List out the features of E-mail.
- l) Define Router & Bridge.
- m) What is Virtual Memory?
- n) What do you mean by RISC & CISC?
- o) What are the elements of Data Communications?
- p) What is polymorphism?
- q) State any five characteristics of Object Oriented programming.
- r) State the concept of operator overloading with examples.
- s) What is software engineering?
- t) What is a prototype?
- u) Why is spiral model called the meta-model?

(GROUP-B)
(ANSWER ANY EIGHT)

2. a) The following 8085 program is loaded from memory address 3050H
LXI SP, 30FFH
CALL 3053H

Explain what will happen if the program is executed from address 3050H.

- b) If the memory chip size is 256 X 1BITS, how many chips are required to make up 1KB of memory?
- c) Step the uses of NOP operation.
- d) The memory address of the last location of a 8KB memory is FFFFH, what is the starting address?

4+2+2+2

3. a) What is parallelism in micro-instruction? What are the advantages of parallelism?
b) What operation can be performed by using the instruction SUB A? Specify the status of Z & CY?
c) Distinguish between DMA & Interrupt Request.
d) What do you mean by absolute & partial decoding of addresses?

3+2+3+2

4. a) Assume that the accumulator contains 7AH & the register B contains B8H, what will be the contents of the accumulator, and the flag Z & CY, when the following instructions are executed?

- i) SUB B
ii) XRA A
iii) ORA 8FH
b) Distinguish between the memory mapped I/O and I/O mapped I/O.
c) What is interrupt & TRAP?

6+2+2

5. a) Explain the OSI architecture in details.
b) Specify the difference between the TCP/IP Model & OSI Model.

8+2

6. a) Describe the architecture of the Internet.
b) Describe the different ways of connecting a PC to the Internet.

5+5

7. a) What is inheritance? Explain each type of inheritance with diagrams.
b) Write a program in C++ to differentiate between private and public inheritance.

(2+4) + 4

8. a) Design a generic function in C++ to implement merge sort algorithm.
b) Design a class String in C++ that overloads the equal to (==) operator to compare two strings.

6 + 4

9. a) What is Software? What is SDLC?
b) State the advantages and disadvantages of waterfall model.

4+6

10. a) What is DBMS?
b) State & Explain the advantages of DBMS?

2+8

11. a) What is Normalization?
b) Discuss 1NF, 2NF & 3NF Normalization.

2+8

12. a) Discuss about any two applications of Computer Graphics.
b) What do you understand by Homogeneous coordinates?

4+6

13. a) What is Translation? Explain with an example.
b) What is Rotation? Derive the formulae for rotation about origin and about any other point in a 2D coordinate system.

4+6