

M.Sc. 1st Semester Examination, 2013

COMPUTER SCIENCE

PAPER— COS - 102(M1 & M2)

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

MODULE – 1

(Parallel Architecture)

[Marks : 25]

Answer any two questions

- 1. (a) Classify the parallel processor system according to the Flynn's.**

4

(Turn Over)

- (b) Differentiate between Array processor and Multiprocessor ? 3
- (c) What are the chief characteristics of an SMP ? 3
2. (a) Explain the following terms : 4
(i) Delayed Load
(ii) Delayed Branch.
- (b) What is the difference between software and hardware cache coherent schemes. 3
- (c) What are the advantage and disadvantage of parallel processing ? 3
3. (a) Define the following term : 3
(i) speed-up
(ii) speed-up-vector.
- (b) Draw and discuss about the vector processor architecture ? 4

(3)

- (c) What do you mean by the data hazards. 3
4. (a) What is data hazards? How can we overcome data hazards. Explain. (2 + 3)
- (b) Perform the operation $A_i * B_i + C_i$ for $i = 1, 2, \dots, n$ using pipeline. Design and Explain. 5

[*Internal Assessment* : 05 Marks]

MODULE – 2

(*Microprocessor*)

[*Marks* : 25]

Answer any two questions

1. (a) Write down the function of following pin in 8086. 3
- (i) NMI
- (ii) RESET.
- (b) Draw and discuss about the 8086 microprocessor block diagram. 5

(4)

- (c) Discuss about interrupt of 8086 microprocessor. 2
2. (a) What do you mean by 8259 PIC ? Draw the block diagram and how it interface with 8086 microprocessor. 1 + 2 + 2
- (b) Discuss about BSR-mode of 8255. 3
- (c) Difference between 80186 and 80286 microprocessor. 2
3. (a) Write any two type addressing mode in 8086 microprocessor. $1\frac{1}{2} + 1\frac{1}{2}$
- (b) What do you mean by the DMA and how it act? 3
- (c) Write any three instruction with related logical function of 8086 microprocessor. 4

[*Internal Assessment* : 05 Marks]
