



SN – 674

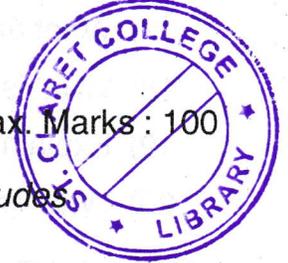
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V Semester B.C.A. Degree Examination, November/December 2017
(Y2K8 Scheme) (Repeaters)

BCA 502 : COMPUTER ARCHITECTURE

Time : 3 Hours

Max. Marks : 100



- Instructions :** 1) **100** marks for students of **2011 – 12** onwards (includes Section – D).
2) **90** marks for students prior to **2011 – 12** (excludes Section – D).

SECTION – A

I. Answer **any ten** questions. **Each** carries **two** marks.

(10×2=20)

- 1) What are Universal Gates ?
- 2) Define SOP and POS.
- 3) Define RAM. Name the various types of RAM.
- 4) Convert Hexadecimal code $(BCA)_H$ to Binary and Octal number.
- 5) What is FAN IN and FAN OUT ?
- 6) What is memory reference instruction ?
- 7) What is UART ?
- 8) What is Virtual memory ?
- 9) Explain BUN instruction.
- 10) Define micro operation. Give example.
- 11) What is state table ?
- 12) What is PSW ?

SECTION – B

II. Answer **any five** questions. **Each** carries **five** marks.

(5×5=25)

- 13) Explain the working of J-K flip-flop with a logic diagram.
- 14) What is a multiplexer ? Explain 4-to-1 line MUX.
- 15) Explain instruction cycle with flow chart.

P.T.O.



- 16) Explain various Input-output instructions.
- 17) What are the various characteristics of memory devices ?
- 18) What is interrupt ? Explain the various types of interrupts.
- 19) Explain mapping process in segmented page memory management unit.
- 20) What is polling ? Explain.

SECTION – C

III. Answer **any three** questions. **Each** carries **fifteen** marks. (3×15=45)

- 21) a) What is meant by flip-flop ? Explain its type with example.
b) Explain implementation of full adder using two half adder. (8+7)
- 22) a) Explain 2's complement subtraction method with example.
b) Explain with a neat diagram 4-bit synchronous binary counter. (7+8)
- 23) a) Explain different types of instruction formats with example for each.
b) Explain DMA controller with a block diagram. (8+7)
- 24) a) Explain the common bus system with a neat diagram.
b) Distinguish between hardwired control and microprogrammed control. (10+5)
- 25) a) Explain associative memory with a neat block diagram.
b) Compare RISC and CISC computer organisation. (7+8)

SECTION – D

IV. Answer **any one** question. **Each** carries **ten** marks. (10×1=10)

- 26) What is shift register ? Explain various types of shift registers.
 - 27) Explain the various addressing mode.
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