[16–GAHG–D4S]

156

Form No. Ex–8

Sl. No. .....

Particulars about the candidate and the subject are **checked thoroughly** and corrected where necessary.

EXAM CENTRE CODE : .....

Invigilator

Signature of Officer in-Charge

BCA 4th Semester Examination, 2016

[Computer Organization] {BCA (S4) 11}

Time : 3 Hours

Full Marks : 80

Enrolment Number :

Medium of Answer :

INSTRUCTIONS TO CANDIDATES

1. This booklet contains 24 pages numbering 23. Please verify number of pages in the booklet before answering.
2. No pages of the script be torn out.
3. An examinee is allowed to bring only Admission Card and Identity Card to the Examination Hall. Any examinee found in possession of loose papers, books, mobile phones, etc., is liable to be expelled.
4. Enrolment Number and Medium of Answer must be written legibly at the specified places. Examinee's name and any other identifying mark which reveals examinee's identity shall not be written anywhere in the script.
5. For making calculations, etc., only the last page may be used.
6. Calculators will not be allowed for making calculations in the Examination Hall.
7. No candidate will be allowed to leave or go out of the Hall during the first hour of the Examination.
8. A candidate having completed his/her answer, the script must be handed over to an Invigilator before leaving the Hall.
9. Contravention of any of the instructions mentioned above shall render a candidate liable for disciplinary action as per regulations of the University.

302 (CO)

Mandatory

Examiner's Signature : _____

Examiner's Full Name : _____

Scrutiniser's Signature : _____

Scrutiniser's Full Name : _____

Question Nos.	Marks
1.	
2.	
3.(a)	
3.(b)	
3.(c)	
3.(d)	
3.(e)	
3.(f)	
4.(a)	
4.(b)	
4.(c)	
5.(a)	
5.(b)	
5.(c)	
Total	

Head Examiner's Signature : _____

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1. Answer the following questions : 1×8=8

(a) What are assembler directives?

(b) Give one example of immediate addressing mode of 8085 instruction.

(c) What do you mean by virtual memory?

(d) What is Fetch cycle?

(e) Define seek time of magnetic disk.

(f) What is RAID?

(g) What are the two different categories of pipelining?

(h) When do data hazards occur?

2. Answer the following questions : 2×8=16

(a) What are the differences between asynchronous counter and synchronous counter?

(b) What are the different fields of an assembly level instruction? Which one is an essential field?

(c) What are the major functions of the I/O interface unit?

(d) Define access time and memory cycle time.

(e) What do you mean by associative cache mapping?

(f) What are temporal locality of reference and spatial locality of reference?

(g) Differentiate between fixed head system and movable head system of magnetic disk.

(h) Give an example of one-byte instructions.

3. Answer any *five* from the following questions : 4×5=20

(a) With truth table and logic diagram, explain the working of a full-adder circuit.

(b) What do you mean by software poll and vectored interrupt?

(c) What is the function of cache memory? Explain the terms 'cache hit' and 'cache miss'.

(d) What are EPROM and EEPROM? Discuss briefly.

(e) What are the functions of control unit?

(f) What are the merits and demerits of pipelining?

4. Answer any *two* from the following questions : 8×2=16

(a) Describe different instruction formats of 8085 instruction with example.

(b) Discuss briefly the task of DMA controller, mentioning its different ways of data transfer.

(c) Write a brief note on optical storage.

5. Answer any *two* from the following questions : 10×2=20

(a) Discuss briefly the register organization of a CPU. 10

(b) Discuss briefly about Static RAM and Dynamic RAM. What is memory hierarchy? 4+4+2=10

(c) Explain the principles of multiplexer and encoder. Draw 8-to-1 multiplexer and decimal-to-BCD encoder. 5+5=10