



M.E DEGREE EXAMINATIONS: JAN 2015

(Regulation 2014)

First Semester

APPLIED ELECTRONICS

P14AETE12: Advanced processors

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Arithmetic left shift is same as the [K₂]
 - a) Left rotate through carry
 - b) Logical right shift
 - c) Logical left shift
 - d) Right rotate through carry

2. The distance in bytes between the page base and the data item in the page which is being accessed is [K₂]
 - a) Page frame
 - b) Offset
 - c) Page table
 - d) Directory

3. Consider the following statements. [K₂]
 1. When $\overline{M/IO}, \overline{D/C}, \overline{W/R}, \overline{CACHE}, \overline{KEN}$ values are 0,1,0,1,X it represents I/O read non cached cycle.
 2. When $\overline{BE7}$ to $\overline{BE0}$ values are 1,1,1,1,1,1,1,0 it represents shutdown cycle.
 3. An atomic operation can be broken down into smaller sub operations.
 4. The Pentium processor is able to watch the DMA in a multiprocessor system. This is called bus snooping.

Which of these are correct?

 - a) 1,3
 - b) 1,2
 - c) 2,3
 - d) 3,4

4. The following are the restrictions placed on a pair of integer instructions attempting parallel execution. [K₂]
 1. Prefixed instructions such as MOV ES: [DI],AL may not execute in the U pipeline.
 2. Both must be simple instructions.
 3. No data dependencies may exist between them.
 4. One must be simple and next should be complex.

Which of these are correct?

 - a) 2,3
 - b) 1,3

8. Mnemonics extension is listed in list I of ARM processor. Match list I with list II and select the correct answer using the codes given below. [K₂]

List I

- A.VC
- B. VS
- C.HI
- D.LS

List II

- 1.Unsigned higher
- 2.Unsigned lower or same.
- 3.Overflow
- 4.No overflow.

Codes:

| | A | B | C | D |
|-----|---|---|---|---|
| (a) | 1 | 2 | 3 | 4 |
| (b) | 4 | 3 | 1 | 2 |
| (c) | 3 | 1 | 4 | 2 |
| (d) | 2 | 3 | 4 | 1 |

- a) a
- b) b
- c) c
- d) d

9. The following items consists of two statements, one labeled as the “Assertion (A)” and the other as “Reason (R). You are to examine those two statements carefully and select the answers to these items using the codes given below: [K₂]

Codes:

- a. both A and R are individually true and R is the correct explanation of A
- b. both A and R are individually true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true.

Assertion (A) : Coprocessor carries out certain computationally intensive functions in hardware removing some of the burden from the host.

Reason (R) : Direct X VA architecture is in custom hardware.

- a) a
- b) b
- c) c
- d) d

10. The following items consists of two statements, one labeled as the “Assertion (A)” and the other as “Reason (R). You are to examine those two statements carefully and select the answers to these items using the codes given below: [K₂]

Codes:

- a. both A and R are individually true and R is the correct explanation of A
- b. both A and R are individually true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true.

Assertion (A) :General processors are designed to efficiently handle

