

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 49401

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Electronics and Communication Engineering

14UEC901 - ADVANCED MICROCONTROLLERS AND MICROPROCESSORS

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

1. The operation that can be performed on segments in 80386 real mode is CO1- R
(a) read (b) write (c) execute (d) all of the above
2. The _____ stores data used by a program and also the instructions of the program. CO1- R
(a) Cache Memory (b) RAM (c) ROM (d) EPROM
3. The front module of Pentium 4 consists of CO2- R
(a) trace cache (b) microcode ROM
(c) front end branch predictor (d) all of the above
4. The Address Error pin of Pentium II processor is used to check for an CO2- R
(a) Address error (b) Address parity error (c) Data error (d) Instruction error
5. What is meant by FSR in a PIC microcontroller? CO3- R
(a) File Screening Register (b) File Select Register
(c) File Source Register (d) File Scan Register
6. How many interrupt sources are present in a PIC microcontroller? CO3- R
(a) 10 (b) 14 (c) 16 (d) 15
7. The address space in ARM is CO4- R
(a) 2^{24} (b) 2^{64} (c) 2^{16} (d) 2^{32}

8. Which of the following statements is true? CO4- R
- (a) Memory faults are available in ARM
 - (b) Unused instruction space is present in ARM
 - (c) Thumb instruction set is available in ARM
 - (d) All the above

9. PSoC is____. CO5- R
- (a) Programmable system on chip
 - (b) Peripheral system on chip
 - (c) Programmable microprocessor
 - (d) None of these

10. The first digital computer built with IC chips was known as CO5- R
- (a) IBM 7090
 - (b) Apple – 1
 - (c) IBM System / 360
 - (d) VAX-10

PART – B (5 x 2= 10Marks)

11. What is meant by Memory Paging? CO1- R
12. Can execute Pentium three instructions simultaneously?explain. CO2- R
13. What is watchdog timer in PIC Microcontroller? CO3- R
14. List the instruction set in ARM. CO4- R
15. Write short notes on PSoC systems. CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Explain the Internal Architecture of 80186 Microprocessor with neat diagram. CO1- U (16)
- Or
- (b) (i) Compare 80186, 80286, 80386 and 80486 processors. CO1- U (10)
- (ii) Explain virtual addressing modes of 80286. CO1- U (6)
17. (a) Explain in detail about the Pentium Pro Microprocessor Architecture with neat diagram. CO2- Ana (16)
- Or
- (b) (i) Compare the Pentium II, Pentium III and Pentium IV microprocessors in detail. CO-2 Ana (10)
- (ii) Write short notes on special purpose registers of Pentium processor. CO-2 Ana (6)

18. (a) Explain about 16F877A PIC Microcontroller Architecture with neat sketch. CO3- U (16)
- Or
- (b) (i) Discuss the core architectural features of PIC microcontroller. CO3- U (8)
- (ii) Describe the interrupt structure of PIC microcontroller. CO3- U (8)
19. (a) Explain about the Bus Architecture and also discuss the basic concepts of memory management unit in ARM processor. CO4- U (16)
- Or
- (b) Discuss about ARM instruction set and Thumb instruction set CO4- U (16)
20. (a) Write the digital applications using PSoC in detail and explain the basic concepts of PSoC 3 & 5. CO5- U (16)
- Or
- (b) Draw the architecture of PSOC microcontroller with detailed explanation CO5- U (16)

