B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Electronics and Communication Engineering

ADVANCED MICROCONTROLLERS (Elective – II) [LA]

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Maximum : 100 Marks

Time : Three Hours

Part A

Answer **all** *questions.*
Each question carries 4 marks.

1. What do you mean by fully static operation ? How can this feature be useful in limiting power consumption ?

2. List the different way in which the ATT iny 15L controller can be reset.

3. Explain the working of watch dog timer.

4. Define and explain fuse bits.

5. What is brownout reset ? What are its advantages ?

6. Describe what is event capture mode operation.

7. Explain how the band rate is determined.

8. Explain the dual clock operation of COP8 processor.

9. What do you mean by prescaling of PIC timers ? What are the advantages of doing so ? Is it possible to apply the prescaling to watchdog timer ?

10. In what way Data EEPROM is useful ? Is it possible to access data EEPROM while the PIC is executing instructions ?

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each full question carries 12 marks.

11. Describe the functions of various pins of ATTiny 15L.

Or

12. What are the different interrupts available in ATTiny 15L controller ? Discuss their features.

Turn over

13. Explain the analog to digital converter of ATTiny 15L. How the ADC noise reduction is effectively done ?

Or

14. Explain the different memory programming techniques and applications.

15. Describe the different electrical characteristics of COP8CBR9 processor, giving typical parameter values.

Or

16. Describe the various timers of COP8CBR9 processor, bringing out their special features.

17. With a neat block diagram, show how two COP8CBR9 processor chips can be communicated using USART. Describe the various frame formats.

Or

18. What are the different interrupts available in COP8CBR9 ? Explain their special features and also the interrupt vector table.

19. What are the various functional blocks in PIC 16F873 ? Discuss the architectural features. In what way flash memory devices are useful in designing.

Or

20. (a) Explain how SPI bus can be used for I/O port expansion. (6 marks)

    (b) How to find out the mechanism by which PIC reset has occurred ? Which PIC 16F873 SFR is associated with this ?

(6 marks)

[5 × 12 = 60 marks]