

AQ - 1009

**Third Semester M. Sc. (Part-II) (CBCS Pattern)
Examination**

ELECTRONICS SCIENCE

Paper - 3-ELE 3

(Advanced Microcontroller and Embedded System)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

1. (a) Explain the various registers used in PIC. 8
- (b) Explain conditional and unconditional jump used in PIC. 6
- (c) Explain the following instructions :—
 - (i) CLRF
 - (ii) MOVLW. 2

OR

2. (a) Explain the concept of low power operation used in PIC. 5
- (b) Explain the role of UART in PIC. 6

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(c) Explain the I²C bus operation in PIC. 5

3. (a) Draw and explain the AVR architecture. 8
 (b) Explain the fundamentals of ARM processor. 8

OR

4. (a) Explain the concept of RICS processor. 8
 (b) Describe the concept of interrupt handling in AVR. 8
5. (a) Explain the various components of embedded system. 8
 (b) What is device driver ? Explain it in brief. 8

OR

6. (a) What types of precautions are taken for processor selection ? Explain it. 8
 (b) Discuss the various features of embedded system. 8
7. (a) Differentiate between Asynchronous and synchronous communication. 6
 (b) What are the different data converters used in embedded system ? 5

(c) What is the role of I²C bus in embedded system ? 5

OR

8. (a) Explain the following terms :—
 (i) RS 232
 (ii) USB
 (iii) DMA. 6
- (b) Explain the role of ADC in embedded system. 5
- (c) Explain the various types of memories used in embedded system. 5
9. (a) Discuss the application of logic analyzer. 5
 (b) Differentiate between editor and assembler. 5
 (c) What is simulator ? Explain it with example. 6

OR

10. (a) Explain the function of general purpose evaluation board. 6
 (b) What are the applications of universal programmer ? 4
 (c) What is linker ? Explain it in brief. 6

