

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Embedded Systems

Subject Code: 4TE07ESY1

Branch: B.Tech (EC)

Semester: 7

Date: 01/12/2018

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1 Attempt the following questions (14)

- a) Draw the diagram which shows the units of the hardware of an embedded system.
- b) State the different types of embedded system chips or cores.
- c) State any ten examples of an embedded system.
- d) When do we need RTOS?
- e) What is the main function MAR unit in GPPs?
- f) What is the main function MDR unit in GPPs?
- g) Classify the different types of I/O devices.
- h) State examples of serial input and serial output devices.
- i) Define the term context switching.
- j) Which pipeline architecture posses by ARM 9?
- k) State different address systems which supports by ARM 7 processor.
- l) How many exceptional modes are available in ARM 7 processor? State their names.
- m) How many flags are available in ARM 7 processor? State their names.
- n) State different types of multiplication instructions of the ARM 7 processor.

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions (14)

- a) Define and explain in detail the term system with two examples. **05**
- b) Draw and explain in brief embedded system hardware components on a SOC for a contact- less smart card **05**
- c) State any four structural units with its functions in general purpose processors. **04**

Q-3 Attempt all questions (14)

- a) State different modes of serial communication from the serial devices. Explain two of them in detail with examples. **06**
- b) Which buses are used for parallel communication between the networked I/O multiple devices? Explain two of them in detail. **08**



