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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**M.Tech I Year I Semester (R16) Regular Examinations January 2017****EMBEDDED SYSTEM CONCEPTS**

(Common to ES, DECS & VLSI)

(For Students admitted in 2016 only)

Time: **3 hours**Max. Marks: **60**(Answer all Five Units **5 X 12 =60** Marks)**UNIT-I**

- Q.1** a. What is an embedded system? Explain the different applications of embedded systems. 7M
 b. Discuss about the components used for embedding the system on chip (SOC). 5M

OR

- Q.2** a. Explain about the IEEE488 bus serial interface with neat sketches? 7M
 b. Mention any four differences among RS232, RS422 and IEEE488 buses. 5M

UNIT-II

- Q.3** a. Explain the advantages in choosing function queue scheduling architecture. 7M
 b. Write about the round robin with interrupts architecture. 5M

OR

- Q.4** a. Which is the best suited way for building embedded software into target system? 7M
 b. Explain the process of development of embedded system using host and target machine concept. 5M

UNIT-III

- Q.5** a. Explain pipe management function calls. 7M
 b. Discuss about the various functions in semaphore. 5M

OR

- Q.6** a. Write about the architecture of kernel in brief. 5M
 b. Write about the message queues in depth. 7M

UNIT-IV

- Q.7** a. Discuss about various data operations of the SHARC processor with example. 7M
 b. Explain the instruction set simulator. 5M

OR

- Q.8** a. Discuss the instruction set available in the ARM processor. 7M
 b. Differentiate ARM and SHARC processor. 5M

UNIT-V

- Q.9** a. Explain how the hardware testing is performed in embedded system using logic analyzer. 7M
b. Explain any one of design examples of embedded system 5M

OR

- Q.10** a. Explain the following:
(1) GPRS (2) ink-jet printer (3) PDA 7M
b. Explain the watertank monitoring system 5M

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