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मानव - 013

ELECTIVE - II

Advanced Embedded System Design

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any five**. Each question carries equal marks.
5. Draw well label diagram and assume suitable data whenever necessary.

1. a) Describe the design matrix of the embedded system design.
b) Write short notes on :
 - i) Pipelining.
 - ii) General purpose Processor.
2. a) Explain RT level Custom Single purpose processor design.
b) Explain Application Specific Instruction Set Processor.
3. a) Explain Different Interrupts in detail.
b) Explain in detail Standard Single-purpose processors peripherals.
 - i) LCD controller.
 - ii) Keypad controller.
4. a) Explain ISA bus Protocol.
b) Explain wireless protocol IEEE802.11.
5. a) Explain SPI Bus protocol in detail.
b) With block diagram describe the architecture of ARM7 core.

6. a) With block diagram describe the architecture of ARM9 processor.
b) Explain with example the importance of following declaration: Static, Volatile and interrupt in embedded C.
7. a) Explain 5 stage pipeline organization in ARM9.
b) What is an RTOS ? Explain the features of RTOS.
8. a) i) What is memory management subsystem of RTOS.
ii) Features of UCOS/Vx works RTOS.
b) What is difference between OS and RTOS ? Why RTOS is suitable for Embedded. Explain with suitable example.
