B. N. BANDODKAR COLLEGE OF SCIENCE, THANE

S.Y.B.SC. (INFORMATION TECHNOLOGY) SEMESTER – IV ADDITIONAL EXAMINATION; JUNE 2015

COURSE CODE– USIT405

Duration: 2½ Hrs **Total Marks: 75**

N.B. 1. All questions are compulsory.

Q. 1 **Answer *any two* out of following** **10**

a Explain microcontroller. Illustrate with proper diagram.

b Write a short note on PCB and passive components.

c Write a short note on Application specific ICs.

d Explain big endian and little endian processor.

Q. 2 **Answer *any two* out of following** **10**

a Explain any three non-quality attributes of embedded system.

b Write a note on domain specific automotive.

c Explain the concepts relate to throughput and reliability. Illustrate with proper example.

d Write a note on:

a. Distributed system
b. Power concerns

Q. 3 **Answer *any two* out of following** **10**

a Write a short note on embedded compiler.

b Explain program design structure in embedded system. Illustrate with proper diagram.

c Write a short note on GCC complier.

d Write a note on processor. Illustrate with proper diagram.

Q. 4 **Answer *any two* out of following** **10**

a Write a short note on interrupt map in embedded hardware.

b Explain programmable interval timer in detail.

c Write a short note on memory testing in detail.

d State the difference between Memories mapped I/O and separate I/O bus.

Q. 5 **Answer *any two* out of following** **10**

a Write a short note on device driver.

b Explain the real time characteristics of embedded system in detail.

c Write a note on control and status register in detail.

d Explain the process and structure of process in detail.

Q. 6 **Answer *any two* out of following** **10**

a Explain the debugging tool used in embedded system.

b Write a short note on micro-controller life cycle.

c Explain the use of base unit and probe card of emulator in detail.

d Explain the use of ASCII TEXT EDITOR and how the translation of code occurred in micro-controller life cycle.

Q. 7 **Answer *any three* out of following** **15**

a Explain complex instruction set in detail.

b Write a note on reactive and real time in embedded system.

c State the difference between von-Neumann and Harvard – architecture.

d Write a short note on address bus testing in detail.

e Explain the selection process in embedded system. Illustrate with a proper diagram.

f Explain the emerging trends in embedded industry in detail.

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