



SURYA POLYTECHNIC COLLEGE

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Model Question Paper

SUB.CODE:4040520

TIME: 3hrs

SUB: MICROCONTROLLER & ITS APPLICATIONS

DEPT: ECE/EEE

Part-A : Answer all questions. Each questions carries 3 Marks (10 x3=30)

1. What is a program counter?
2. Define instruction cycle and machine cycle.
3. Write the multiplication and division instruction of 8051.
4. List the operating modes of timer.
5. State the functions of M1 and MO bits in TMOD register.
6. What is meant by interrupt priority in 8051
7. Write the control word format of 8255.
8. Draw a schematic diagram to interface a relay with 8051 microcontroller and give a brief explanation.
9. Define IoT.
10. What are the variants of Arduino?

Part-B: Answer all questions. Each questions carries 14 Marks (5 x14=70)

11. (a) Draw the architecture of 8051 and explain the functions of each block.
(Or)
b) Classify the 8051 instructions based on their functions. Explain them with examples.
12. (a) Explain the addressing modes in 8051.
(Or)
(b) i. Write an assembly language program to find the biggest number in a given array of ten numbers.
ii. Write a program for 16 bit addition.
13. (a) Explain in detail about the programming of 8051 timer.
(Or)
(b) Write about the operating modes of timer/counter with a neat diagram.
14. (a) i. Explain seven segment LED display interfacing with 8051.
ii)Describe LCD interfacing.
(Or)
(b) Draw the block diagram of 8255 and explain the modes of operation.
15. (a) i. Describe PIC microcontroller with its block diagram.
ii) Compare Arduino with Raspberry Pi
(Or)
(b) Describe IoT with its functional blocks and architecture.