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**Question Paper Code: 95804**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

Fifth Semester

Information technology

19UIT504– Microprocessor based system Design

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What is operation carried out when 8086 executes the instruction MOV SB? CO1- U
2. How is the stack top address calculated? CO3-Ana
3. How is the physical address calculated? Give an example. CO3-Ana
4. Draw the format of 8086 flag register CO1- U
5. What are the functions performed by 8251? CO1- U
6. What are the different types of serial communication? CO1- U
7. Why oscillator circuit is used? CO3-Ana
8. MOV R4, R7 is invalid. Why? CO3-Ana
9. Mention the features of serial port in mode 0. CO1- U
10. Compare polling and interrupt. CO3-Ana

PART – B (5 x 16= 80 Marks)

11. (a) Write an assembly language program in 8086 to Addition & subtraction using two 16 bit number. CO1- U (16)  
Or  
(b) Write an assembly language program in 8086 to search the largest& smallest data in the array. CO1- U (16)
12. (a) Compare the input and output timing diagram of maximum mode of operation in 8086 CO3- Ana (16)  
Or

- (b) Compare closely coupled configuration with loosely coupled configuration CO3- Ana (16)
13. (a) Implement DMA controller using 8257. CO2- App (16)  
Or
- (b) Implement the various operating modes of 8253 timer with necessary example. CO2- App (16)
14. (a) With the necessary diagram of control word format, explain the various operating modes of timer in 8051 microcontroller. CO2- App (16)  
Or
- (b) With neat sketch explain the architecture/ functional block diagram of 8051 microcontroller CO2- App (16)
15. (a) Discuss about the organization of Internal RAM and Special function registers of 8051 Microcontroller in detail. CO2- App (16)  
Or
- (b) Explain the arithmetic and control instructions of 8051 microcontroller CO2- App (16)