

1.Which of these is Single Hand Shake

(a)STB followed by ACK

2.Two 8255's IC1 & IC2 are connected to 8086 16 bit bus and D0 to D7 are connected to IC1 and D8 to D15 are connected to IC2. The base address signals A0 & A1 go to IC1 & IC2 's A0 & A1 pins respectively. If a coded signal with range of 0FFE0H to 0FFE3H then What is the address of IC1 PORT B register

(b)0FFE1H

3.Which of these key switches is non mechanical contact type ?

(a)HALL

EFFECT KEY SWITCHES

4.How many wires does a step per motor effectively have ?

(b)5

5.An 12 bit A/D converter with a reference voltage of 4.096 Volts will be able to read a lowest non zero voltage of

(b) 1mV

6.Which of these signals has the second highest priority ?

(d)NMI

7.What is the number of Software interrupts available in the Interrupt Vector Table ?

(b)256

8.Which of these values in AH performs display of message on Video Display ?

(c)09

9.Which one of these BIOS services is used for Key Board Operation ?

(d)16H

10.The PIC interrupt controller which indicates that an Interrupt is already in service is ?

(c)ISR

11.The device from which data originates or terminates is called

(a)DTE

12.In the Synchronous mode the 8251 which signal indicates that the specified Synchronous character is received ?

(b)SYNDET / BD

13.Which combination of the flags indicate that the destination is greater than the source

(a)CY=0, Z=0

14.In the Mode word the PEN and EP bits are used for setting which of these parameters ?

(b)parity

15. US B connect or has how many pins ? (b)4

16. The 8051 microcontroller is ? (b) 8 bits

17. If the bit addressable memory location is 0FH then which bit of which memory location is being referred ?

(a) 8th bit of memory 21 H

18. Which one of the following starts the timer ? (d)TR

19. The bit which disables reception of serial data is which one of the following?

(c)REN

20. The instruction which activates the PSEN signal is which one of the following ? (b)MOVC

Key : ABABBDBCDCABABBBADCB

16.The size of the ROM in 8051 is (a) 4K bytes

17.Which of these registers cannot be decremented ? (b)DPTR

18.The lower byte of a 16 bitcount is loaded in which of these registers ? (a)TLx

19.The Serial Interrupt is enabled by which of these bits ? (a) ES

20.This input pin is used for accessing Internal or External Memory and also generating the bus signals for microprocessor operation of the microcontroller ?
(b)EA

Key : C A B C B A D B D B A D C A B A B A A B

1.The 8255 PPI has

(c) 40 pins

2.If the control word 09BH is given to the control register of the 8255 PPI then which of these options are the condition of the ports

(b)ALL PORT's INPUT

3.If 8 seven segment led non multiplexed displays including the decimal point are connected .How many wires are needed to connect the segments (not including power supply wires) ?

(a)64

4.What is the angle per step of a step per motor in full step mode ?

(d)1.8 degrees

5.In the A/D converter ADC0808 which of these signals is used select an analog input channel to be digitised (c)ALE

6.When an interrupt service is over , what is the instruction which makes 8086 continue executing the program it was executing before the Interrupt occurred

(c) IRET

7.What is the offset address of INT 20H in the vector interrupt table ?

(d)0080H

8.The DOS function AH=9INT21H displays a message till which one of this character is reached

(b)\$

9.Which one of these BIOS services is used for Printer Operation?

(c) 17H

10.The PIC interrupt controller connects the single 8086 IRQ to how many IRQ input lines ?

(b) 8

11.The UART used as Serial Communication controller is

(c) 8250

12.How many registers does 8251 have ?

(b) 2

13.Which one of these instructions could be used for swapping in a sort program

(a) XCHG AX , DX

14.If B1=0 and B0=0 in the mode register of the 8251 .The USART is working in which of these modes ?

(b) Asynchronous mode with BRF = 16

15.The serial data transmission standards which uses differential Rx&Tx signals is which one of the following ?

(d)RS422A

16.The 8051 is a

(c) 8 bit microcontroller

17.Which of the registers R0 to R7 support indirect addressing ?

(d) R0 & R1

18.Which of these modes the timer is a 16 bit timer ?

(c) Mode1

19.The mode in which serial port operates like a shift register is which one of the following ?

(a) Mode0

20.The instruction used to access data from external memory is which one of the following ?

(d) MOVX

Key : CBADCCDBCBCBABDCDCAD

IMP

- (1) The no. of modes of operation of 8255 PPI is 3.
- (2) When $A_0=1$ and $A_1=0$ and the 8255 PPI is selected then which of these registers or port is being accessed Port B.
- (3) A keyboard is made using 64 keys connected as a matrix of 8×8 , Port A is used for selecting rows and Port B is used for sensing closed keys. What is the control word to be given to the 8255 if Port C is in C/P mode? 82H.
- (4) WOF starts the timer IB.
- (5) Group B port assignments of 8255 is Port B & lower Port C.
- (6) If the 8255 is selected for address of 800H to 0F806H, 000F is the address of Port C 0F804H.
- (7) If 8 seven seg led multiplexed displays including the decimal point are connected. How many wires are needed to connect the seg (not including power supply wires) 16.
- (8) The diode kept across the coil of a stepper motor is for Shooting the Backing.
- (9) In a D/A converter, the o/p voltage is current.
- (10) Which of these is double Handshake. STB followed by ACK ^{removal of Ack}.
- (11) When 8255 port is to be ^{read} ~~write~~ WOF combinations is valid.
 $A.D=0, WR=1, RESET=0, CS=0$.
- (12) How many wires does a stepper motor effectively have 5.
- (13) An 12 bit A/D converter with a reference voltage of 4.096 will be able to read a lowest non zero voltage of 1mV.
- (14) mode 0 of 8255 is used for which of these I/O methods Strobed or Hand Shake mode.
- (15) Two 8255s IC₁ and IC₂ are connected to 8086 16 bit bus and P_0 to P_7 are connected to IC₁ signal with a range of 0FFE0H to 0FFE3H. Then what is the address of IC₁ port B register 0FFE1H.

(16) A keyboard is made using 64 keys connected as a matrix 8×8 , port A used for selecting the rows and port B is used for getting closed keys. What is the control word to be given to the 8255 if port C is in output mode: 821H.

(17) The electromechanical device which produces mechanical displacement in proportion to an applied voltage is known as Actuator.

(18) In the A/D converter and 0808 how many channels of analog i/p are available 8.

(19) How many groups are the 8255 ports organized as 2.

(20) What is the 1^{st} per step of a stepper motor in halfstep mode 0.9 degrees.

(21) The 8255 PPI has 40 pins.

(22) If the control word 60 is given to the control register of 8255 PPI then WOF conditions are valid BIT SET RESET.

(23) What is the unit of the torque produced by a stepper motor Kg-cm.

(24) In the A/D converter ADC 0808 WOF signals indicates o/p is saved EOC.

(25) mode 2 of 8255 port is used for which of these I/O modules Bidirectional Handshake.

(26) If the 8255 is selected for address OF600 to OF606 WOF is the address of port C OF804H.

(27) WOF is single handshake STB followed by ACK.

(28) At power on or after reset the ports are in which of these conditions.

port A = Input; port B = i/p, port C = i/p

(29) A keyboard is made using 12 keys connected as a matrix 4×3 , How many pairs of the i/o port are used 7.

(30) Which of these motors works like a digital system stepper motor.

- (31) A keyboard is made using 12 keys connected not as a matrix. How many pins of the I/O port are used 12.
- (32) How many steps per revolution does a stepper motor in half step mode take 400.
- (33) In the A/D converter ADC 0808 which of those signals is used to indicate a conversion EOC.
- (34) When 8255 PPI is to be read then w/c combination valid.
 $R/\bar{D} = 0$, $WR = 1$, $RESET = 1$, $CS = 0$.
- (35) Which of these keys switches is non-mechanical contact type? HALL EFFECT KEY SWITCHES.
- (36) What is the angle step of a stepper motor in full step mode 1.8 degrees.
- (37) An 8 bit A/D converter with a reference voltage of 5 volts will be able to read a lowest nonzero voltage of 19.5 mV.
- (38) Group A port assignments of 8255 is port A & upper port C.
- (39) If the control word 07BH is given to the control register of 8255 PPI then w/c options are the conf-n of ports.
ALL PORTS INPUT.
- (40) If 8 seven segment LED multiplexed displays including the decimal point are all lighted up and each of these biased to carry 5mA. What is the total current drawn from the power supply when all segments are ON 320mA.
- (41) A 10 bit D/A converter with a reference voltage of 10V is given a digital i/p number 256. Which of these is the nearest to the expected o/p voltage 2.5V.
- (42) If 8 seven segment LED multiplexed displays including the decimal pt are all lighted up & each of these is biased to carry 5mA. What is the total current drawn from the power supply when all segments are ON 40mA.
- (43) In the A/D converter ADC 0808 w/c these signals indicates the digital O/P of ADC OE.
- (44) How many steps per revolution does a stepper motor in full step mode take 200.

(45) An A/D converter which has a max o/p digital value of 1023 needs how many wires for connecting its digital o/p to a peripheral chip 10.

(46) If 8 sevensegment led nonmultiplexed displays including the decimal point are connected. How many wires need to connect the segment 64.

(47) In the A/D converter ADC 0808 which of these signals is used select an analog input channel to be digitised.
ALE.

(48) How many wires does a stepper motor effectively have 5.

(49) when 8255 is not enabled / selected for operation, then which of these combinations is valid.

$RD=0, WR=1, RESET=0, CS=1$.

(50) A keyboard switches don't change position smoothly but generate transients. This is called which one of these key bounce.

(51) which of these peripheral IC's is made for interfacing keyboard and multiplexed LED displays 8279.

(52) How many windings does a stepper motor have 4.

(53) the no. of ports 8255 PPI has is 3.

(54) when 8255 is to be reset then which of this combination is valid $RD=0, WR=1, Reset=1, CS=0$.

(55) which of these is used for power management NMI.

(56) what is the offset add of INT 20H is vector interruptable 0080H.

(57) DOS abbreviation of Disk operating system.

(58) which of these BIOS service is used for mouse operation

(59) which of these signals has the second highest priority ISR
NMI

(60) which of these is called when a divide error occurs INT 0.

(61) WDF values on AH perform i/p from keyboard 01.

(62) For which one of these values of AH the key board interrupt wait for a key to be passed before returning 00H.

(63) Which of the initialization command word indicates, whether slaves connected to the PIC IRQ pins ICW3.

(64) Which of these values in AH performs display of msg on video display 09.

(65) Which one of these is called doing single stepping INT1.

(66) Which one of these BIOS services is used for mouse operation 33H.

(67) The PIC Interrupt controller connects the single 8086 IRQ to how many IRQ input lines 8.

(68) Which of these signals has the 3rd highest priority Hold.

(69) What is the size of the vector interrupt table 1024b.

(70) In the single char display using interrupt 21H, DL is the register which contains the char to display. If DL contains 41H which of these char is displayed A.

(71) The BIOS routines are present in ROM.

(72) The third response of 8086 to an interrupt is which one of the following Reset Trap flag.

(73) Which of these is called when an NMI occurs INT2.

(74) The DOS fun-c AH=9 INT 21H displays a message \$11, which one of this character is reached \$.

(75) Which BIOS services is used for communication oper n 14H.

(76) The total no: of interrupts available if all the 8 i/A of PIC of each having a slave is? 64.

(77) When an interrupt service is over, what is the instruction which makes 8086 continue executing the pgm it was executing before the interrupt concerned occurred IRET.

(78) The Interrupt vector table is located in which of these regions RAM.

- (79) The PIC interrupt controller which indicates what interrupt is being requested is IRR.
- (80) For which one of these values AL does the video interrupt sets 80x25 color video mode 03H.
- (81) Which of these signals has the highest priority Reset.
- (82) The 8259 interrupt controller picks up the address of the routine from the interrupt vector table from the interrupt vec which of the following is correct.
IP in lower word and CS in upper word.
- (83) The PIC interrupt controller which resolves the priority on interrupt is PR.
- (84) The first response of 8086 to an interrupt is Decrement the SP by 2 and pushes flag register.
- (85) In single character display using Interrupt 21H, AX is the reg. which contains the char to display. If AX contains 61H which character is displayed a.
- (86) COOT are the new line characters 0AH, 0DH.
- (87) Which one of these BIOS services is used for keyboard operation 16H.
- (88) The fourth response of 8086 to an interrupt is which one of the following Decrement the SP and pushes current CS contents.
- (89) What is the no. of 8259 interrupts available in the interrupt vector table 256.
- (90) COOT reg. is used to point to start of message to be displayed on video display using DOS function 09 interrupt 21H? AX.
- (91) The PIC interrupt controller which indicates when an interrupt is already in service is ISR.
- (92) COOT BIOS services is used for video operation 10H.
- (93) The PIC interrupt controller which masks the interrupt is IMR.

(94) Which of these initialisation of bios services is used for disk operation 13H.

(95) What initialisation cw indicates interrupt vector number to be used for the current service 3cw1.

(96) Communication which takes place in either direction b/w two systems, but can only occur in one direction at a time is known as Half Duplex.

(97) What is called Break point interrupt?

(98) The second response of the 8086 interrupt is cof.
It disables interrupt flag.

(99) What values in AH performs o/p on video display of ASCII character in DL? 02.

(100) When an interrupt occurs the microprocessor executes the interrupt service routine after 1007 cycles Instruction cycle.

(101) Data lines which can be transfer in only one direction, referred as Simplex.

(102) How many registers does 8251 have. 2.

(103) What instructions could be used for swapping in a program.
XCHG AX, DX

(104) What bits in status register is used to clear all errors ER.

(105) What is an improvement on RS232C by using low impedance drivers RS423A.

(106) The device from which data originates or terminates DTE.

(107) When the Modem receives a signal the remote modem is active. It asserts which one of these signals cd.

(108) Given the program, what is the expression evaluated by it?

P db 5	MUL AL	MOV [R], AL	<u>$R = (P^2 + Q^2)$</u>
Q db 6	MOV BL, AL		
R db 7	MOV AL, [Q]		
MOV AL, [R]	MUL AL		
	ADD AL, BL		

(109) UART parameters are set by the B2 and B1 bits?
BAUD RATE FACTOR

(110) The data signal used by USB are of which type? Bi-phase

(111) which combination of the poles indicate that the destination is greater than the source CY=0, Z=0

(112) If $B_1=0$ and $B_0=0$ in the mode registers of the 8251, the USART is working in UART mode.

Asynchronous mode with BRT=16

(113) USB connector has how many pins 4

(114) The device which facilitates communication is DCE

(115) UART parameters are set by B2 & B1 bits? No. of stop bits

(116) The USB signal is encoded using UART formats NRZI

(117) The UART used as serial communication controller is 8250

(118) When the DTE is ready to transmit data UART pins does it assert RTS

(119) The 8251 registers are accessed by UART C/WD

(120) The counter loop counter for N numbers is N-1

(121) If the CPU has not read a char from the 8251 before the arrival of the next character UART error is suppose to have occurred OVER RUN ERROR

(122) USB - Universal Serial Bus

(123) The size of ROM in 8051 is 4K

(124) When the MODEM is ready to transmit data it asserts UART signals CTS

(125) The L2 and L1 bits in the mode word are used for setting UART parameters CHARACTER LENGTH

(126) The mode word the PEN and EP bits are used for setting UART parameters PARITY

(127) USART used in serial communication is 8251

(128) Serial data is received by DTE from DCE through RxLD

(129) Give the pgm, what is expression evaluated.

P db 5	S db 6	MOV AL, [P]	ADD AL, R
Q db 6		MOV BL, [Q]	MOV CL, ((P+Q)*R)/S
R db 7		ADD AL, BL	DIV CL

(130) ~~Asynchronous~~ Asynchronous serial data transmission sends data in two ~~four~~ ways. First start bit, next 7 data bits, next parity bit followed by 1 or 1 and a half stop bits.

(131) ~~When~~ Sorting N numbers how many loops necessary 2

(132) When a valid stop bit is not detected at the end of every character in asynchronous mode, the error is called as framing error.

(133) A 3 pin connector is used by one of the following serial data transmission standards which one it is RS449.

(134) If data bits are 7, parity is odd and 1 stop bit is transmitted how many bits are transmitted? 10.

(135) The 8251 gets its clock from which signal CLK.

(136) If the $f_{clk} = 19,200$ Hz and the baud rate is 1200. What is the baud rate factor? 16

(137) In the synchronous mode the 8251 which signal indicates that the specified synchronous char is received SYNDET/BS

(138) Pgm O/P? $R = [P \div Q] \times (P \div Q)$.

P db 5	MOV AL, [Q]
Q db 6	ADD AL, BL
R db 7	MOV [R], AL
MOV AL, [P]	
MUL AL	
MOV BL, AL	

(139) If $B_1 = 0$ and $B_0 = 0$ in the mode reg of 8251. The USART is configured in two modes. Asynch mode BRF = 16.

(140) The serial data transmission standards which uses differential RX & TX signals RS422A.

(141) Synchronous serial data transmission sends data in two ways. A block of data bytes with start & end of block identified by a fixed pattern of bits.

- (142) Serial data is received by the DTE from the DCE through control signals RxD.
- (143) USART - Universal Synchronous Asynchronous Receiver & Transmitter.
- (144) The 8051 microcontroller doesn't have one of the following as its built-in peripheral DMA controller.
- (145) The 8051 register which of these is 16-bit DPTR.
- (146) The TF bit is in control register TCOV.
- (147) Serial port operates in multi processor mode in control modes mode 2 / mode 1.
- (148) The instruction used to access data from external memory is MOVX.
- (149) The 8051 microcontroller built-in timer is of how many bits 16.
- (150) How many register banks are there in 8051 4.
- (151) control starts the timer TR.
- (152) How many modes of serial operation are there 4.
- (153) The RD and WR signals are generated on which of these port? port 3.
- (154) The 8051 microcontroller is 8 bits.
- (155) The bit addressable RAM occupies control follow memory location 20H to 2FH.
- (156) The TF bit is in control registers? TCOV.
- (157) The interrupt vector address for serial reception is control address 0023H.
- (158) The instruction which activates the PSEN signal is control MOV A.
- (159) The 8051 microcontroller has how many I/O ports 3.
- (160) The bit addressable memory location is 0FH then which bit of which location is being referred 8th bit of memory 21H.
- (161) The timer 0 is functional as an 8-bit counter which timer is stopped in control modes mode 3.
- (162) If the entire memory space of RAM and ROM is used the total memory accessed is control 128 Kbytes.

- (163) The size of the internal RAM in 8051 is 128 bytes.
- (164) WOT registers R₀ to R₇ support in indirect addressing? R₀ and R₁.
- (165) How many timers does 8251 have 2.
- (166) The mode in which serial port operates like a shift register is WOT mode 0.
- (167) The data bus and lower 8 bits of address bus are generated on WOT ports? port 0.
- (168) Size of RAM in 8051 is 4K bytes.
- (169) If the bit 8 bit of memory location 80H is to be set, what will be its bit addressable memory location 07.
- (170) Counter or timer operation is chosen in WOT reg TMOD.
- (171) The instruction used to access data from external memory is MOVX.
- (172) General purpose registers R₀ to R₇ can be referred as sets of four banks (0 to 3) and also by memory location. If a register R₃ in Bank 2 is referred, what is its internal memory location address 13H.
- (173) One of these registers is loaded with the upper byte of the terminal count THx.
- (174) One of these signals indicates that address is available on port 0? ALE.
- (175) The serial interrupt is enabled by WOT bits? ES.
- (176) The lower byte of a 16 bit count is loaded in which register TLx.
- (177) WOT is correct order to priority in decreasing order from left to right EX₀, ET₀, EX₁, ET₁, ES.
- (178) Timer is used as a 13 bit timer in WOT modes? mode 0.
- (179) How many modes of serial operation are there 4.
- (180) The upper 8 bits of address bus are generated on WOT ports? port 2.
- (181) The instruction used to access internal RAM in WOT MOV.

- (182) The Interrupt vector address for timer 0 is 000BH.
- (183) The bit which disable reception of serial data is REN.
- (184) How many general purpose registers are there in 8051
32
- (185) The Global enable is controlled by 0007 bits EA.