Shivaji University , Kolhapur

Question Bank For Mar 2022 (Summer) Examination

Subject Code : 83944 Subject Name : - Microprocessor & Microcontroller
Common subject Code (if any) _____

1. Which is the microprocessor comprises:
   a) Register section
   b) One or more ALU
   c) Control unit
   d) All of these

2. There are primarily two types of register:
   a) general purpose register
   b) dedicated register
   c) A and B
   d) none of these

3. BCD stands for:
   a) Binary coded decimal
   b) Binary coded decoded
   c) Both a & b
   d) none of these

4. What is the store by register?
   a) data
   b) operands
   c) memory
   d) None of these

5. Which is used to store critical pieces of data during subroutines and interrupts:
   a) Stack
   b) Queue
   c) Accumulator
   d) Data register

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7. Which of the following are the two main components of the CPU?
   a) Control Unit and Registers
   b) Registers and Main Memory
   c) Control unit and ALU
   d) ALU and bus

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9. In 8085 how many interrupts are maskable.
   a) Two

b) Three
c) Four
d) Five

10. 8051 series has how many 16 bit registers?

a) 2
b) 3
c) 1
d) 0

11. When the microcontroller executes some arithmetic operations, then the flag bits of whichregister are affected?
a) PSW
b) SP
c) DPTR
d) PC

12.If we push data onto the stack then the stack pointer
a) increases with every push
b) decreases with every push
c) increases & decreases with every push
d) None of the Above

13. none of the mentionedHow many bytes of bit addressable memory is present in 8051 based microcontrollers?

a) 8 bytes
b) 32 bytes
c) 16 bytes
d) 128 bytes

14. What is Arduino?
a) Programming language
b) Image editing software
c) Open-source electronics platform
d) Text editor

15. How many types of Arduino do we have?
a) 4
b) 8
c) 12
d) 16

16. What is the use of the attachInterrupt() function?

a) To enable ISR usage
b) To enable ISR usage, but only on certain Arduino Boards
c) To decommission ISR usage for a particular Arduino Board
d) To translate pin numbers

17. What language is the Arduino IDE built on?
a) Java
b) HTML

c) C/C++
d) Python

18. Arduino IDE consists of 2 functions. What are they?
a) Loop() and build() and setup()
b) Build() and loop()
c) Setup() and build()
d) Setup() and loop()

19. Arduino Codes are referred to as_____in the Arduino IDE.
a) sketches
b) drawings
c) links
d) notes

20. What does p refer to in ATmega328p?
a) Programmable on chip
b) Power-Pico
c) Production
d) Pico-Power

21. What is the use of the Vin pin present on some Arduino Boards?
a) To ground the Arduino Board
b) To power the Arduino Board
c) To provide a 5V output
d) Is used for plugging in 3V supply

22. What is the microcontroller used in Arduino UNO?
a) ATmega32114
b) AT91SAM3x8E
c) ATmega2560
d) ATmega328p

23. Which board is the first to use a microcontroller within the build USB?
a) RedBoard
b) Leonardo
c) LilyPad
d) UNO

24. What type of signal does the analogWrite() function output?
a) Pulse Width Modulated Signal
b) Pulse Code Modulated Signal
c) Pulse Amplitude Modulated Signal
d) Frequency Modulated Signal

25. What is the resolution of analog readings on the Arduino Uno?
a) 5V/1023
b) 3.3V/1024
c) 5V/1024
d) 3.3V/100

26. Can the analogRead() function be used from any digital pin?
a) No, it cannot
b) Yes, it can, but only on certain Arduino Boards
c) Yes, it can
d) Yes, it can, but only through certain pins

27. How many arguments does the analogRead() function have?
a) 1
b) 2
c) 3
d) 4

28. In Which year, Intel introduced 8051 microcontroller?

A. 1975
B. 1979
C. 1981
D. 1985

29. Which of the following is Features of 8051 Microcontroller?

A. 16-bit program counter and data pointer
B. Four 8-bit ports
C. Three internal and two external Interrupts
D. All of the above

30. 8051 Microcontroller has 4KB bytes on-chip program memory?

A. TRUE
B. FALSE
C. Can be true or false
D. Can not say

31. 8051 Microcontroller has ?

A. 8-bit unidirectional address bus
B. 16-bit unidirectional address bus
C. 8-bit bidirectional address bus
D. 16-bit bidirectional address bus

32. How much I/O pins 8051 has?

A. 4
B. 8
C. 16
D. 32

33. 8051 Microcontroller has Four register banks?

A. Yes
B. No
C. Can be yes or no
D. Can not say

34. How many times does the setup() function run on every startup of the Arduino System?
a) 1

b) 2
c) 3
d) 4

35. Can the setup() function change the value of constant variables?
a) Yes, it can change
b) No, it cannot change
c) Yes, it can change but only integer values
d) Yes, it can change but only byte values

36. IC of 7 segment display contains

a) 4 leds

b) 5 leds

c) 6 leds

d) 7 leds

37. delay(5000); stands for

a)Wait 5 minutes

b)Wait 5 seconds
c)Wait 50 seconds
d)None

38. What is the use of the LDR Sensor?
a) Monitors Motion
b) Monitors air pressure
c) Monitors Light Intensity
d) Monitors heartbeat

39. How many pins are present in the LDR Sensor?
a) 1
b) 4
c) 2
d) 5

40. What is the full form of the LDR Sensor?
a) Lithium Diode Resistor
b) Light Diaphragm Resistor
c) Lithium Disk Resistor
d) Light Dependent Resistor3

41. Which of the following is a general purpose I/O pin?

a) OUT 1
b) RD
C) ADS

d)MR

40 . What does UART stand for?

a) universal asynchronous receiver transmitter

b) unique asynchronous receiver transmitter

c) universal address receiver transmitter

d) unique address receiver transmitter

41. What language is a typical Arduino code based on?
a) Assembly Code
b) Python
c) Java
d) C/C++

42. A sketch is

a) an Arduino file

b) an Arduino picture

c) an Arduino board

d) none of above

Descriptive Questions

1. List main feature of 8051 microcontroller.
2. Draw and explain architecture of intel-51, 8-bit Microcontroller.
3. Explain difference between Microprocessor and Microcontroller. Also list different criteria for selection of a microcontroller for a particular application.
4. Explain different Addressing Modes of 8085 Microprocessor with examples.
5. Draw & Explain architecture of 8085.
6. Explain feature of 8085.
7. Explain different types of Interrupts in 8085.
8. Explain different types of instruction set.
9. Draw & explain flag register of 8085.
10. Explain pin configuration with circuit diagram for all port of 8051 microcontroller.
11. Applications of 8051 Microcontroller Architecture
12. What are the different type of interrupts available in 8051?
13. Briefly describe various pins available in Arduino Uno.
14. What are the different elements of Arduino IDE?
15. Describe the pin configuration of Arduino Uno.
16. Briefly describe various applications of Arduino
17. What are the advantages of Arduino over other micro controllers?
18. Explain the purpose of the following functions with the help of an example.
    a. delay() b. pinMode()
19. Explain about Raserry pi explain with application..
20. List and Expalin component of Rasberry.
21. Explain different types of Microcontroller
22. What is Arduino uno? List & explain features of arduino..
23. Describe Arduino C- Arduino Program Structure.
24. Explain 80386 memory management.
25. Explain the program to blink LED using arduino IDE.

26. Draw and Explain Pinout diagram of 8051
27. Explain functional units of 80386.
28. Draw and Explain Pinout diagram of 8085.
29. Explain de-multiplexing of Address/Data bus in 8085.
30. Explain generation of control signals in 8085.
31. Explain Branch related Instruction in 8085.
32. **E**xplain Stack related Instruction in 8085.
33. Explain various interrupts of 8085 in detail along with SIM ,RIM format.
34. Interface 2Kx8 ROM to 8085 using 2KX8 ROM Ic. Find address map also
35. Differentiate between Memory mapped I/O and I/O Mapped I/O.
36. Explain CALL and RET instruction in 8085.
37. Draw and Explain Architecture Block diagram of 8051.
38. Explain various Bit Manipulations (Boolean Instructions) Instructions with examples in 8051.
39. Explain RAM and ROM Memory organization of 8051
40. Draw and Explain Functional Pin out diagram of 8051.
41. Draw and Explain PSW of 8051 .Write instruction to select register Bank 3
42. Explain Reset circuit and oscillator circuit of 8051.
43. Explain Addressing modes of 8051 with one example each.
44. Explain various types of Jump instruction in 8051.
45. Differentiate between SJMP, AJMP and LJMP
46. Explain arithmetic group of instruction with one example in 8051.
47. **E**xplain Interrupt Enable (IE) and Interrupt Priority (IP) registers in detail.
48. Interface and explain four seven segment common cathode of display to 8051.
49. Draw the interfacing diagram of a stepper motor to 8051. Also write an assembly language program to rotate the motor anti-clockwise in full-stepping mode.
50. **W**rite the various data types available in embedded C along with their size.
51. Explain various logical operations that can be performed using embedded C statements, also give the example of each.
52. Explain Embedded C Program to Display ‘SHIVAJI UNIVERSITY’ on LCD connected to 8051.
53. List and Explain different function used for serial communication.
54. How to read data serially from PC and display on serial monitor.
55. What is serial communication? Explain types of serial communication.
56. Write short on:- i) Interfacing Input & Output ii) LDR
57. Explain seven segment display interfacing.
58. List & Explain operators in arduino.
59. List & Explain types of variables in arduino.
60. Explain difference between Rasberry and Arduino.