1. Question 1

Which type of motor is commonly used in 3D printers for precise movement and positioning?

Brushless DC Motor (BLDC)

Servo Motor

Stepper Motor

Induction Motor

2. Question 2

What is the purpose of StdOut in assembly language?

Calls to print another message stored

Calls to take user input

Converts ASCII to an integer

Allocates memory for string storage

3. Question 3

What is the primary function of a switch in an electrical circuit?

Store electrical energy for later use

Increase the voltage of a circuit

Convert AC to DC power

Allow or interrupt the flow of current

4. Question 4

Which of the following is an example of using Flash Memory in microcontrollers?

Running real-time operations with RAM

Storing passwords in volatile memory

<mark>Updating firmware via OTA (Over-the-Air)</mark>

Communicating with sensors over I2C

5. Question 5

Which type of switch is commonly used in security systems to trigger alarms when doors or windows are opened?

Toggle switch

Push-button switch

<mark>Reed switch</mark>

Rotary switch

6. Question 6

What is the primary function of General-Purpose Registers (GPRs)?

Store frequently accessed instructions permanently

<mark>Store temporary data, intermediate results</mark>

Control input and output operations of the CPU

Store BIOS settings

7. Question 7

What does "SD" stand for?

Standard Drive

<mark>Secure Digital</mark>

Storage Device

System Data

8. Question 8

What is I2C (Inter-Integrated Circuit)?

A high-speed wireless communication protocol

<mark>A two-wire communication protocol for connecting multiple devices</mark>

A power supply regulation method

A file transfer protocol

9. Question 9

Which of the following devices typically use Flash Memory?

Hard disk drives (HDD)

Inkjet printers

Mechanical keyboards

<mark>USB drives and SSDs</mark>

10. Question 10

PWM signals are primarily used for:

Increasing processor cache size

Encoding video signals

<mark>Motor speed and direction</mark>

Storing large amounts of dataAllow or interrupt the flow of current

11. Question 11

Which motor is commonly used in robotics and automation for precise positioning?

Universal Motor

Brushed DC Motor

Servo Motor

Shaded Pole Motor

12. Question 12

What is Flash Memory?

A type of volatile memory that loses data when power is off

A non-volatile memory that retains data even after power loss

A memory used only for temporary cache storage

A high-speed RAM replacement

13. Question 13

Which of the following devices commonly use SPI for communication?

Keyboards and mice

Loudspeakers

Ethernet routers

Sensors, & memory devices

14. Question 14

How do Advanced PWM techniques improve system performance?

By reducing CPU clock speed

==By improving efficiency, precision, and control==

By disabling unused hardware components

By increasing network transmission rates

15. Question 15

What is a key advantage of Stepper Motors?

They provide continuous, high-speed rotation

==They offer precise control==

They require no electrical input for operation

They require no electrical input for operation

16. Question 16

What does EEPROM stand for?

Electronically Erased Programmable Read-Only Memory

==Electrically Erasable Programmable Read-Only Memory==

Enhanced Erasable Permanent Read-Only Memory

Electrically Embedded Programmable Read-Only Memory

17. Question 17

What is the role of the "Master" device in an SPI communication setup?

==It controls communication with peripheral devices==

It only listens to incoming data from peripherals

It converts SPI signals to I2C for faster processing

It is responsible for encrypting SPI data

18. Question 18

What does EEPROM stand for?

Electrically Erasable Programmable Read-Only Memory

Enhanced Erasable Programmable RAM

Electronic Erasable Permanent Read-Only Memory

CElectrically Enhanced Programmed RAM

19. Question 19

What does the atodw function do?

Converts a string to an integer

Converts an ASCII string to a double word

Converts a floating-point number to an integer

Converts a double word to an ASCII string

20. Question 20

Which type of memory is commonly used for storing small amounts of persistent data that must remain after power loss?

RAM

Cache Memory

EEPROM

Virtual Memory

21. Question 21

How many bytes does the EAX register contain?

1 byte

2 byte

4 byte

8 byte

22. Question 22

What are small, high-speed storage locations within the processor that store and retrieve data quickly during execution?

Cache Memory

RAM

CPU Registers

Hard Disk

23. Question 23

Which of the following is a function of GPRs that temporarily holds data fetched from memory?

Memory Addressing

Arithmetic and Logic Operations

Data Storage

Loop Control

24. Question 24

Which of the following is an example of an I2C application?

Connecting multiple temperature sensors

Streaming video over the internet

Transmitting audio signals to a speaker

Connecting a USB drive to a computer

25. Question 25

What does PWM (Pulse Width Modulation) primarily help control?

Data transmission speed

Motor speed, LED brightness

File storage in memory

Internet bandwidth

26. Question 26

What is the primary advantage of EEPROM over traditional ROM?

It can be written and erased multiple times electronically

It is faster than RAM

It is a volatile memory type

It does not require power to operate

27. Question 27

Which register is responsible for managing loops and repetitive operations?

AX

BX

DX

CX

28. Question 28

General-Purpose Registers (GPRs) assist in storing memory addresses for data access. What is this function called?

<mark>Memory Addressing</mark>

Arithmetic and Logic Operations

Data Storage

Loop Control

29. Question 29

How many bytes does AL/AH contain?

1 byte

2 byte

4 byte

<mark>8 byte</mark>

30. Question 30

Which CPU register serves as the main register for arithmetic operations?

CX

BX

<mark>AX</mark>

DX

31. Question 31

What is the primary advantage of CPU registers?

They store large amounts of data permanently

<mark>They minimize access to slower main memory</mark>

They replace the need for secondary storage

They act as an alternative to cache memory

32. Question 32

How many bytes does the Double Word(DWORD) contain?

4 byte

8 byte

16 byte

32byte

33. Question 33

Which of the following is a common use of Flash Memory?

Storing temporary RAM data

Running real-time CPU calculations

Storing firmware updates, persistent data

Transmitting wireless signals

34. Question 34

Which of the following is NOT an example of an advanced motor?

Brushless DC Motor (BLDC)

Servo Motor

Stepper Motor

Induction Motor

35. Question 35

What does the instruction invoke atodw, addr num, ans do?

Converts a number from an integer to a string

Takes user input and prints it to the screen

<mark>Converts a number from a string to a double-word integer</mark>

Stores a string value in memory

36. Question 36

Which of the following is a typical use of EEPROM?

Running real-time computations in a CPU

Storing temporary data during processing

<mark>Saving WiFi credentials on microcontroller</mark>

Storing video files for playback

37. Question 37

What is a key characteristic of SPI?

It uses a single-wire communication channel

It is asynchronous and slow

<mark>It uses multiple lines</mark>

It only supports one device at a time

38. Question 38

Which function of General-Purpose Registers (GPRs) involves storing operands and results of calculations?

Memory Addressing

Arithmetic and Logic Operations

Data Storage

Loop Control

39. Question 39

Which of the following is an example of an SPI application?

Connecting a keyboard to a computer

Streaming music over Bluetooth

<mark>Raspberry Pi for data storage</mark>

Sending emails over the internet

40. Question 40

How is EEPROM different from Flash Memory?

<mark>EEPROM allows byte-level access, while Flash Memory erases data in blocks</mark>

Flash Memory is volatile, while EEPROM is non-volatile

EEPROM is faster than Flash Memory

EEPROM is used for high-speed processing tasks, while Flash Memory not

41. Question 41

In which of the following applications are Advanced PWM techniques commonly used?

Image compression

Cloud computing

Data encryption

<mark>LED dimming</mark>

42. Question 42

A switch can be used for:

==Manual or automated control of electrical ckt.==

Storing electrical charges

Regulating voltage in transformers

Measuring electrical resistance

43. Question 43

Which register is used to hold addresses for memory access??

AX

==BX==

CX

DX

44. Question 44

What does I2C stand for?

Internal Interconnection Circuit

Interconnected Intelligent Circuit

Integrated Interface Communication

==Inter-Integrated Circuit==

45. Question 45

What characterizes Advanced Motors?

They are low-power motors with limited control features

They only operate using mechanical gears

<mark>They are high-performance motors with enhanced control capabilities</mark>

They are only used in household appliances

46. Question 46

What is SPI (Serial Peripheral Interface)?

<mark>A high-speed, synchronous data exchange</mark>

A wireless communication protocol

A programming language used for microcontrollers

A type of power management system

47. Question 47

Why are General-Purpose Registers important for CPU operations?

<mark>They enable fast data manipulation</mark>

They store the operating system permanently

They improve battery life by reducing power consumption

They replace cache memory in modern processors

48. Question 48

Which register stores data for I/O operations and multiplication?

AX

<mark>DX</mark>

BX

CX

49. Question 49

Which of the following best describes a switch in an electrical system?

A device that amplifies electrical signals

A resistor that limits current flow

A storage unit for electrical power

<mark>A component that allows current flow</mark>

50. Question 50

What function of GPRs is used in loops and iterative processes to act as counters?

Memory Addressing

Arithmetic and Logic Operations

Data Storage

<mark>Loop Control</mark>