**Unit -I**

1. Embedded system as a to perform a specific task

A. microcontroller-based

B. software-driven

C. real-time control system

**D. All of the above**

2. An embedded system has components.

A. 1

B. 2

**C. 3**

D. 4

3.RTOS stands for?

A. Reliable Tightly Operating system

**B. Real Time Operating system**

C. Reactive Tightly Operating system

D. Real Time Output system

4. Which of the following is an Advantages of Embedded Systems?

A. Easily Customizable

B. Low power consumption

C. Low cost

**D. All of the above**

5. A converts the digital data fed by the processor to analog data.

A. A-D Converter

B. Sensor

**C. D-A Converter**

D. None of the above

6. Which of the following is an Disadvantages of Embedded Systems?

A. Low development effort

**B. Larger time to market**

C. Both A and B

D. None of the above

7. An actuator compares the output given by the D-A Converter to the actual (expected) output stored in it and stores the approved output.

**A. TRUE**

B. FALSE

C. Can be true or false

D. can not say

8. Embedded System must be ?

A. microprocessor based

B. microcontroller based

**C. Both A and B**

D. None of the above

9. Which of the following is true about Embedded System?

A. An embedded system usually performs a specialized operation and does the same repeatedly

B. It must have a memory, as its software usually embeds in ROM

C. It must have connected peripherals to connect input and output devices. **D. All of the above**

10. Processors process the data to measure the output and store it to the memory.

**A. TRUE**

B. FALSE

C. Can be true or false

D. Can not say

11. The 8051 microcontrollers work with \_\_\_\_\_\_\_\_\_\_ data bus.

A. 1-bit

B. 2-bit

C. 4-bit

**D. 8-bit**

12. When data and code lie in different memory blocks, then the architecture is referred as?

A. Von Neumann architecture

**B. Harvard architecture**

C. Both A and B

D. None of the above

13. The Von Neumann architecture was first proposed by a computer scientist John von Neumann

**A. TRUE**

B. FALSE

C. Can be true or false

D. Can not say

14. What is true about Von-Neumann Architecture?

A. Single memory to be shared by both code and data

B. Higher speed, thus less time consuming

**C. Both A and B**

D. Complex in design

15. What is false about Harvard Architecture?

A. Separate memories for code and data.

B. Slower in speed, thus more time-consuming

C. Complex in design

**D. None of the above**

16. Single clock cycle is sufficient in Harvard Architecture?

**A. TRUE**

B. FALSE

C. Can be true or false

D. Can not say

17. CISC has \_\_\_\_\_\_\_\_\_ set of instructions.

A. small

**B. large**

C. depends on program

D. Can not say

18. RISC has \_\_\_\_\_\_\_\_\_\_ clock cycle per second.

A. high

B. medium

**C. low**

D. None of the above

19. 8051 microcontrollers can address \_\_\_\_\_\_\_\_\_ of external memory.

A. 16k

B. 32k

C. 64k

**D. 128k**

20. Von-Neumann Architecture is Simple in design.

**A. Yes**

B. No

C. Can be yes or no

D. Can not say

21.Which design allows the reuse of the software and the hardware components?

A. Memory Design

B. Input design

**C. Platform-based design**

D. Peripheral design

22. Which design considers both the hardware and software during the embedded design?

A. Memory Design

**B. Software/ hardware codesign**

C. Platform-based design

D. Peripheral design

23.What does API stand for?

**A. Application Programming Interface**

B. Address Programming Interface

C. Accessing peripheral through the interface

D. None of them

24. Which design activity can be used for the mapping operation to hardware?

A. High-level transformation

B. Scheduling

C. Compilation

**D. Hardware / Software partitioning**

25. Which process can be used in analyzing the set of possible designs?

A. Scheduling

**B. Design space exploration**

C. Hardware / Software partitioning

D. Compilation

26. What does FRIDGE stand for?

A. the floating-point programming design environment

**B. the fixed-point programming design environment**

C. floating-point programming decoding

D. fixed-point programming decoding

27. Which of the following tool can replace floating-point arithmetic with fixed point arithmetic?

A. FAT

B. SDS

**C. FRIDGE**

D. VFAT

28. Which of the following can reduce the loop overhead and thus increase the speed?

A. loop tiling

**B. Loop unrolling**

C. loop fusion

D. loop permutation

29. Which part of the COOL input comprises information about the available hardware platform components?

A. design constraints

**B. target technology**

C. behaviour

D. both behaviour and design constraints

30. What does Index set L denotes?

A. task graph node

B. processor

C. hardware components

**D. task graph node type**

**Unit-II**

1. The time taken to respond to an interrupt is known as

a) interrupt delay

b) interrupt time

**c) interrupt latency**

d) interrupt function

2. Into how many parts does the interrupt can split the software? **a) 2**

b) 3

c) 4

d) 5

3. Which of the following allows the splitting of the software? a) wait statement

b) ready

**c) interrupt**

d) acknowledgement

4. Which part of the software is transparent to the interrupt mechanism? **a) background**

b) foreground

c) both background and foreground

d) lateral ground

5. Which part of the software performs tasks in response to the interrupts? a) background

**b) foreground**

c) lateral ground

d) both foreground and background

6. In which of the following method does the code is written in a straight sequence?

a) method 1

b) timing method

c) sequence method

**d) spaghetti method**

7. Which factor depends on the number of times of polling the port while executing the task?

a) data

**b) data transfer rate**

c) data size

d) number of bits

8. Which of the following can improve the quality and the structure of a code? a) polling

**b) subroutine**

c) sequential code

d) concurrent code

9. Which of the following are asynchronous to the operation? **a) interrupts**

b) software

c) DMA

d) memory

10. Which of the following can be used to create time-driven systems? a) memory

b) input

c) output

**d) interrupts**

11. Why is SRAM more preferably in non-volatile memory? a) low-cost

b) high-cost

**c) low power consumption**

d) transistor as a storage element

12. Which of the following ahs refreshes control mechanism? a) DRAM

b) SRAM

c) Battery backed-up SRAM

**d) Pseudo-static RAM**

13. Which storage element is used by MAC and IBM PC?

**a) CMOS**

b) Transistor

c) Capacitor

d) Inductor

14. Which type of storage element of SRAM is very fast in accessing data but consumes lots of power?

**a) TTL**

b) CMOS

c) NAND

d) NOR

15. What is approximate data access time of SRAM?

**a) 4ns**

b) 10ns

c) 2ns

d) 60ns

16. Who proposed the miniature card format?

**a) Intel**

b) IBM

c) MIPS

d) Apple

17. How many MOSFETs are required for SRAM?

a) 2

b) 4

**c) 6**

d) 8

18. Which of the following is an SRAM?

**a) 1T-RAM**

b) PROM

c) EEPROM

d) EPROM

19. Which of the following can access data even when the power supply is lost? **a) Non-volatile SRAM**

b) DRAM

c) SRAM

d) RAM

20. Which of the following can easily convert to a non-volatile memory? **a) SRAM**

b) DRAM

c) DDR SRAM

d) Asynchronous DRAM

21.Which of the following provides an efficient method for transferring data from a peripheral to memory?

**a) dma controller**

b) serial port

c) parallel port

d) dual port

22. Which of the following can be adopted for the systems which does not contain DMA controller for data transmission?

a) counter

b) timer

**c) polling**

d) memory

23. Which of the following have low-level buffer filling?

a) output

b) peripheral

**c) dma controller**

d) input

24. How many classifications of DMA controllers are made based on the addressing capability?

a) 2

**b) 3**

c) 4

d) 5

25. How many address register are there for the 1D type DMA controller? **a) 1**

b) 2

c) 3

d) 4

26. Which of the following of a generic DMA controller contain a base address register and an auto-incrementing counter?

a) address bus

b) data bus

c) bus requester

**d) address generator**

27. Which of the following is used to transfer the data from the DMA controller to the destination?

**a) data bus**

b) address bus

c) request bus

d) interrupt signal

28. Which of the following is used to request the bus from the main CPU? a) data bus

b) address bus

**c) bus requester**

d) interrupt signal

29. Which signal can identify the error?

a) data bus

b) address bus

c) bus requester

**d) interrupt signal**

30. Which signal allows the DMA controller to select the peripheral? **a) local peripheral control**

b) global peripheral control

c) address bus

d) data bus

**Unit-III**

1. Which of the following speed up the testing process?

a) kernel

b) software

c) application manager

**d) program debugging tools**

2. Which of the following includes its own I/O routine?

a) hardware

b) kernel

**c) operating system**

d) application manager

3. Which forms the heart of the operating system?

**a) kernel**

b) applications

c) hardware

d) operating system

4. Which of the following locates a parameter block by using an address pointer?

a) OS

**b) kernel**

c) system

d) memory

5. Which of the following are not dependent on the actual hardware performing the physical task?

a) applications

b) hardware

c) registers

**d) parameter block**

6. Which of the following can be used to refer to entities within the RTOS?

**a) threads**

b) kernels

c) system

d) applications

7. Which of the following defines the set of instructions loaded into the memory?

a) process

**b) task**

c) thread

d) system hardware

8. Which of the following uses its own address space?

**a) thread**

b) process

c) task

d) kernel

9. Which of the following does not uses a shared memory?

**a) process**

b) thread

c) task

d) kernel

10. Which of the following can own and control the resources? a) thread

**b) task**

c) system

d) peripheral

11. Which can be supported if the task or process maintains a separate data area for each thread?

a) single thread system

b) mono thread system

**c) multiple threads**

d) dual threads

12. Which of the following possesses threads of execution?

**a) process**

b) thread

c) kernel

d) operating system

13. Which of the following is inherited from the parent task? a) task

b) process

**c) thread**

d) kernel

14. Which term is used to encompass more than a simple context switch? **a) process**

b) single thread system

c) thread

d) multithread

15. Which can be considered as the lower level in the multitasking operating system?

a) process

b) task

**c) threads**

d) multi threads

16. Who started Linux first as a personal project?

**a) Linus Torvalds**

b) Ken Thompson

c) Dennis Ritchie

d) John Dell

17. Which of the following is similar to UNIX OS?

a) Windows NT

b) MS-DOS

**c) Linux**

d) Windows 3.1

18. Who had first described UNIX in an article?

a) Ken Thompson

**b) Dennis Ritchie and Ken Thompson**

c) Dennis Ritchie

d) Linus Torvalds

19. What does MULTICS stand for?

**a) multiplexed information and computing service**

b) multiplexed information and code service

c) multiplexed inter-access code service

d) multiplexed inter-code sensor

20. Which of the following is the first version of the UNIX operating system? a) PDP-2

b) Linux

c) MS-DOS

**d) PDP-7**

21. Which filesystem of Linux has mass storage devices?

**a) physical file system**

b) temporary file system

c) ram

d) register

22. Which file type of Linux has no restriction on size and can have any kind of data?

a) special

**b) regular**

c) directories

d) named pipes

23. Which file type of Linux is similar to the regular file type? **a) named pipe**

b) directories

c) regular file

d) special file

24. Which file type of the Linux hold lists of files rather than the actual data? a) regular

b) special

**c) directories**

d) named pipes

25. Which filesystem of the Linux can be implemented on a system with two hard disks?

**a) logical file system**

b) physical file system

c) special file type system

d) regular file type system

26. Which directory is allocated on the hard disk 1 of the physical storage in a Linux operating system?

a) term

b) dev

c) etc

**d) bin**

27. Which process defines the allocation of the mass storage to the logical file system?

**a) mounting**

b) de-allocation

c) demounting

d) unmounting

28. Which commands can be used to access the removable media? a) system calls

b) loop instruction

**c) mount and unmount command**

d) procedure commands

29. Which target directory is used in the file system of the Linux operating system?

**a) /mnt**

b) /etc

c) /term

d) /bin

30.Which interfacing method lowers the speed of the processor? **a) basic DRAM interface**

b) page mode interface

c) page interleaving

d) burst mode interface

**Unit-IV**

1. Which allows the parallel development of the hardware and software in the simulation?

**a) high-level language simulation**

b) low-level language simulation

c) cpu simulator

d) onboard simulator

2. Which of the following are used to test the software?

a) data entity

b) data entry

**c) data table**

d) data book

3. Which allows the UNIX software to be ported using a simple recompilation? a) pSOS+

**b) UNIX compatible library**

c) pSOS+m

d) pOS+kernel

4. Which of the following can simulate the processor, memory, and peripherals? a) input simulator

b) peripheral simulator

c) memory simulator

**d) cpu simulator**

5. How many categories are there for the low-level simulation? **a) 2**

b) 3

c) 4

d) 5

6. Which of the following can simulate the LCD controllers and parallel ports? a) memory simulator

**b) sds**

c) input simulator

d) output tools

7. Which of the following provides a low-level method of debugging software? a) high-level simulator

b) low-level simulator

**c) onboard debugger**

d) cpu simulator

8. Which of the following has the ability to download code using a serial port? a) cpu simulator

b) high-level language simulator

**c) onboard debugger**

d) low-level language simulator

9. What does the processor fetch from the EPROM if the board is powered? **a) reset vector**

b) ready vector

c) start vector

d) acknowledge vector

10. Which of the following device can transfer the vector table from the EPROM?

a) ROM

**b) RAM**

c) CPU

d) peripheral

11. What does ICE stand for?

**a) in-circuit emulation**

b) in-code EPROM

c) in-circuit EPOM

d) in-code emulation

12. Which of the following is a traditional method for emulating the processor? a) SDS

**b) ICE**

c) CPU simulator

d) Low-level language simulator

13. Which of the following does not have the ability to get hundred individual signal cables into the probe in the emulation technique?

a) OnCE

b) BDM

**c) ICE**

14. What does JTAG stand for?

a) joint tag address group

b) joint test address group

c) joint test access group

**d) joint test action group**

15. Which of the following allows access to all the hardware within the system? a) debugger

**b) JTAG**

c) onboard debugger

d) simulator

16. Which of the following works by using a serial port?

a) Simulator

**b) JTAG**

c) BDM

d) OnCE

17. What is meant by OnCE?

**a) on-chip emulation**

b) off-chip emulation

c) one-chip emulation

d) once-chip emulation

18. Which debugging facility is used in the Motorola’s DSP 56x0x family? a) JTAG

b) ICE

**c) OnCE**

d) BDM

19. Which facility provides the provision of the debug ports in the ICE technique?

a) simulator

b) emulator

**c) debug support**

d) jtag

20. How the additional registers are accessed in the OnCE?

a) parallel port

**b) serial port**

c) jtag

d) address register

21. What does FRIDGE stand for?

**a) fixed-point programming design environment**

b) floating-point programming design environment

c) fixed-point programming decoding

d) floating-point programming decoding

22. Which of the following tool can replace the floating point arithmetic to fixed point arithmetic?

a) SDS

b) FAT

c) VFAT

**d) FRIDGE**

23. Which programming algorithm is used in the starting process of the FRIDGE?

a) C++

b) JAVA

**c) C**

d) BASIC

24. In which loop transformation, a single loop is split into two? a) loop tiling

**b) loop fusion**

c) loop permutation

d) loop unrolling

25. Which loop transformations have several instances of the loop body? a) loop fusion

**b) loop unrolling**

c) loop fission

d) loop tiling

26. The number of copies of a loop is called as

a) rolling factor

b) loop factor

**c) unrolling factor**

d) loop size

27. Which of the following can reduce the loop overhead and thus increase the speed?

**a) loop unrolling**

b) loop tiling

c) loop permutation

d) loop fusion

28. Which loop transformation can increase the code size?

a) loop permutation

b) loop fusion

c) loop fission

**d) loop unrolling**

29. Which memories are faster in nature?

a) RAM

b) ROM

**c) Scratch pad memories**

d) EEPROM

30. Which loop transformation reduces the energy consumption of the memory systems?

**a) loop permutation**

b) loop tiling

c) loop fission d) loop fusion