

Indian Institute of Technology Rajasthan

Written Test for Junior Technical Superintendent-November-2012

1. total number of marks 60. Total time is 60min.
2. This question paper has 30 (Thirty) questions. Please check that you have the full question paper: if not, please report to invigilator.
3. Attempt all the questions.
4. All the questions carry +2 marks for the correct answer(s), there can be more than one correct answer. +1 mark will be given if you write only one of the correct answers for the questions with multiple correct answers.

You must agree with the following statement and verify your agreement with your signature, name and date. If you fail to do so, your answer will not be checked and your candidature will be cancelled.

I have read all the instructions and conditions mentioned above and agree with those. I also agree to keep all the information provided in this question paper confidential. In the process of working on this question paper, I pledge my solidarity and confirm that I have not used/will not use any unfair means.

Signature: _____

Name in Block letters: _____

Date: _____

1. When applied to a variable, what does the unary & operator yield in C language?

- (a) The variable's value
- (b) The variable's binary form
- (c) The variable's address
- (d) The variable's format

2. long factorial (long x)

```
{  
  ????  
  return x * factorial(x - 1);  
}
```

With what do you replace the ??? to make the function shown above return the correct answer (i.e. the factorial of the given *natural* number)?

- (a) if (x == 0) return 0;
- (b) return 1;
- (c) if (x == 1) return 1;
- (d) if (x == 0) return 1;

3. #define MAXN 15

Referring to the C code sample above, what is MAXN?

- (a) MAXN is an integer variable.
- (b) MAXN is a precompiler constant.
- (c) MAXN is a preprocessor macro.
- (d) MAXN is an integer constant.

4. C is which kind of language?

- (a) Machine
- (b) Procedural
- (c) Object-oriented
- (d) Assembly

5.

```
x = 3, counter = 0;
while ((x-1))
{
    ++counter;
    x--;
}
```

Referring to the sample code above, what value will the variable counter have when completed?

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

6. A process is a

- (a) program stored on a disk
- (b) program stored in main memory
- (c) program in execution
- (d) program stored in a secondary memory

7. The principle of locality of reference is used in

- (a) virtual memory
- (b) cache memory
- (c) main memory
- (d) secondary memory

8. Which of the following is a pre-emptive scheduling algorithm

- (a) Round-Robin
- (b) Shortest Job First

- (c) all of the above
 - (d) none of the above
9. The mechanism that bring a page into memory only when it is needed is called
- (a) segmentation
 - (b) fragmentation
 - (c) demand paging
 - (d) page replacement
10. The command *shutdown -h +10* is used to
- (a) reboot the system after 10 minutes
 - (b) shutdown the system after 10 minutes
 - (c) shutdown the system after 10 seconds
 - (d) reboot the system after 10 seconds
11. What command do you use to create Linux file systems?
- (a) fdisk
 - (b) mkfs
 - (c) fsck
 - (d) mount
12. What command is used to add printing jobs to the queue?
- (a) lpd
 - (b) lpr
 - (c) lpq
 - (d) lpc
13. What command is used to remove jobs from the print queue?
- (a) lpq
 - (b) lpr
 - (c) lprm
 - (d) lpc
14. Ones' complement of the binary number 00000101 is
- (a) 00000101
 - (b) 10000101
 - (c) 11111011
 - (d) 11111010
15. Arithmetic Logic Unit is a part of
- (a) hard disk
 - (b) Random Access Memory

- (c) processor
 - (d) none of the above
16. An example of a non-volatile memory is
- (a) Random Access Memory
 - (b) hard disk
 - (c) all of the above
 - (d) none of the above
17. An n-bit microprocessor has
- (a) n-bit program counter
 - (b) n-bit address register
 - (c) n-bit Arithmetic Logic Unit
 - (d) n-bit instruction set
18. A group of bits that tell the computer to perform a specific operation is known as
- (a) instruction code
 - (b) micro-operation
 - (c) accumulator
 - (d) register
19. What is the purpose of the DHCP server?
- (a) to provide storage for email
 - (b) to translate URLs to IP addresses
 - (c) to translate IPv4 addresses to MAC addresses
 - (d) to provide an IP configuration information to hosts
20. Switched Ethernet
- (a) Standards are mentioned by IEEE 802.5
 - (b) Full duplex transmissions are possible
 - (c) Created using Layer 1 and layer 2 devices
 - (d) Treats the physical network as a single collision domain
21. Given the address 192.168.10.19/28, which of the following are valid host addresses on this subnet?
- (a) 192.168.10.29
 - (b) 192.168.10.16
 - (c) 192.168.10.17
 - (d) 192.168.10.31
 - (e) 192.168.10.0
22. An ARP Request is
- (a) L2 broadcast

- (b) L2 unicast
 - (c) L3 broadcast
 - (d) L3 unicast
23. ICMP operates at which layer?
- (a) data link
 - (b) transport
 - (c) network
 - (d) none of the above
24. How would you avoid accidentally removing files?
- (a) `rm -i`
 - (b) `rm -chk`
 - (c) `rm -a`
 - (d) `rm -r`
25. What is the purpose of the following operator? `>>`
- (a) It is used to send the output of one command so it becomes the input of a second command
 - (b) It is used to send both input and output to the same file
 - (c) It is used to overwrite the contents of a file
 - (d) It appends data to a file without overwriting it
26. SQL is:
- (a) a programming language
 - (b) an operating system
 - (c) a data sublanguage
 - (d) a DBMS
27. What is sent to the user via HTTP, invoked using the HTTP protocol on the user's computer, and run on the user's computer as an application?
- (a) A Java application
 - (b) A Java applet
 - (c) A Java servlet
 - (d) None of the above is correct
28. Which of the following is true concerning the standard network protocol for connecting a client to a Web or database server via the Internet?
- (a) Both TCP and IP are needed
 - (b) TCP is needed but IP is not needed
 - (c) TCP is not needed but IP is needed
 - (d) Neither TCP and IP are needed
29. Which of the following is NOT a type of SQL constraint?

- (a) PRIMARY KEY
- (b) FOREIGN KEY
- (c) ALTERNATE KEY
- (d) UNIQUE

30. For what purposes are views used?

- (a) To hide columns only
- (b) To hide rows only
- (c) To hide complicated SQL statements only
- (d) All of the above are uses for SQL views