*ONLINE FERVOUR’15*

*TECH QUIZ ROUND-1*

*15 QUESTIONS.*

1.Which of the following process scheduling algorithm may lead to starvation

|  |  |
| --- | --- |
| A | FIFO |
| B | Round Robin |
| C | Shortest Job Next |
| D | None of the above |

2.A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero?

|  |  |
| --- | --- |
| A | This algorithm is equivalent to the first-come-first-serve algorithm |
| B | This algorithm is equivalent to the round-robin algorithm. |
| C | This algorithm is equivalent to the shortest-job-first algorithm.. |
| D | This algorithm is equivalent to the shortest-remaining-time-first algorithm |

3.A process executes the following code

for (i = 0; i< n; i++) fork();

The total number of child processes created is

|  |  |
| --- | --- |
| A | n |
| B | 2^n - 1 |
| C | 2^n |
| D | 2^(n+1) - 1; |

4.Group 1 contains some CPU scheduling algorithms and Group 2 contains some applications. Match entries in Group 1 to entries in Group 2.

Group I Group II

(P) Gang Scheduling (1) Guaranteed Scheduling

(Q) Rate Monotonic Scheduling (2) Real-time Scheduling

(R) Fair Share Scheduling (3) Thread Scheduling

|  |  |
| --- | --- |
| A | P – 3 Q – 2 R – 1 |
| B | P – 1 Q – 2 R – 3 |
| C | P – 2 Q – 3 R – 1 |
| D | P – 1 Q – 3 R – 2 |

5.Given the basic ER and relational models, which of the following is INCORRECT?

|  |  |
| --- | --- |
| A | An attribute of an entity can have more than one value |
| B | An attribute of an entity can be composite |
| C | In a row of a relational table, an attribute can have more than one value |
| D | In a row of a relational table, an attribute can have exactly one value or a NULL value |

6.Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one-to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model?

|  |  |
| --- | --- |
| A | 2 |
| B | 3 |
| C | 4 |
| D | 5 |

7.Which of the following scenarios may lead to an irrecoverable error in a database system ?

|  |  |
| --- | --- |
| A | A transaction writes a data item after it is read by an uncommitted transaction |
| B | A transaction reads a data item after it is read by an uncommitted transaction |
| C | A transaction reads a data item after it is written by a committed transaction |
| D | A transaction reads a data item after it is written by an uncommitted transaction |

8.A clustering index is defined on the fields which are of type

|  |  |
| --- | --- |
| A | non-key and ordering |
| B | non-key and non-ordering |
| C | key and ordering |
| D | key and non-ordering |

9. Find output:

int main()

{

unsigned int i = 65535; /\* Assume 2 byte integer\*/

while(i++ != 0)

printf("%d",++i);

printf("\n");

return 0;

}

A 0 1 2 .... 65535

B 0 1 2 ...32767-32766-....1 0

C No output

D Infinite loop

10. int main()

{

printf("%x\n", -2<<2);

return 0;

}

|  |  |  |  |
| --- | --- | --- | --- |
| [A.](javascript:%20void%200;) | ffff | [B.](javascript:%20void%200;) | 0 |
| [C.](javascript:%20void%200;) | fff8 | [D.](javascript:%20void%200;) | Error |

11.

int main()

{

int fun();

int i;

i = fun();

printf("%d\n", i);

return 0;

}

int fun()

{

\_AX = 1990;

}

|  |  |  |  |
| --- | --- | --- | --- |
| [A.](javascript:%20void%200;) | Garbage value | [B.](javascript:%20void%200;) | 0 (Zero) |
| [C.](javascript:%20void%200;) | 1990 | [D.](javascript:%20void%200;) | No output |

12.

|  |  |
| --- | --- |
|  | What will be the output of the C#.NET code snippet given below?  int i = 2, j = i;  if (Convert.ToBoolean((i | j & 5) & (j - 25 \* 1)))  Console.WriteLine(1);  else  Console.WriteLine(0); |
| |  |  | | --- | --- | | [A.](javascript:%20void%200;) | 0 | | [B.](javascript:%20void%200;) | 1 | | [C.](javascript:%20void%200;) | Compile Error | | [D.](javascript:%20void%200;) | Run time Error | |

13.

|  |  |
| --- | --- |
| Which of the following statements are correct?   1. An argument passed to a ref parameter need not be initialized first. 2. Variables passed as out arguments need to be initialized prior to being passed. 3. Argument that uses params keyword must be the last argument of variable argument list of a method. 4. Pass by reference eliminates the overhead of copying large data items. 5. To use a ref parameter only the calling method must explicitly use the refkeyword. | |
| |  |  | | --- | --- | | [A.](javascript:%20void%200;) | 1, 2 | | [B.](javascript:%20void%200;) | 2, 3 | | [C.](javascript:%20void%200;) | 3, 4 | | [D.](javascript:%20void%200;) | 4, 5 | | [E.](javascript:%20void%200;) | None of these | | |
| 14. | What will be the output of the program?  #include<stdio.h>  int main()  {  int a=0, b=1, c=3;  \*((a) ? &b : &a) = a ? b : c;  printf("%d, %d, %d\n", a, b, c);  return 0;  } |
| |  |  |  |  | | --- | --- | --- | --- | | [A.](javascript:%20void%200;) | 0, 1, 3 | [B.](javascript:%20void%200;) | 1, 2, 3 | | [C.](javascript:%20void%200;) | 3, 1, 3 | [D.](javascript:%20void%200;) | 1, 3, 1 | |

15.

|  |
| --- |
| What will be the output of the program ?  #include<stdio.h>  void fun(void \*p);  int i;  int main()  {  void \*vptr;  vptr = &i;  fun(vptr);  return 0;  }  void fun(void \*p)  {  int \*\*q;  q = (int\*\*)&p;  printf("%d\n", \*\*q);  } |
| |  |  | | --- | --- | | [A]. | Error: cannot convert from void\*\* to int\*\* | | [B]. | Garbage value | | [C]. | |  |  | | --- | --- | | 0 |  | | | [D]. | No output | |

ANSWERS  
1. C

Shortest job next may lead to process starvation for processes which will require a long time to complete if short processes are continually added.

2.B

The scheduling algorithm works as round robin with quantum time equals to T. After a process’s turn comes and it has executed for T units, its waiting time becomes least and its turn comes again after every other process has got the token for T units

3.B

F0 // There will be 1 child process created by first fork

/ \

F1 F1 // There will be 2 child processes created by second fork

/ \ / \

F2 F2F2F2 // There will be 4 child processes created by third fork

/ \ / \ / \ / \

............... // and so on

If we sum all levels of above tree for i = 0 to n-1, we get 2^n - 1. So there will be 2^n – 1 child processes. Also see [this](http://www.geeksforgeeks.org/archives/10484) post for more details.

4.A

5.C

The term ‘entity’ belongs to ER model and the term ‘relational table’ belongs to relational model.

A and B both are true. ER model supports both multivalued and composite attributes See this for more details.

(C) is false and (D) is true. In Relation model, an entry in relational table can can have exactly one value or a NULL.

6.C

E1

a

b

c

E2

x

y

z

R1

E1 E2

a x

a y

b z

R2

E1 E2

a x

a y

b y

7.D

8.A

9D

10 C

Explanation:

The integer value 2 is represented as 00000000 00000010 in binary system.   
  
Negative numbers are represented in 2's complement method.   
  
1's complement of 00000000 00000010 is 11111111 11111101 (Change all 0s to 1 and 1s to 0).   
  
2's complement of 00000000 00000010 is 11111111 11111110 (Add 1 to 1's complement to obtain the 2's complement value).   
  
Therefore, in binary we represent -2 as: 11111111 11111110.   
  
After left shifting it by 2 bits we obtain: 11111111 11111000, and it is equal to "fff8" in hexadecimal system.

11.  C

Explanation:

Turbo C (Windows): The return value of the function is taken from the Accumulator\_AX=1990.

12. A

(i | j & 5) & (j - 25 \* 1)  
(2 | 2 & 5) & (2 - 25 \* 1)  
(2 | 2 & 5) & (-23)  
  
Convert to binary:  
(10 | 10 & 101) & 111111111111111111111111101001  
(10 | 0) & 111111111111111111111111101001  
10 & 111111111111111111111111101001  
0

13. C

14.C

15. C