



Grade 13

**G.C.E. (A/L) PRACTICE TEST 2017**

2 hours

**Information & Communication Technology I**

Answer all the questions.

Use of calculators is not allowed.

1. The third generation computers were based on
  - (1) Very Large Scale Integration technology
  - (2) Large Scale Integration technology
  - (3) Integrated Circuits
  - (4) Transistors
  - (5) Vacuum tubes
  
2. Which of the following statement is incorrect about ENIAC
  - (1) It was the first electronic computer used for general purposes.
  - (2) It used a large number of vacuum tubes and a few transistors.
  - (3) It stands for Electronic Numerical Integrator And Calculator.
  - (4) It was invented by J. Presper Eckert and John Mauchly.
  - (5) It used a large number of vacuum tubes
  
3. Which of the following is **NOT** a factor which affects the quality of information?
  - (1) Age of the audience
  - (2) Cost
  - (3) Level of details
  - (4) file size
  - (5) accuracy
  
4. The stored program concept was presented by
  - (1) John Von Neumann
  - (2) Ada Lovelace
  - (3) John Eckert
  - (4) Charles Babbage
  - (5) Blaise Pascal
  
5. The decimal equivalent of hexadecimal number B1A is
  - (1) 2891
  - (2) 2980
  - (3) 2981
  - (4) 2826
  - (5) 2842
  
6. The decimal number equivalent of  $11110110_2$  is
  - (1) 240
  - (2) 246
  - (3) 264
  - (4) 624
  - (5) 426
  
7. Representation of  $8_{10}$  and  $-11_{10}$  in 8 bit two's complement forms are
  - (1) 00000110 and 10101010 respectively
  - (2) 11100101 and 11101010 respectively
  - (3) 01010101 and 00101010 respectively
  - (4) 00001000 and 11110101 respectively
  - (5) 10100101 and 11101010 respectively
  
8.  $103_{16} + 301_8$  is **not** equal to
  - (1)  $1C4_{16}$
  - (2)  $704_{16}$
  - (3)  $111000100_2$
  - (4)  $704_8$
  - (5) 452
  
9. The simplification of the Boolean expression  $\overline{\overline{A} \overline{B} \overline{C}}$  (BC)
  - (1) 0
  - (2)  $A + \overline{B} + C$
  - (3) A
  - (4) BC
  - (5) AB

10. When simplified with Boolean Algebra  $(x + y)(x + 1)(y+1)$  simplifies to
- (1)  $x + y$  (3)  $x + (y + 1)$  (5) 1  
 (2)  $x(1 + y)$  (4)  $x + (y.1)$

11. Consider the given relation below.

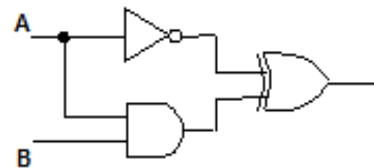
Employee (empno, name, NIC, DOB)

Which of the following SQL statements is syntactically correct on the above relation?

- (1) Select all from Employee (4) Select \* from Employee  
 (2) Select \*.\* from Employee (5) Select emp.name from Employee  
 (3) Select empno.name from Employee

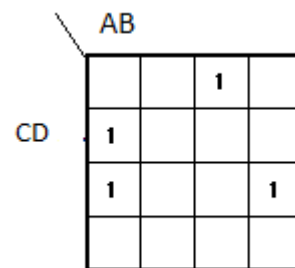
12. What will be the output of the given circuit, if  $A=0$  and  $B = 0$  ?

- (1) 1 (4) 0  
 (2)  $A'$  (5) A  
 (3) B



13. Identify the function which generates the K-map shown

- (1)  $F = \Sigma(1,3,11,12)$   
 (2)  $F = \Sigma(2,3,8,14)$   
 (3)  $F = \Sigma(1,2,11,12)$   
 (4)  $F = \Sigma(1,3,8,14)$   
 (5)  $F = \Sigma(1,3,8,15)$



14. Which of the following has the fastest access speed?

- (1) Cache memory (4) Virtual Memory  
 (2) Flash memory (5) extended memory  
 (3) Register memory

15. When a program requires more memory space than the maximum memory space available in the primary memory of a computer ..... is used by the operating system.

- (1) Cache memory (4) Read Only Memory  
 (2) Virtual memory (5) Random Access Memory  
 (3) Extended memory

16. Interval between the time of submission and completion of the job is called as the

- (1) Waiting time (4) Burst time  
 (2) Turnaround time (5) Arrival time  
 (3) Response time.

17. A scheduler which selects processes from secondary storage device is called

- (1) Short term scheduler (4) Long term scheduler  
 (2) Medium term scheduler (5) Process scheduler  
 (3) term scheduler

18. In ----- several programs are kept in main memory at the same time.

- (1) Multiprocessor
- (2) on- line operation
- (3) multi-tasking
- (4) buffering
- (5) multiprogramming

19. Which of the following HTML code generates the table given below?

programme

time	3.30-4.30	6.30-8.30
show	Macbeth	The Tempest

(1) 

```
<caption>programme</caption>
<table border="1">
  <tr>
    <th>time</th>
    <td> 3.30-4.30 </td>
    <td> 6.30-8.30 </td>
  </tr>
  <tr>
    <th> show </th>
    <td> Macbeth </td>
    <td> The Tempest </td>
  </tr>
```

(4) 

```
<caption>programme</caption>
<table border="1">
  <tr>
    <th>time</th>
    <td> 3.30-4.30 </td>
    <td> 6.30-8.30 </td>
  </tr>
  <tr>
    <th> show </th>
    <td> Macbeth </td>
    <td> The Tempest </td>
  </tr>
</table>
```

(2) 

```
<table border="1">
<caption>programme</caption>
  <tr>
    <th>time</th>
    <th> 3.30-4.30 </td>
    <th> 6.30-8.30 </td>
  </tr>
  <tr>
    <td> show </th>
    <td> Macbeth </td>
    <td> The Tempest </td>
  </tr>
</table>
```

(5) 




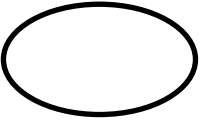
```
<table border="1">
<caption>programme</caption>
  <thead>
    <th>time</th>
  <tr> 3.30-4.30 </td>
  <tr> 6.30-8.30 </td>
  </tr>
  <thead>
    <th> show </th>
  <tr> Macbeth </td>
  <tr> The Tempest </td>
  </tr>
</table>
```

(3) 

```
<caption>programme</caption>
<table border="1">
  <tr>
    <th>time</th>
    <th> 3.30-4.30 </td>
    <th> 6.30-8.30 </td>
  </tr>
  <tr>
    <td> show </th>
    <td> Macbeth </td>
    <td> The Tempest </td>
  </tr>
</table>
```

20. The HTML tag `<a href="Recepies.html" target="_blank"> Recepies</a>` renders the document named Recepies.html by a browser on
- (1) The same frame
  - (2) The same window
  - (3) a window named “\_blank”
  - (4) a new window
  - (5) a frame named “\_blank”

21. Select the correct symbols used in Data Flow Diagrams with their names.

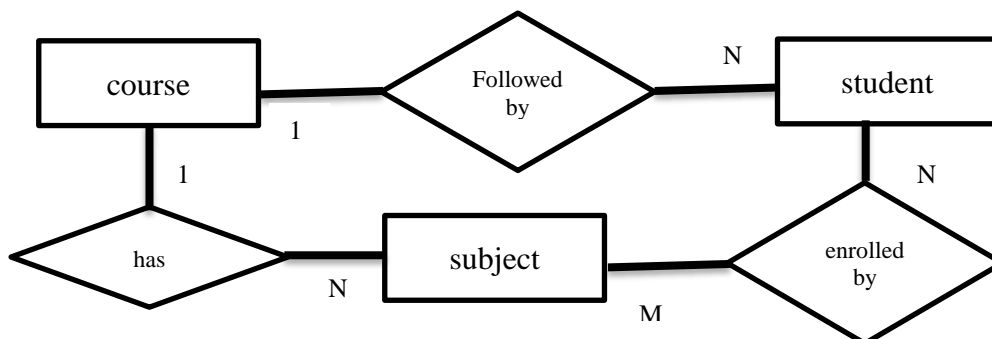
- A.  P. External Entity
- B.  Q. Data Flow
- C.  R. Data store
- D.  S. Data Process

- (1) A-Q, B-R, C-S, D-P
- (2) A-Q, B-P, C-S, D-R
- (3) A-S, B-Q, C-R, D-P
- (4) A-R, B-S, C-P, D-Q
- (5) A-S, B-R, C-Q, D-P

22. Which of the following statements is correct about relational databases?

- (1) A table is considered as an object.
- (2) A table must have alternate keys.
- (3) The table cannot be created without a primary key.
- (4) A column of data in a table is called an attribute of that table.
- (5) A candidate key is a composite key.

23. Which of the following is true about the given E-R diagram?



- (1) A student can enrol for more than one course.
- (2) There are courses which are not followed by any of the students.
- (3) A subject is taught only **for** one course.
- (4) There are students who have not enrolled for any of the subjects.

(5) There are subjects that are not taught in any of the courses at present.

24. Match column P with Q and select the correct option.

i. Data dictionary	A. provides an indication of how data are transformed as they move through the system and the functions that transform the data flow
ii. Entity relationship diagram (ERD)	B. indicates system responses to external events
iii. Data flow diagram (DFD)	C. contains descriptions of all data objects produced or consumed by the software
iv. State transition diagram (STD)	D. depicts data object relationships

- (1) i-D, ii – A, iii-B, iv – C  
 (2) i-A, ii – D, iii-B, iv – C  
 (3) i-C, ii – D, iii-A, iv – B

- (4) i-D, ii – A, iii-C, iv – B  
 (5) i-B, ii – A, iii-D, iv – C

25. Consider the following software projects.

- A. A clinical record keeping system for dentists.
- B. A virtual reality system to support maintenance of air craft.
- C. A university accounting system which is intended to replace the existing manual system.
- D. An intelligent agent for internet searching for research papers.

The waterfall model is suitable for which of the above projects?

- (1) A, B and C  
 (2) A and C  
 (3) B, C and D  
 (4) A,C and D  
 (5) A and C

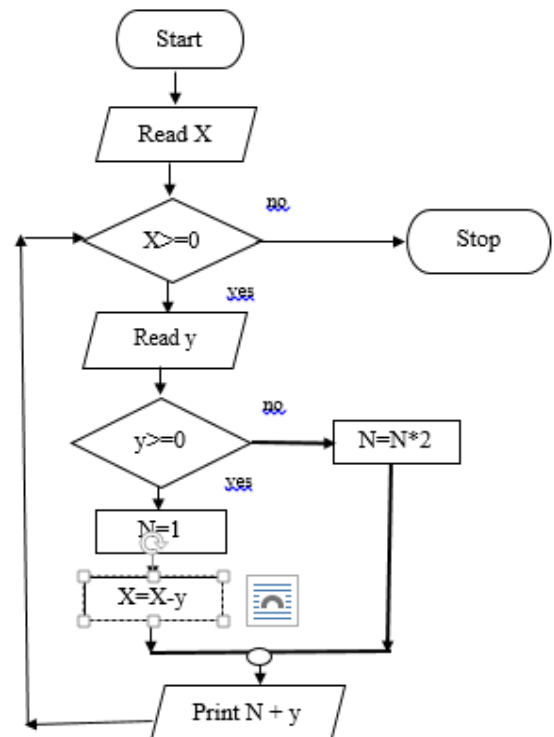
**Consider the given flow chart to answer questions 26 to 27.**

26. Which of the following is true about the flow chart?

- (1) The value of N changes from 1 to x  
 (2) It displays 5 when we input 3 as x and 2 as y  
 (3) It displays  $N*2$ .  
 (4) The value of N should be an odd number  
 (5) It displays 3 when we input 5 as x and 2 as y

27. Suppose we input 5 as x and 2 as y repeatedly. Which of the following is **incorrect** about the values at the termination of the algorithm

- (1) y is 2  
 (2)  $N + y$  is 3  
 (3) x is 1  
 (4) N is 1  
 (5) x is -1



28. What is the output of the following Python statement?



- (2) It can be easily integrated with C, C++, COM, ActiveX, CORBA, and Java.
- (3) Python is a high-level language.
- (4) Python is Object-Oriented:
- (5) All of the above.

34. The ..... of an attribute defined using a DDL statement is a ..... constraint. Which of the following are the most suitable to fill in the blanks of the above statement respectively.

- (1) Integrity,null
- (2) Length,domain
- (3) Realation,SQL
- (4)null value,key
- (5) domain,key

35. Which of the following statements is correct about systems?

- (1) Human blood circulatory system is an open system.
- (2) A mobile phone is a closed system.
- (3) An Automatic Teller Machine of a bank should be a closed system.
- (4) A solar powe generation system is a closed system.
- (5) Human digestive system is an open system.

36. The command that can be used to check the network configuration of a computer is

- (1) Ping
- (2)netstat
- (3)ipconfig
- (4) traceroute
- (5) hop

37. Suppose you have to create a network that has 5 subnets, each with at least 16 hosts. Which of the following subnet mask would be most suitable to create it?

- (1) 255.255.255.192
- (2) 255.255.255.240
- (3) 255.255.255.248
- (4) 255.255.255.224
- (5) 255.255.255.256

38. The network layer of OSI model does not

- (1) Performs routing functions.
- (2) Reports delivery errors
- (3) Formats and encrypts data to be sent across a network
- (4) Performs fragmentation
- (5) Handles packet sequencing

39. Which of the following is true about the world wide web

- A. World wide web is a creation of Sir Tim Berners Lee
- B. It is another name for internet.
- C. World wide web is a subset of internet.

- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) All are correct.
- (5) All are incorrect.

40. A program in execution is called a

- (1) Process
- (2) Instruction
- (3) Procedure
- (4) Function
- (5) Paging

41. .... is a technique of temporarily removing inactive programs from the memory of a computer system.

- (1) Garbage collection
- (2) Swapping
- (3) Fragmentation
- (4)Spooling
- (5)Scheduling





- (3) Fast Response
- (4) Capture and preserve human expertise
- (5) Raising legal and ethical concerns

50. Which of the following contains applications of Ubiquitous computing?

- A. Smart homes
- B. Automatic illumination systems
- C. RFID
- D. Wearable computing

- (1) A and B only
- (2) A and C only

- (3) B and C only
- (4) A,B,C and D

(5) A, B and C.

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