

AL/2022/20/S-I

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බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව  
மேல் மாகாணக் கல்வித் திணைக்களம்  
Department of Education - Western Province

අධ්‍යයන පොදු සහතික පත්‍ර ( උසස් පෙළ ) විභාගය 2022 - උපකාරක ප්‍රශ්න පත්‍ර 04  
General Certificate of Education (Adv. Level) Examination 2022- Model Paper 04

තොරතුරු හා සන්නිවේදන තාක්ෂණය - I  
Information & Communication Technology - I

20

E

I

පැය දෙකයි  
Two Hours

### Instructions

- ❖ Answer all the questions.
- ❖ Write your index number in the given space on the answer sheet.
- ❖ For each question from 1 to 50, choose the correct or most suitable answer from ((1, ((2, ((3, ((4, ((5 and put a cross (X) on the corresponding number on the answer sheet.
- ❖ Use of calculator and correction fluid is not allowed.

1. The main processes that take place in a given system are:

- (1) Performs the process that occurs in all computer systems
- (2) Takes input and gives output after processing
- (3) Input, process and output take place at the same time
- (4) Conditions in the physical world are not captured as input
- (5) Performs only logical processes.

2. A key feature of the Arduino platform is

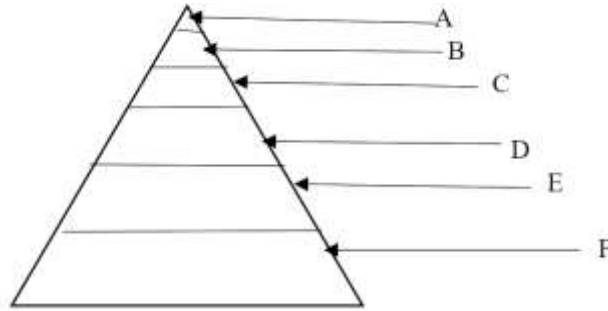
- (1) Extensive hardware extensibility
- (2) Expensive
- (3) Having only basic programming knowledge is not enough
- (4) Cannot use free and open software
- (5) Used only for supercomputer systems

3. Which one is not an advantage of automatically data processing by using technology?

- (1) Increased efficiency in data storage and data retrieval
- (2) Use of very less human resources in data processing
- (3) Threats to life in the process of processing forest data under adverse conditions/ Threats to life occur under the adverse data processing.
- (4) Facilitate advance awareness of adverse weather conditions
- (5) Easier communication of information as the world becomes a global village



4. Which of the most appropriate order for A, B, C, D, E, F in the following Memory Hierarchy Pyramid.



- (1) Registers, cache memory, main memory, magnetic disk, optical disk, magnetic tape  
(2) Registers, main memory, cache memory, magnetic tape, optical disk, magnetic disk  
(3) Registers, main memory, cache memory, magnetic tape, magnetic disk, optical disk  
(4) Registers, cache memory, main memory, optical disk, magnetic disk, magnetic tape  
(5) Registers, cache memory, main memory, optical disk, magnetic tape, magnetic disk
5. Which subdomain of artificial intelligence (AI) teaches how to make a decision based on previous experience and how to create an interface?
- (1) Machine Learning                      (2) Deep Learning                      (3) Neural Networks  
(4) Fuzzy logic systems                      (5) All of the above
6. The process of artificial intelligence (AI) observing thoughts and building a model is called
- (1) Introspection                      (2) Psychological tests                      (3) Brain imaging  
(4) Machine-machine coexistence                      (5) All of the above
7. Not an advantage of using the expert system
- (1) Provide stable solutions                      (2) May provide incorrect solutions  
(3) Provides reasonable explanations                      (4) Overcomes human limitations  
(5) Easy to adapt to new conditions
8. A characteristic of a software agent may be:
- (1) Ability to cooperate with other software agents and humans.  
(2) Being able to initiate something only with the encouragement of others.  
(3) Inability to interact and communicate with others in society.  
(4) Failure to learn through observation and experience and situations.  
(5) Unresponsive to human responses and events.
9. The EDSAC computer, which is considered to be the world's first storage programming computer, was created by.....
- (1) Von Neumann                      (2) Maurice Wilks  
(3) Prof. Howard Aiken                      (4) Gotffred Wilhelm  
(5) Charles Babbage Charles Babbage



10. The type of memory associated with computer system clock is  
 (1) Non-volatile memory (2) Static Random Access Memory  
 (3) Dynamic Random Access Memory (4) Cache Memory  
 (5) Synchronous Dynamic Random Access Memory
11. The highest value and lowest value of the number 2975.0 are  
 (1) 2.5 (2) 2.0 (3) 0.2 (4) 5.2 (5) 9.2
12. What is the binary value of the number  $0.3125_{10}$ ?  
 (1) 0.1101 (2) 0.0011 (3) 0.0101 (4) 0.1110 (5) 0.1010
13. What is the corresponding value of  $0101_2$  OR  $0011_2$ ?  
 (1)  $0111_2$  (2)  $0101_2$  (3)  $0110_2$  (4)  $0011_2$  (5)  $1111_2$
14. Select the POS expression that is equivalent to the SOP expression below.  
 $ABC+AB'C'+AB'C+ABC'+A'B'C$   
 (1)  $(A+B+C)(A+B'+C')(A+B'+C)(A+B+C)$  (2)  $(A+B'+C')(A'+B'+C)(A'+B+C')$   
 (3)  $(A'+B'+C')(A+B+C)(A+B+C')(A'+B+C)$  (4)  $(A+B')(A'+B+AC')(A+B+C)$   
 (5)  $(A+B+C)(A+B'+C)(A+B'+C')$
15. Which of the following input combinations is not allowed in an S-R flip-flop?  
 (1)  $S = 0, R = 0$  (2)  $S = 0, R = 1$  (3)  $S = 1, R = 0$   
 (4)  $S = 1, R = 1$  (5) All of the above
16. What is E-R Modeling Technique/ Techniques?  
 A- Top-down approach B - Bottom-up approach C - Left-right approach  
 (1) A only (2) B only (3) C only  
 (4) A and B only (5) All A, B and C
17. The relationship between the bandwidth and the audio signal frequency of amplitude modulation:  
 (1) Bandwidth = 3 frequency (2) Bandwidth = 4 frequency  
 (3) Bandwidth = 2 frequency (4) Bandwidth = 6 Frequency  
 (5) Bandwidth = 8 Frequency



18. What type of analog is used in television for sound signal?

- (1) Amplitude simulation
- (2) Frequency simulation
- (3) Phase simulation
- (4) Both amplitude simulation and frequency simulation
- (5) None of the above

19. What is the output of the following PYTHON statement?

```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
else:
    print(0)
```

- (1) 0 1 2 3
- (2) 0 1 2 0
- (3) 0 1 2
- (4) 1 2 3 0
- (5) None of the above

20. The output here will be ?

```
x = ['XX', 'YY']
for i in a:
    i.lower()
print(a)
```

- (1) ['xx', 'yy']
- (2) ['XX', 'YY']
- (3) [XX, yy]
- (4) [xx,yy]
- (5) ['xx', 'YY']

21. Which of the following statements can be used to get the output 4 3 2 1?

- (1) for i in [1, 2, 3, 4][::-1]:  
    print (i)
- (2) for i in [4, 3, 2, 1][::-1]:  
    print (i)
- (3) for i in [1, 2, 3, 4][:: +1]:  
    print (i)
- (4) for i in [4, 3, 2, 1][::-+1]:  
    print (i)
- (5) for i in [1, 2, 3, 4][::0]:  
    print (i).



22. Which of the following is the correct output of this python program?



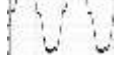
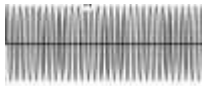

```
i = 1;
while True:
    if i%3 == 0:
        break
    print(i)
```

- (1) 1 2 3                      (2) 3 2 1                      (3) 1 2                      (4) Invalid syntax                      (5) 1122

23. Which character is used to comment in single line (single line comment) in Python?

- (1) #                      (2) /                      (3) /\*                      (4) //                      (5) !

24. Which one is the carrier wave among the following waves?

- (1)                       (2)                       (3) 
- (4)                       (5) 

25. Loss of signal strength when traveling a certain distance through a transmission medium is called the

- (1) Thermal noise                      (2) Inductive noise                      (3) Degradation  
(4) Distortion or Impotence                      (5) Decoding

26. If the MALAN value of an IP packet is 0101, select the header size

- (1) 10                      (2) 30                      (3) 12                      (4) 20                      (5) 32

27. Which of the following can be used to represent analog signals as digital signals?

- A - Attenuation                      B - Decoding                      C - Distortion                      D - Pulse Code Modulation
- (1) A only                      (2) A, B and C only                      (3) D only  
(4) A and C only                      (5) D and C only

28. Which algorithm provides the private key and its corresponding public key?

- A- Key generation algorithm  
B- Signature verifying algorithm  
C- Signing algorithm



- (1) A only                                      (2) B only                                      (3) A and C only  
(4) All of the above                                      (5) None of the above

29. Not a field where digital signature is used

- (1) In the forwarding of letters                                      (2) In the distribution of software over the Internet  
(3) In the transmission of e-mail                                      (4) In the downloading of software  
(5) While sending applications online

30. A switching system in a communication network transmits data from one communication point to another. Addresses are also processed and sequenced. At which layer in the OSI model does this work?

- (1) Application layer                                      (2) Transport layer                                      (3) Network layer  
(4) Physical layer                                      (5) Data link layer

31. Which of the following is a system used to present information for the executives of a company/organization to explain?

- (1) Decision Support System                                      (2) Executive Support System  
(3) Expert System                                      (4) Transaction-Processing System  
(5) Management Information Systems

32. What is the correct inline CSS for the p tag to define the text and background colors of the paragraph?

- (1) <p css="color: red; background-color: yellow;">  
(2) <p cssstyle="color: red; background-color: yellow;">  
(3) <p inline="color: red; background-color: yellow;">  
(4) <p style="color: red; background-color: yellow;">  
(5) <p stylesheet="color: red; background-color: yellow;">

33. Tag used for breaking a line .

- (1) <\n>                                      (2) <lr>                                      (3) <br>                                      (4) <br>...</br>                                      (5) <break>

34. The <a> tag is shown correctly

- (1) <a src="url">link text</a> (2) <a link="url">link text</a>  
(3) <a href="url">link text</a> (4) <a srclink="url">link text</a>  
(5) <a srchref="url">link text</a>

35. Which is not a valid variable name in PHP?



- (1) age                      (2) \_age                      (3) PersonAge                      (4) 1age                      (5) AGE

36. What will be the output of the following PHP code?

```
<?php
$x = 5;

function myFunction() {
    echo "Result $x";
}
myFunction();
?>
```

- (1) Result \$x                      (2) Result 5                      (3) Result  
(4) Result\$5                      (5) None of the above

37. One of the main services in the concept of cloud computing.

- (1) Service-as-a-Software (SaaS)                      (2) Software-and-a-Server (SaaS)  
(3) Software-as-a-Service (SaaS)                      (4) Software-as-a-Security (SaaS)  
(5) Service-as-a-Server (SaaS)

38. Examples of cloud computing are

- A- Amazon Web Services (AWS)                      B- Dropbox                      C-Cisco WebEx  
(1) A only                      (2) B only                      (3) A and B only  
(4) B and C only                      (5) All of the above

39. In which of the following service models is the hardware virtualized in cloud computing?

- (1) NaaS                      (2) PaaS                      (3) CaaS                      (4) IaaS                      (5) SaaS

40. Which of the following commands does My Sql use to delete a database?

- (1) DELETE DATABASE\_NAME;                      (2) DROP DATABASE\_NAME;  
(3) DROP DATABASE DATABASE\_NAME;                      (4) DELETE DATABASE DATABASE\_NAME;  
(5) DELETE DATABASE DATABASE\_NAME;

41. Which of the following My Sql function returns the current date and time?

- (1) CURDATE()                      (2) NOW()                      (3) CURTIME()  
(4) DATE()                      (5) CURDATETIME()



42 .....phase in the System Development Life Cycle (SDLC) is concerned with system functionality, meeting user requirements, effective use of resources, and cost effectiveness.

Which of the following is best to fill the above blank?

- |                       |                        |                    |
|-----------------------|------------------------|--------------------|
| (1) System analysis   | (2) System design      | (3) Implementation |
| (4) Feasibility study | (5) System development |                    |

43. Which is not belong to a system development life cycle model?

- |                     |                   |                |
|---------------------|-------------------|----------------|
| (1) Waterfall model | (2) Spiral model  | (3) Flow model |
| (4) Prototyping     | (5) Network model |                |

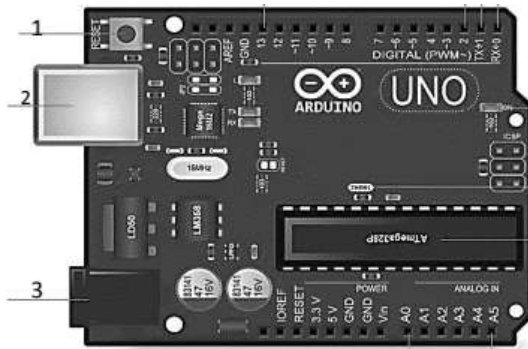
44. Which phase shows the errors occurred during system analysis phase?

- |                         |                              |                          |
|-------------------------|------------------------------|--------------------------|
| (1) System Design Phase | (2) System Development Phase | (3) System Testing Phase |
| (4) Establishment stage | (5) All these                |                          |

45. Which one of followings is not a type of constraints?

- |                             |                               |                          |
|-----------------------------|-------------------------------|--------------------------|
| (1) Foreign key constraints | (2) Table lookup constraints  | (3) Non-zero constraints |
| (4) Primary Key constraints | (5) Alternate Key constraints |                          |

46.



Which are indicated by numbers 1,2,3 respectively in Above Arduino Uno?

- |   |  |
|---|--|
| (1) Reset button, Oscillator, USB port    | (2) Power indicator, Power supply jack, Oscillator |
| (3) Oscillator, Power indicator, USB port | (4) Reset button, USB port, Power indicator        |
| (5) USB port, Power indicator, Oscillator |  |

47. Which one does not belong to the cross-functional process?

- |                          |                           |                        |
|--------------------------|---------------------------|------------------------|
| (1) Sales process        | (2) Proof process         | (3) Production process |
| (4) Distribution process | (5) Financial and storage |                        |

48. Who makes recommendations about products and services based on user profiles?



- (1) Online Service Provider
- (4) Content Providers

- (2) Virtual Community
- (5) Information Brokers

- (3) Portals

49. Which of the following creates new channels for interactive communication between a company and its customers?

- (1) Customer Relationship Management Systems
- (2) Extranet
- (3) Enterprise Resource Planning Systems
- (4) Internet
- (5) Supply Chain Management Systems

50. An algorithm called AlphaGo is used

- (1) For machines with artificial narrow intelligence
- (2) To increase the robustness of artificial intelligence
- (3) Machines with artificial general intelligence
- (4) Machines capable of working in multiple fields
- (5) Robot called asimo