

අධ්‍යාපන පොදු සහතික පත්‍ර (ජාමාත්‍ර පෙල) විභාගය, 2009 දෙසැම්බර්  
ක්‍රේඩිප් පොතුත් තරාතරප් පත්‍රිර (සානාරණ තර)ප පාඨ්‍රස, 2009 දී ජේපර්  
General Certificate of Education (Ord. Level) Examination, December 2009

තොරතුරු හා සන්නිවේදන තාක්ෂණය I, II පැය තුනක්  
තකවල, තොටර්පාටල තොழිතුපවියල I, II මුළුන්තු මණිත්තියාලම  
Information & Communication Technology I, II Three hours

- Note: (i) Answer all questions.  
(ii) In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which you consider as correct or most appropriate.  
(iii) Mark a cross (X) on the number corresponding to your choice in the answer sheet provided.  
(iv) Further instructions are given on the back of the answer sheet. Follow them carefully.  
(v) After answering paper I and paper II, tie the two sets of answer scripts together and hand over.

- A doctor monitors the temperature of a patient having fever over a five hour period by:  
(A) laying the hand on the patient's forehead at an hourly interval.  
(B) asking the patient about the fever condition at an hourly interval.  
(C) drawing a graph using the readings obtained by a thermometer at an hourly interval.  
Which of the above gives/give the doctor, information about the patient's fever condition?  
(1) Only (A) (2) Only (B) (3) Only (C) (4) All (A), (B) and (C)
  - The invention of the Integrated Circuits marked the start of the ..... generation of computers.  
(1) first (2) second (3) third (4) fourth
  - Which row of the given table matches the two columns, Hard disk and Scanner correctly?  
(1) A  
(2) B  
(3) C  
(4) D
- |   | Input   | Output  |
|---|---------|---------|
| A | Storage | Input   |
| B | Input   | Storage |
| C | Output  | Input   |
| D | Input   | Output  |
- Consider the following statements given below.  
(A) Sequential access files cannot be stored in floppy disks.  
(B) Random access files cannot be stored in magnetic tapes.  
(C) Both sequential access files and random access files can be stored in Compact Discs.  
Which of the above statements is/are true?  
(1) (A) only (2) (B) only (3) (A) and (C) only (4) (B) and (C) only
  - The management of a certain cafeteria expects to offer a better service to their customers. As the first step they want to find out how long it has to be kept opened to serve food to all customers during lunch time. They hope to input the following data into a computer with relevant software in this regard.  
(A) The number of customers using the cafeteria during lunch time.  
(B) The number of cashiers.  
(C) The average time that a customer spends waiting in the queue.  
Which of the above should be input to the computer?  
(1) (A) and (B) (2) (A) and (C) (3) (B) and (C) (4) All (A), (B) and (C)
  - Travelling of two trains in opposite directions through a single track tunnel in a railway can be used as an example to explain:  
(1) simplex communication of data through a data channel.  
(2) half duplex communication of data through a data channel.  
(3) full duplex communication of data through a data channel.  
(4) point to point communication of data through a data channel.

7. Which one of the following is **incorrect** regarding Local Area Networks (LANs)?  
 (1) Geographically distributed in a small area  
 (2) Generally owned by a single person or an organization  
 (3) Consist of many shared data communications media with various interfaces  
 (4) Generally consist of topologies: Bus, Star and Ring
8. The minimum number of bits required to represent the Hexa-decimal number  $ACE_{16}$  is  
 (1) three. (2) nine. (3) eleven. (4) twelve.
9. What is the decimal equivalent of  $101011_2$ ?  
 (1) 27 (2) 41 (3) 43 (4) 51
10. 2 megabytes contain  
 (1)  $2^7$  bytes. (2)  $2^{21}$  bytes. (3)  $2 \times 10^6$  bytes. (4)  $2 \times 10^{20}$  bytes.
11. A student borrows Rs. 50 from his friend and paid it back completely in two installments A and B. Which of the following could be the binary equivalent of the installments?  
 (1)  $A = 100010_2$  and  $B = 1100_2$  (2)  $A = 100111_2$  and  $B = 1010_2$   
 (3)  $A = 100011_2$  and  $B = 1111_2$  (4)  $A = 100001_2$  and  $B = 1110_2$
12. The ASCII code of the character "A" is 65. Which one of the following represents the character "A" in binary?  
 (1)  $111111_2$  (2)  $110101_2$  (3)  $1000010_2$  (4)  $1000001_2$
13. Which one of the following values is **not** equivalent to  $1AF_{16}$ ?  
 (1)  $431_{10}$  (2)  $11010111_2$  (3)  $657_8$  (4)  $567_8$
14. If  $P=1010_2$  and  $Q=1111_2$  then  $P+Q =$   
 (1)  $11001_2$  (2)  $1A_{16}$  (3)  $AF_{16}$  (4)  $10101_2$
15. Which one of the following Boolean relations is verified by the given truth table?  
 (1)  $A + A = A$   
 (2)  $A \cdot A = A$   
 (3)  $A + A = A$  and  $A \cdot A = A$   
 (4)  $A + 1 = 1$
- | A | 1 | Output |
|---|---|--------|
| 0 | 1 | 1      |
| 1 | 1 | 1      |
16. Which of the digital logic symbols given in the table represent, NOT logic?  
 (1) A and B (2) B and C  
 (3) A and C (4) A, B and C
- |  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|
17. A father presents an electronic talking parrot to his son on his birthday. It can be controlled remotely by two push button switches. When both buttons are not pressed at all or pressed together, the parrot does not talk, but talks when either one of them is pressed. The digital logic that corresponds to the operation of the talking parrot is  
 (1) OR (2) AND (3) NOR (4) XOR
18. Which of the following is/are responsible for the management, coordination of activities and sharing of resources of a computer?  
 (1) Applications software (2) Operating system  
 (3) Systems utilities (4) Graphical User Interfaces (GUIs)
19. In word processing, the symbols respectively represent  
 (1) left, centre and right tab stops. (2) right, left and centre tab stops.  
 (3) left, right and centre tab stops. (4) right, centre and left tab stops.
20. A database that contains tables linked by common fields is called a  
 (1) flat-file database. (2) centralized database.  
 (3) distributed database. (4) relational database.

21. The Memo field of a table in a database is used to store  
 (1) lengthy text. (2) audio clips.  
 (3) video clips. (4) lengthy text and audio clips.

22. What is the part of a table in a database that contains one specific type of data?  
 (1) Query (2) Report (3) Record (4) Field

23. The given figure shows a part of an electronic worksheet created by a student to display two times table (2, 4, 6, .. 24). What formula would have been written into cell C1 by the student?

- (1) =A1\*B1  
 (2) =\$A1\*B1  
 (3) =A\$1\*B1  
 (4) =\$A\$1\*\$B\$1

	A	B	C	D
1	2	1	2	
2		2	4	
3		3	6	
..		..	..	
..		..	..	
12		12	24	

24. The given figure shows a part of an electronic worksheet which contains names of students and the percentage of marks obtained by them in an examination. The evaluation is done on the basis of obtaining at least 40 marks is a "Pass" and otherwise a "Fail".

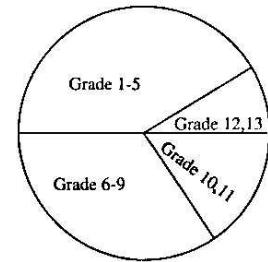
What is the formula that should be written into cell C2 in order to obtain the given results when it is copied downwards along the C column?

- (1) =IF(B2 > 40, "Pass", "Fail")  
 (2) =IF(B2 >= 40, "Fail", "Pass")  
 (3) =IF(B2 < 40, "Fail", "Pass")  
 (4) =IF(B2 <= 40, "Fail", "Pass")

	A	B	C	D
	Name	Marks %	Status	
1	David	65	Pass	
2	John	36	Fail	
3	Mary	40	Pass	
4	Charles	78	Pass	

25. The given Pie chart represents the grade wise distribution of 1000 students in a school. Which one of the following conclusions is **incorrect**?

- (1) There are more than 375 students in grades 1-5.  
 (2) There are more than 250 students in grades 6-9.  
 (3) There are more than 125 students in grades 10,11.  
 (4) There are more than 125 students in grades 12,13.

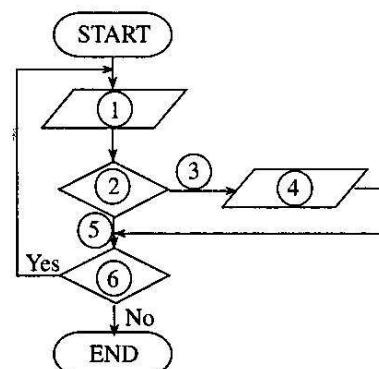


26. Which one of the following would return **FALSE** when entered into a cell of an electronic worksheet?

- (1) = 1 >= 1 (2) = 2 <> 1  
 (3) = NOT(1 + 1 = 2) (4) = AND(1 + 1 = 2, 1 - 1 = 0)

27. The given flowchart models the reading of a set of temperatures (T) and displaying a message "Cold" when they are below 26 °C. What is the correct sequence of the labels that should be denoted by the circles 1, 2, 3, 4, 5, 6 of the flowchart?

- (1) Read T, T < 26, No, "Cold", Yes, Any more?  
 (2) Read T, T <= 25, Yes, "Cold", No, Any more?  
 (3) Read T, Any more?, Yes, "Cold", No, T <= 25  
 (4) Read T, Any more?, No, T < 26, Yes, "Cold"



28. What will be the value output by Display Z of the given pseudo-code?

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

```

Begin
  X=1
  Y=1
  While (X=Y)
    Z=X+Y
    Y=2
  EndWhile
  Display Z
End
  
```

29. If N is an Integer variable, the following program code:

```

N=10
M=6
Do While M > 5
  N = N - 1
Loop
  
```

- (1) executes 6 times.
- (2) executes 5 times.
- (3) never begins.
- (4) never ends.

30. What is the order of precedence of operators used to evaluate the expression  $2*(3+4)-5/2+6$  in computer programming?

- |     |     |     |   |   |   |
|-----|-----|-----|---|---|---|
| (1) | ( ) | *   | / | - | + |
| (2) | *   | ( ) | - | / | + |
| (3) | +   | *   | - | / | + |
| (4) | ( ) | *   | - | / | + |

31.

Column X	Column Y
(A) Loop	(P) A given sequence of instructions is executed. (Q) A part of a program that operates automatically.
(B) Selection	(R) A condition that is used to choose one out of two things. (S) A programming technique that repeats a sequence of instructions until a specified condition is satisfied.

In computer programming, which one of the following relationships is correct, regarding the contents in columns X and Y of the table given above.

- |                          |                                   |
|--------------------------|-----------------------------------|
| (1) (A) with (Q) and (S) | (2) (A) with (S) and (B) with (R) |
| (3) (B) with (P) and (R) | (4) (B) with (Q) and (S)          |

32. What is the value of  $5 \bmod 2$  ?

- (1) 0
- (2) 1
- (3) 2.5
- (4) 3

33. The feasibility study about a given system should be carried out by

- (1) users of the proposed system.
- (2) managers of the organization.
- (3) systems analysts in consultation with the managers of the organization.
- (4) senior programmers in consultation with both prospective users and the managers of the organization.

34. What is the computer based information system that is used at the operational level of a business organization?

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| (1) Decision Support System       | (2) Transaction Processing System |
| (3) Management Information System | (4) Information management System |

35. A computer responsible for storing and managing data centrally in a computer network is called a/an  
(1) file server. (2) data server. (3) web server. (4) application server.
36. Consider the following three statements (A), (B) and (C).  
(A) Passwords are used to protect systems from viruses.  
(B) A key factor of determining systems vulnerability to attacks is weak passwords.  
(C) E-mailing a password is a secure method of distribution.  
Which of the above statements is/are false?  
(1) (A) only (2) (B) only (3) (C) only (4) (A) and (C) only
37. A virus that is disguised as a useful computer program is called  
(1) a spam. (2) a hacker. (3) a Trojan Horse. (4) a worm.
38. Which one of the following describes software piracy?  
(1) Copying of computer programs illegally  
(2) Backing up of all the software in the hard disk  
(3) Infecting hard disk with uncommon viruses  
(4) Selling Personal Computer software for a large profit
39. Which one of the following pairs of HTML tags is **incorrect**?  
(1) <html> </html> (2) <body> </body> (3) <title> </title> (4) <br> </br>
40. Digital divide separates  
(1) hardware into two categories, analog and digital.  
(2) software into two categories, systems and applications.  
(3) firmware into two categories, ROM and CMOS RAM.  
(4) people into two categories, 'computer literate' and 'computer illiterate'.

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