

සබරගමුව පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව

Sabaragamuwa Provincial Department of Education

තෙවන වාර පරීක්ෂණය - 2018

13 ශ්‍රේණිය

Third Term Test – 2018

Grade 13

තොරතුරු හා සන්නිවේදන තාක්ෂණය I

පැය දෙකයි

Information and Communication Technology I

Two hours

Index no:

Answer all the questions.

01. Which of the following is a characteristic of 4th generation computers?

- I. Having processors with very large integrated circuits.
- II. Beginning to use mouse.
- III. Provide PDP as an example.
- IV. Based of Artificial intelligence.
- V. Using many transistors.

02..... is not a data validity check;

- I. Type check
- II. Format check
- III. Double entry check
- IV. Range check
- V. Length check

03. What is the octal equivalent of 1110.01101_2 ?

- I. 61.32_8
- II. 14.32_8
- III. 32.16_8
- IV. 16.32_8
- v. 14.64_8

04. Which of the given is the twos complement of decimal number 51?

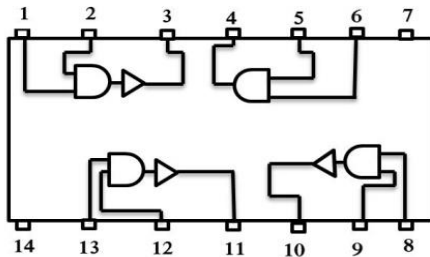
- I. 11001101_2
- II. 00110010_2
- III. 00110011_2
- IV. 11001111_2
- V. 101100111_2

05. $12_8 \times 7_8 = ?$

- I. 106_{10}
- II. 601_{10}
- III. 106_8
- IV. 601_8
- V. 611_8

06. The simplified solution of the Boolean expression $F = X\bar{Y}Z + \bar{X}YZ + XYZ$ is;
- | | | |
|------------------|-----------------|------------|
| I. $Z + (X + Y)$ | III. ZY | V. $X + Y$ |
| II. $Z(X + Y)$ | IV. $Y + (X.Z)$ | |

07. Consider following circuit.



Which of the following is incorrect regarding 4,5,6 leads of above circuit?

- | |
|--|
| I. When lead 6 =1 and lead 5=0, lead 4=0 |
| II. When lead 6 =0 and lead 5=1, lead 4=0 |
| III. When lead 6 =1 and lead 5=0, lead 4=1 |
| IV. When lead 6 =0 and lead 5=0, lead 4=0 |
| V. When lead 6 =1 and lead 5=1, lead 4=1 |
08. Which of the following doesn't represent $Q = \bar{P}\bar{Q} + P\bar{Q}\bar{R} + \bar{P}\bar{Q}R$?
- | | |
|---|---------------------------------------|
| I. $Q = \bar{P}\bar{Q} + P\bar{Q}\bar{R}$ | IV. $Q = P(P\bar{Q} + \bar{Q}R)$ |
| II. $Q = \bar{P}\bar{Q}(\bar{Q} + \bar{R})$ | V. $Q = P(P\bar{Q} + \bar{Q}\bar{R})$ |
| III. $Q = \bar{Q}(\bar{P} + P\bar{R})$ | |

09. The task of BIOS during the booting up process of the PC is;

- | |
|--|
| A- Check the accuracy of the power supply |
| B- Bringing the OS to main memory. |
| C- Check the functionality of basic hardware |
| D- Reading instructions stored in CMOS |
- | | | |
|------------------|------------------|-------------------|
| I. A only | III. C only | V. B,C and D only |
| II. A and C only | IV. C and D only | |

10. is a component of CPU.

- | | |
|----------|---------------------|
| I. ROM | IV. L3 Cache memory |
| II. RAM | V. Main memory |
| III. ALU | |

11. Which of the following is not a type of scanner?

- I. MICR
- II. OMR
- III. OCR
- IV. Digitalizer
- V. Barcode Reader

12. A running state process will transit to blocked state due to.....

- I. Timeout
- II. I/O waiting
- III. dispatch
- IV. Swapping
- V. Temporary stop

13. Consider following statements.

A- Any OS can run on any processor

B- An OS is designed and developed for a special group of processors.

Which of the following is correct regarding above statements?

- I. Both A and B is true.
- II. A is false but B is true.
- III. A is true but B is false.
- IV. Both A and B is false.
- V. B is true and A is acceptable.

14. form the data transmitted to the network as suitable data structures relevant to adjacent layer.,

- I. Presentation layer
- II. Application layer
- III. Session layer
- IV. Transport layer
- V. Network layer

15. Which of the following is an incorrect statement about logical address and physical address?.

- I. The logical address is assigned by a software but physical address is a fixed number.
- II. The physical address consists of two parts. One part manufacturer number and the other is NIC number.
- III. The physical address is stored in a memory chip of NIC card..
- IV. Two computers cannot have same physical address.
- V. One physical address is available for one or more PCs.

16. An outsider is trying to steal username and password which can be used to access an information system. What type of threat does this action belong?

- I. Spoofing
- II. Elevation of privilege
- III. Reputation
- IV. Port Scan
- V. Phishing

17. White hat hacker is a;

- I. Person who access network unauthorized manner and steal data
- II. Authorized person who can be assigned to check security of a network.
- III. Person who steal data by directly accessing to PC..
- IV. Person who steal and sell data.
- V. Person who use a device to maintain the network.

18. Which topology can be formed by using only one hub or a switch?

- I. Star
- II. Bus
- III. Hybrid
- IV. Ring
- V. Tree

19. Which of the following consists application layer protocols of OSI 7 layer model?

- I. HTTP,HTTPS,FTP,RPC,UDP
- II. RPC,HTTP
- III. HTTP,TCP,UDP
- IV. HTTP,TCP,UDP,TELNET,SMTP,POP3,SNMP
- V. HTTP,HTTPS,FTP,TELNET,SMTP,SNMP

20. If the subnet mask of a class B network is 255.255.255.224 . How many computers are available in a single subnet ?

- I. 8
- II. 30
- III. 64
- IV. 62
- V. 126

21. What is the subnet mask of a Class C network which should be divided into at least 5 subnets which consist 16 computers within a single subnet?

- I. 255.255.255.0
- II. 255.255.255.224
- III. 255.255.255.192
- IV. 255.255.255.248
- V. 255.255.255.64

22. If the network address is given as 172.16.0.0/19, How many subnets and Hosts can be connected?.

- I. 07 subnets and 30 computers to each subnet.
- II. 08 subnets and 8190 computers to each subnet.
- III. 08 subnets and 2046 computers to each subnet.
- IV. 07 subnets and 2046 computers to each subnet.
- V. 08 subnets and 30 computers to each subnet.

23. Which of the following is not a valid subnet mask?

- I. 255.255.255.0
- III. 0.255.255.128
- V. 255.255.0.0
- II. 255.255.255.192
- IV. 255.255.255.248

24. Which of the following statements describes a functional requirement of a digital camera?

- I. Should be light in weight
- II. Shall be able to provide one year warranty for battery
- III. Should provide a USB cable
- IV. Shall to able to take a photo
- V. Should have a memory card with sufficient capacity.

25. What is the correct SQL code to retrieve Registration number, Student's name, Course and academic year ?

- I. Select S.Register No, S.Student Name, C.course, R.Academic Year
From Student S, Couse C, Register R
WHERE S. coursed = R.Courseid
- II. SELECT Register No, Student Name, Course, Academic Year
FROM Student, course
WHERE Register No = Courseid
- III. SELECT S. Register No, S.Student Name, C,course R.Academic Year
FROM Student S, course C,Register R
WHERE s.courseid = R.courseid AND S.Courseid = C.courseid
- IV. SELECT S.Register No, S,student Name, C.course, R.Academic Year
From student S.course c,Register R

WHERE s. courseid = R.courseid or s.courseid =c.courseid

V. SELECT S. Register No, s.student Name, C.course, R.Academic Year
FROM student S,Register R,course c
WHERE S.courseid =C.courseid

?

26. A university has designed a database which store students admission number (ADNO), Student name (stName), National ID Card number (NIC) ,Course name (course), Course name (courseid) and lecturer's name (lecturer). Which of the following is/are relational schema/s relevant to above database is in 2NF ?

- A . Student (ADNO, stName, NIC, courseid)
Course (courseid, course)
- B . Student (ADNO, stName, NIC, courseid, course)
Course (courseid, lecturer)
- C . Student (ADNO, stName, NIC)
Course (courseid, course)

- I. A only.
- II. B only.
- III. C only.
- IV. A and B only.
- V. B and C only

27. Which of the following systems depend on AI?

- A – Expert Systems
- B – Enterprise Resource Planning Systems
- C – Multi agent Systems
- D – Geospatial Information Systems

- I. A and B only.
- II. A and D only.
- III. C and D only.
- IV. A and C only.
- V. B and D only.

28. Consider following components

- A. Graphs
- B. Maps
- C. Animations
- D. Text

Which of the above can be found in a web page?

- I. A,B,C only.
- II. A,B only.
- III. A,C only.
- IV. A,D only.
- V. A,B,C,D only.

29. What is the correct tag to insert a form to a HTML document?

- I. <f>
- II. <input>
- III. <p>
- IV. <form>
- V. <forms>

30. Consider following HTML code.

```
<html>
  <head>
    <title>countries</title>
  </head>
  <body>
    <p><!--<h1> sri lanka</h1>- -></p>
  </body>
</html>
```

What will be the output if this code is rendered?

- I. “ sri lanka “ will be displayed in the title bar and “ country “ in header.
- II. “ country” will be displayed in the title bar.
- III. “ sri lanka“ will be displayed in the title bar.
- IV. <p><!-- <hi> sri lanka </hi> </p> will be displayed in the body of the page.
- V. There will be no outputs

31. Consider following output segment of a HTML form.

First name

What is the correct code which can be used to get above output?

- I. First name <input type = “ submit” value = “ submit” >
- II. <input type = “text” name = “textbox1”>
- III. <input type = “text” name = “first name”>
- IV. <input type = “box” name = “first name”>
- V. First name <input type = “ text” name = “ text” >

32. What is the correct output of following code segment?

```
<h1>Type of Memory</h1>
<dl>
  <dt>RAM</dt>
  <dd>Random access memory </dd>
  <dt>ROM </dt>
  <dd> Read only memory</dd>
</dl>
```

i

Type of memory
Ram
Random access memory
ROM
Read only memory

ii

Type of memory
Ram
Random access memory
ROM

iii

Type of memory
Ram
Random access memory
ROM

iv

Type of memory
Ram
Random access memory
ROM
Read only memory

v

Type of memory
Ram
2. Randr access memory
ROM
2.Read only memory

33. Which of the following python code segment is syntactically correct?

I. total = 0
 for i in range(1 : 12):
 total = total + i

II total = 0;
 for i in range(1 : 12):
 total = total + i

III.
 total = 0
 for i in range(1 : 12):
 total = total + i

IV.
 total = 0
 for i in range(1 : 12)
 total = total + I;

V.
 total = 0
 for i in range(1 : 12)
 total = total + i

34. What is the correct html code segment to get following output?

1	
2	3
	4

I) <table border =“/td”
 <tr><td colspan“2”</td>
 </tr><tr>
 <td row span “2”</td>
 <td>3</td>
 </tr><tr>
 <td>4</td>
 </tr></table>

II) <table border =“1”
 <tr>
 <tr><td colspan“2”>1<</td>
 </tr><tr>
 <td row span “2”>2</td>
 <tr>< th >3</th>
 <th>4</th>
 <tr></talbe>

III) <table border =“1”>
 <tr><td colspan=“2”.1</td>
 </tr><tr>
 <td rowspan=“2”>2</td>
 <td>3</td>
 <td>4</td>
 </tr></table>

IV) <table border =“1”
 <tr>
 <tr><td colspan= “2”>1</td>
 </tr><tr>
 <td rowspan “2”>2</td>
 </tr><tr>
 <td > 3 </td> < /tr>
 <tr>
 <td>4 </td></tr>
 </table>

V) <table border =“1”
 <tr><td colspan“2”>1<</td>
 <tr> 2 <th>
 <tr> <tr>
 <th> 3 < /th>
 </tr> clhdh>
 </tr> < tr>
 <th> 4 </th> </tr>
 </table>

35. What is the correct output of given code segment?

```
<ol type =“A ”>
<li> name </li>
<ul type = “square ”>
<li> Saman </li>
<li>Kamal </li>
</ol><ul type=”square”>
<li> Rathnapura </li>
<li> Kuruwita </li>
</ol> </ul>
```

(1) 1 Name

- Saman
- Kamal

2 City

- Rathnapura
- Kuruwita

(2) 1 Name

Saman
kamal

2 City

Rathnapura
Kuruwita

3) A Name

Saman
Kamal

B City

Rathnapura
Kuruwita

(4) A Name

- Saman
- Kamal

B. City

- Rathnapura
- Kuruwita

(5) A. Name

Saman
Kamal

B. City

Rathnapura
Kuruwita

36. < a href = “sabaragamuwa.html ” target =“-blank ”>

Sabaragamuwa

The above code displays the web page “sabaragamuwa.html” in;

- I. Same window
- II. Same frame
- III. New window
- IV. A frame called “-blank ”
- V. A window called “-blank ”

37. Consider following CSS code

```
h2 {color:green;}
```

Which answer shows the types of h2, color, green in correct sequence ?

- I. Selector, Valve, Property
- II. Property, Valve, Selector
- III. Selector , Property , Valve
- IV. Valve, Property, Selector
- V. Valve, Selector, Property

38. What is the output of following python code?

```
data = [25, 28, 30, 40, 85, 92, 73]
```

```
for i in data:
```

```
    if i >= 40:
```

```
        print(i, end=",")
```

- I. 25, 40, 85, 92, 73
- II. 40, 85, 92, 73
- III. 73, 92, 85,
- IV. 28, 30, 85, 92
- V. 25, 28, 30, 40, 85, 92, 73

39. Which of the following is a part of an expert system?

- I. Search engine
- II. Knowledge base
- III. Software agent
- IV. Agent system
- V. Swarm intelligent agent

40. What is the e-commerce type of a web page which facilitate customer feedback services to organization?

- I. B2B
- II. B2C
- III. C2B
- IV. B2G
- V. E2B

41. Some films use computer applications instead of people, animals and devices.

This scenario is an example for

- I. Expert system
- II. Software agent system
- III. Artificial intelligence
- IV. Ubiquitous computing
- V. Neural networks

42. Which of the following statements is correct regarding open and close status of a system?

- I. A bank ATM machine should be a closed system.
- II. A general purpose computer can be considered as an open system.
- III. Human blood circularly system is an open system.
- IV. Mobile phone is a closed system.
- V. Solar power system is a closed system.

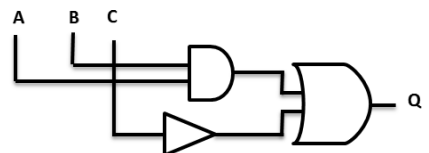
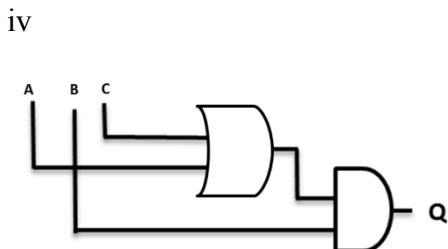
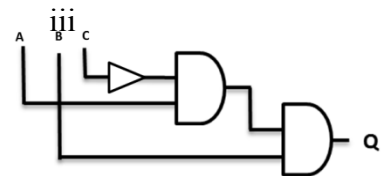
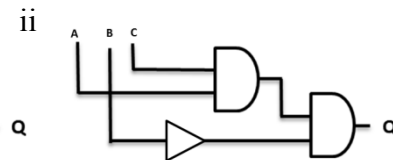
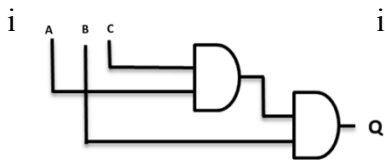
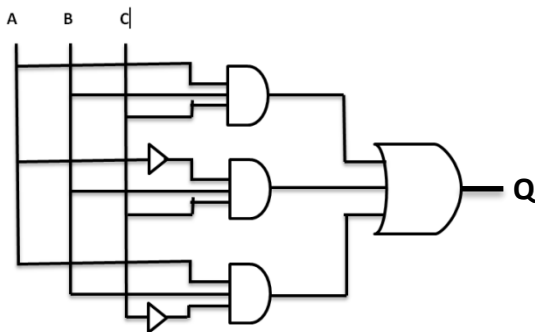
43. Consider following statements about databases.

- A- Computer database management needs human resources than a manual system
- B- Data storing is more efficient than a manual system
- C- Minimized errors in data storing
- D- Data duplication and redundancy exists.

Which of the above are true regarding a carefully designed database?

- I. A and B only
- II. A and D only
- III. B and C only
- IV. B and D only
- V. C and D only

44. Which small circuit shows the same functionality of the given circuit?



45. What is the task of SMTP ?

- I. To send an e-mail
- II. To prepare an e-mail address
- III. To transmit a page with in a web server to client pc
- IV. To secure transmission of a web page within a network
- V. None of given

46. What is the output of following python code ?

```
a = 3
b = 8
def max(a,b):
    if a > b:
        return a
    else:
        return b
print(max(9,7))
print(b)
```

- I. 97 II. 79 III. 98 IV. 89 V. 983

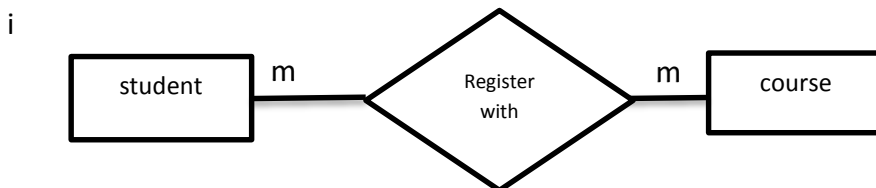
47. Consider following relational schemas

- Student(registrationNo, Name, CourseId)
- Course(courseId,course)
- Register (Academic_year, Due_date, RegistrationNumber,CourseId)

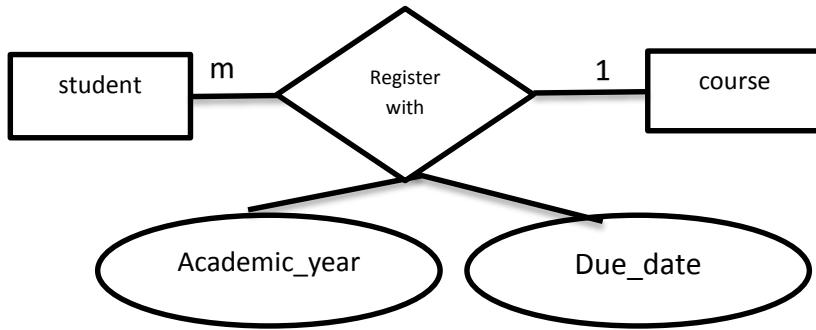
Here the RegistrationNumber, CourseId are uniques numbers of relations student and course respectively. What will be the correct primary key for Register relation?

- I. Academic_year
- II. CourseId
- III. Acedemic_year,RegistrationNumber
- IV. RegistrationNumber, CourseId
- V. Acedemic_year, Course Id

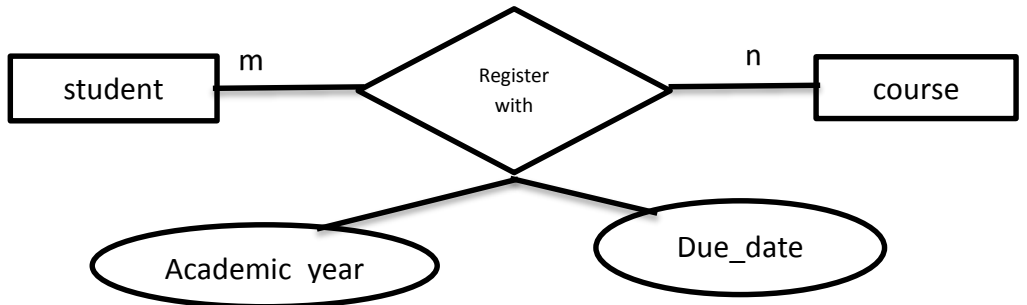
48. Which of the following is the correct ER to represent above schema?



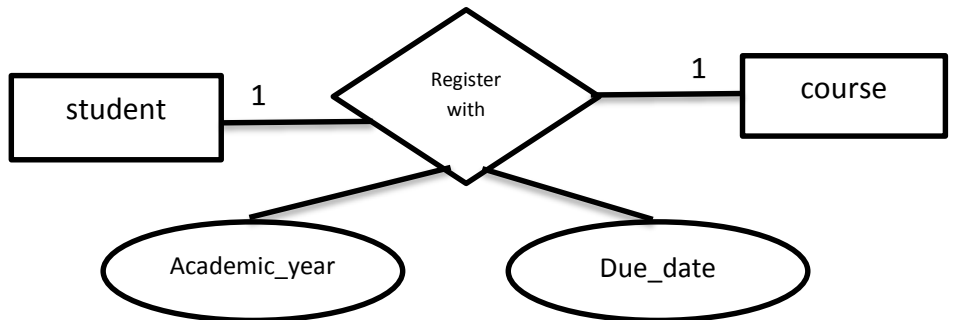
ii



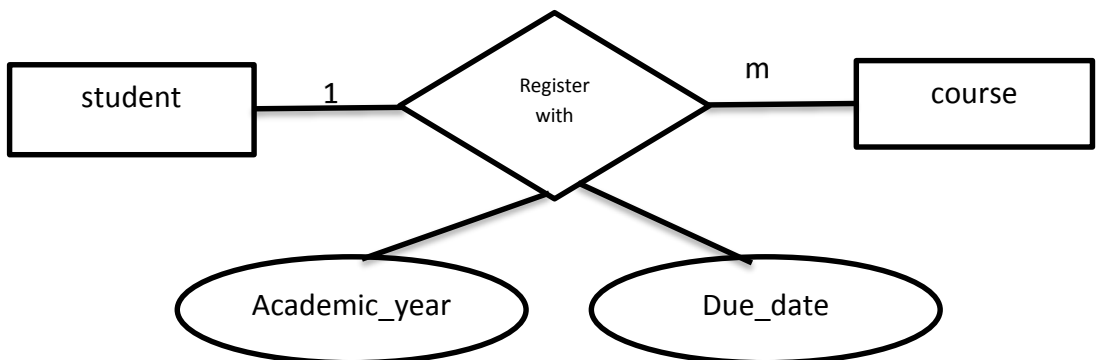
iii



iv



v



49. Consider following python data

8.9, ['Nimal', 55, 'male'], ('abc', 45), {1: 'name', 2: '0719501212'}

The data types in correct sequence are;

1. int, list, tuple, dictionary
2. float, tuple, list, dictionary
3. float, list, tuple, dictionary
4. string, array, tuple, list
5. float, array, list, dictionary

50. if python variables are assigned as a = 13, b = 2.5, c = 3. What is the output of python expression $a \% 3 * c + 10 / b$?

- I. 5.2 II. 7.0 III. 13.0 IV. 16.5 V. 51
-