

STUDENT SEMINAR SERIES - 2018

ශිෂ්‍ය සම්මන්ත්‍රණ මාලාව - 2018

INFORMATION & COMMUNICATION TECHNOLOGY

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QUESTION PAPER – I, II

ප්‍රශ්න පත්‍රය -I,II

(ENGLISH MEDIUM)



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Ministry of Education e-learning and Nenasa educational programs unit G.C.E. Ordinary Level – Support Seminar – 2018		
80 Information & Communication Technology - I		
Grade 11	English Medium	Time–1 Hours
<ul style="list-style-type: none">• Answer all the questions.• Each question carries 1 mark.		

01. Consider the following statements which are described about features of an information.

A – It is not suitable to consider only a part of citizens of a particular area of a country to calculate the PCI (Per Capital Income).

B – It is not suitable to use the weather report of yesterday to get a decision regarding tomorrow's weather condition.

Which features of an information is described using the above-mentioned statements separately?

- | | |
|-----------------------|------------------------|
| (1). A - Accuracy | B – Relevancy |
| (2). A – Completeness | B – Timeliness |
| (3). A - Completeness | B – Accuracy |
| (4). A - Accuracy | B – Cost effectiveness |

02. Select the incorrect statement regarding the evolution of the computer.

- (1). Punched cards were used to enter data into the computer with first generation computers.
- (2). All calculations including addition, subtraction, division and multiplication could be performed with Adding Machine.
- (3). Operating systems with graphical user interfaces were used with fourth generation computers.
- (4). High level languages were used with third generation computers.

03. Followings are advantages that the teacher can get from a learning management system.

A – Can access and study from any place at any time.

B - Can get answers through forums.

C - Can use content at their own speed

What is/are the advantage/s from above-mentioned factors which are relevant only for teachers for teaching process?

- (1). Only A.
- (2). Only B.
- (3). A and B only
- (4). All A, B and C.

04. Following table consists computer devices and their uses. Select the answer which shows the correct combination.

a		b	
A	Reading cheques	1	MICR
B	Reading credit cards	2	QR Code reader
C	Read MCQ answers	3	OMR
D	Access website of the product	4	ATM

- (1). A – 2 , B – 4, C – 3 , D– 1
 (2). A – 1 , B – 4, C – 3 , D– 2
 (3). A – 4 , B – 3, C – 4 , D– 2
 (4). A – 2 , B – 4, C – 1 , D– 3

05. What is the printer type which is mostly used in businesses and Automatic Teller Machines?

- (1). Thermal Printer
 (2). Laser Printer
 (3). Ink Jet Printer
 (4). Line Printer

06. What is the memory which is located to store frequently used data and programs and which helps to increase the speed of the computer?

- (1). Memory Registers
 (2). Cache Memory
 (3). Read Only Memory
 (4). Random Access Memory

07. There is a shop which gives discounts for their products. To get discounts, a customer needs to buy a product from type A or type B as the first product. He has to select a product from C as the second product and another product must be bought from type D.

According to the above situation, select the expression which describes the combination of products using Boolean expression.

- (1). A and B and C and D
 (2). (A or B) and C and D
 (3). (A or B) and (C or D)
 (4). (A and B) or (C and D)

08. 1101101_2 is not equals to

- (1). 109_{10}
 (2). 155_8
 (3). $6D_{16}$
 (4). 119_{10}

09. Following table consists of secondary storage devices and their types. Select the option which shows the correct combination.

- (1). A – 1 , B – 2, C - 3
 (2). A – 3 , B – 2, C - 1
 (3). A – 2 , B – 1, C - 3
 (4). A – 3 , B – 1, C - 2

a		b	
A	Hard disk	1	Solid state
B	Compact disc	2	Optical state
C	USB flash drive	3	Magnetic state

10. Which one of the following is not useful for online communication?

- (1). VOIP
 (2). Online Chat
 (3). Social websites
 (4). A computer without internet connection

11. Three communication media which can be used for networks are given below. Which one of the following statements is correct regarding the given images?

A



B



C



- (1). Networking can be done with low cost using B.
 (2). Networking can be done with low cost using A than B.
 (3). Both A and B can be used to configure a network with same budget.
 (4). None of the above
12. Which one of the following is used to control the communication?
 (1). Server (3). Protocol
 (2). Router (4). Internet
13. What is the Most Significant Bit and the Least Significant Bit of the given number?
 01010.1010_2
 (1). 1 and 1 (3). 0 and 0
 (2). 1 and 0 (4). 0 and 1
14. What are the Boolean gates which are relevant to following truth tables?

A

X	Y	Output
0	0	1
0	1	0
1	0	0
1	1	0

B

X	Y	Output
0	0	0
0	1	1
1	0	1
1	1	1

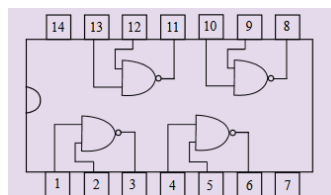
- (1). NOR and OR (3). AND and NOR
 (2). AND and NOR (4). NAND and OR
15. You are required to copy following files to your flash drive which has only 2 GB space. What are the files that you can store into your flash drive according to the space available?
- | File | Capacity |
|------|----------|
| A | 540 MB |
| B | 1 GB |
| C | 450 MB |
| D | 1000KB |
- (1). Only A, B and C
 (2). Only A, B and D
 (3). All A, B, C and D
 (4). Only A and B

16. Equivalent BCD code for 59 is

- (1). $0101\ 1001_{BCD}$ (3). $0101\ 1011_{BCD}$
 (2). $1101\ 1001_{BCD}$ (4). $1001\ 1001_{BCD}$

17. What values should be there for pins 1 and 2 respectively, if the output (pin 3) is 0 of the given circuit?

- (1). 0 and 0
 (2). 0 and 1
 (3). 1 and 0
 (4). 1 and 1



18. BIOS, POST, MBR, CMOS are used in booting up process of a computer. According to the initial process of a computer, which one shows the correct order of them?

- (1). BIOS --> POST --> CMOS--> MBR
- (2). BIOS --> CMOS --> POST --> MBR
- (3). MBR --> BIOS --> POST --> CMOS
- (4). BIOS --> CMOS --> MBR --> POST

19. What is the software that helps to prepare a disk to use as a new disk to store files and folders?

- (1). Disk formatting
- (2). Anti-virus software
- (3). Disk defragmentation
- (4). Database management software

20. It is important to use a word processing software to prepare a document than using a type writer. Select the statement which does not prove the above statement?

- (1). It is easy to find and correct grammatical errors.
- (2). It is easy to find a word and replace it with another term.
- (3). It is easy to prepare a document to send to number of recipients.
- (4). It is easy to do calculations with given functions.

21. What is the correct answer for the calculation given below?

$$8+2*3^2/6-3$$

- (1). 8
- (2). 5
- (3). 8.66
- (4). 10

Use the following spreadsheet to answer the question number 22 and 23.

	A	B	C	D	E	F	G
1							
2	X	10	20	15	13	40	
3	Y	5					
4	X*Y	50	100	75	65	200	
5	(X*Y)^2	2500	10000	5625	4225	40000	
6	(X*Y)+Y	55	105	80	70	205	
7							

22. It is required to find the values from B4 to F4 according to the cell A4. What is the correct formula which should be entered in cell B4?

- (1). B4=B2*\$B3
- (2). =B2*\$B3
- (3). =\$B2*\$B3
- (4). =\$B2*\$B\$3

23. Which cannot be the formula for cell B6 according to the given spreadsheet?

- (1). =(B2*\$B3)+\$B3
- (2). =(B2*\$B\$3)+\$B3
- (3). =(B2*\$B3)+\$B3
- (4). =(B2*B3)+B3

24. You are going to prepare an electronic presentation for a seminar which has about 250 students. Which one of the following is not considerable for your preparation?
- (1). Letters and background colours
 - (2). Students' personal idea about the subject
 - (3). Correct use of language
 - (4). Use of proper animations and images
25. You are using the letter “P” and letter “W” separately while presenting your presentation. What is the expected function of each letter respectively.
- (1). Go to previous slide and to exit from the presentation
 - (2). Go to previous slide and to show the screen with white colour
 - (3). To print the slide and to show the screen with white colour
 - (4). Go to previous page and to go to next slide
26. Security of a database is very important and most of the time, those are converted into unreadable format and it is converted back when they are retrieved. This security mechanism is called,
- (1). Data coding
 - (2). Data encryption
 - (3). Decoding
 - (4). Use of password

Use the following database to give answers for question number 27 and 28.

Account:

AccountType	Name	Rate	Terms
A	Private	10.00%	30
B	Corporate	7.00%	60
C	Preferred	5.00%	90

Loan:

LoanID	DistributionDate	CustomerID	LoanAmount
120	3/10/00	1234	\$500.00
121	4/4/00	2233	\$10,000.00
122	3/14/00	1234	\$500.00
123	3/15/00	1123	\$1,000.00

Customer:

CustomerID	FirstName	LastName	AccountType	DateAcquired
1123	Barney	Rubble	A	4/1/00
1234	Bugs	Bunny	B	4/4/00
2134	Fred	Flintstone	B	12/1/99
2233	Herman	Munster	A	3/5/90
3324	George	Jetson	C	3/30/93
3333	Jane	HisWife	A	3/31/93

27. What can be the relationship among Account table and Customer table?
- (1). One to Many
 - (2). Many to Many
 - (3). Many to One
 - (4). One to One
28. What are the suitable data types for Account type of **Account table**, dateAcquired of **Customer table** and LoanAmount of **Loan table** respectively?
- (1). Date, Text, Currency
 - (2). Text, Date, Currency
 - (3). Text, Currency, Date
 - (4). Currency, Text, Date

29. Consider the following pseudocode.

What can be the correct output of the given pseudocode?

- (1). 12 6 3
- (2). 15 12 9 6 3
- (3). 15 12 6
- (4). 3

```

begin
  a=15
  while a>3 do
    If a%2=0 then
      display a
    endif
    a=a-3
  end while
  display a
end
    
```

30. What are the values of elements of the following array according to the given pseudocode?

num[0]	num[1]	num[2]	num[3]	num[4]

- (1).

0	10	20	30	40
Num[0]	Num[1]	Num[2]	Num[3]	Num[4]
- (2).

0	20	20	30	40
Num[0]	Num[1]	Num[2]	Num[3]	Num[4]
- (3).

0	10	10	30	40
Num[0]	Num[1]	Num[2]	Num[3]	Num[4]
- (4).

10	20	30	40	50
Num[0]	Num[1]	Num[2]	Num[3]	Num[4]

```

Start
  X=0
  For x=0 to 4 do
    num[x]=x * 10
  next x
  num[1]=num[2]
stop
    
```

31. Following table consists of terms regarding programming and their descriptions. Select the answer which shows the correct combinations.

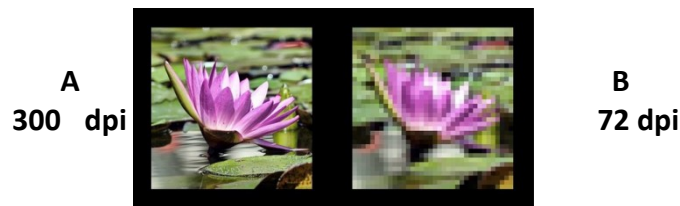
a		b	
A	Interpreter	1	Consists of functions and procedures
B	Structured	2	Basic elements of object-oriented programming concepts.
C	Class	3	Program will be executed completely if it does not contain syntax errors.

- (1). A – 1 , B – 2, C - 3
- (2). A – 3 , B – 2, C - 1
- (3). A – 2 , B – 1, C - 3
- (4). A – 3 , B – 1, C - 2

32. Planning the solution is an important stage of developing an information system. Which cannot be considered as a sub function of this planning process?

- (1). Measure the dependency of sub systems
- (2). Planning test cases
- (3). Identify Databases
- (4). Parallel deployment

33. System can be developed by adding modifications/ new parts gradually. What is the correct answer which described this development model for an information system?
- (1). Waterfall model (3). Incremental model
(2). Prototype model (4). None of the above.
34. Which one of the following/s is/are not service/s of cloud computing?
- A - service of a server computer
B - service of a firewall
C - need to buy software
D - can get the service successfully even under a low internet connection
- (1). Only A and B (3). Only A and C
(2). Only C and D (4). Only A,B and C
35. Ishan needs to send an email to Nadeesha. He copies it to Shamika and he needs to send to Rushan as Bcc. Select the incorrect statement of sending this email?
- (1). Nadeesha cannot see that the email has sent to Rushan.
(2). Shamika cannot see that the email has sent to Rushan but Rushan can see that the email has sent to Shamika.
(3). Rushan cannot see that this mail has sent to Nadeesha and Shamika.
(4). Rushan can see that the mail has sent to Nadeesha.
36. Resolution of following images are given. Select the correct statement according to the given information.



- (1). Dots per inch of image A is 300 and the resolution of B is higher than A.
(2). Resolution of the image B is lower than A and as a result of that the quality of B is low.
(3). According to the given information, number of colour combinations of A is higher than B
(4). Size of the image A is lower than B.
37. Which one of the following is not considerable when we are going to select a media resource for a web page?
- (1). Graphic compression
(2). A video with higher frame rate
(3). An audio with minimum number of channels
(4). A resource which is taken with the approval of the owner

38. What is the correct output of the following HTML code segment?

```
<ul>
  <li>Monitors</li>
    <dl>
      <dt>CRT</dt>
      <dd>Cathode Ray Tube</dd>
      <dt>LCD</dt>
      <dd>Liquid Crystal Display</dd>
      <dt>LED</dt>
      <dd>Light Emmited Diode</dd>
    </dl>
  <li>Printers</li>
  <li>Speakers</li>
</ul>
```

- | | |
|--|--|
| <p>(1).
• Monitors
 CRT
 Cathode Ray Tube
 LCD
 Liquid Crystal Display
 LED
 Light Emmited Diode
• Printers
• Speakers</p> | <p>(3).
◆ Monitors
 ○ CRT
 ▪ Cathode Ray Tube
 ○ LCD
 ▪ Liquid Crystal Display
 ○ LED
 ▪ Light Emmited Diode
◆ Printers
◆ Speakers</p> |
| <p>(2).
• Monitors
 ▪ CRT
 ▪ Cathode Ray Tube
 ▪ LCD
 ▪ Liquid Crystal Display
 ▪ LED
 ▪ Light Emmited Diode
• Printers
• Speakers</p> | <p>(4).
• Monitors
 1. CRT
 Cathode Ray Tube
 2. LCD
 Liquid Crystal Display
 3. LED
 Light Emmited Diode
• Printers
• Speakers</p> |

39. Select the malicious software which can be executed and spread alone.

- | | |
|-------------------|---------------|
| (1). Worms | (3). Hijacker |
| (2). Trojan horse | (4). Phishing |

40. What cannot be considered as a benefit that is directly occurred due to ergonomics of an organization?

- (1). Increases job satisfaction of employees
- (2). Increases the productivity of the organization
- (3). Increases the accuracy of information
- (4). Reduces health issues which are occurred due to employment.

Ministry of Education
e-learning and Nenas educational programs unit
G.C.E. Ordinary Level – Support Seminar – 2018

80 Information & Communication Technology - II

Grade 11

English Medium

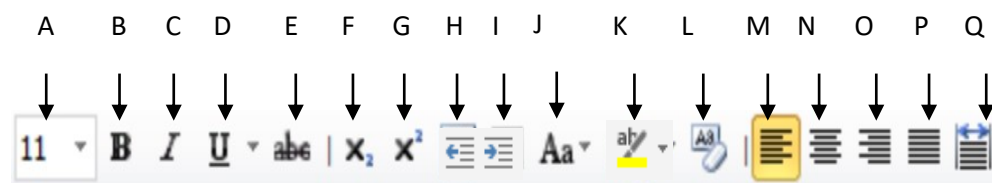
Time–2 Hours

- Answer **all** the questions.
- Each question carries **1 mark**.

01.

- (1). You are going to prepare a weather forecasting report. Write 4 features of an information which should be included in the information that you provide through the report.
- (2). A student is going to apply for a professional course and he has to pass the entrance examinations to start the course. First, he has to pass the written test. He must have passed from ICT subject of Advanced level examination or he has to pass the practical test to face the oral test. If he completed the oral test only he can start the course.
Write the Boolean expression which describes the Entrance qualifications.
- (3). Write the equivalent decimal number for FA_{16} and convert your answer to the BCD code.
- (4). A pixel of an image of a web site represents 16 colours. How many bits are needed to store one pixel of this image?
- (5). Following table Shows a formatted text and the text before formatting. Use the given set of tools and write the relevant letter of the tool for each formatting.

Before formatting	After formatting	Used tools
history of srilanka. The earliest human remains found on the island of Sri Lanka Sri Lanka date to about 35,000 years ago.	HISTORY OF SRI LANKA. The earliest human remains found on the island of Sri Lanka Sri Lanka date to about 35,000 years ago.	1..... 2..... 3..... 4.....



(6). How many times the following pseudocode will print the given values?

```

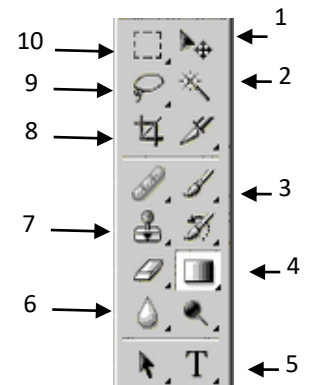
x=1
y=0
while x<=2 do
    while y<=1 do
        print (x*y)
        y=y+1
    end while
    x=x+1
end while
    
```

(7). Following table consists of functions of an operating system and examples for them. Match each example with a function and write them.

A		B
Process management	A	Print a letter while downloading a file
File management	B	Maintain folders according to the requirement
	C	Update the change in a name of a file
	D	Allocate the time required for a calculation

(8). Write the correct number which is required to complete the given tasks.

A	Cut and remove an unnecessary part of an image
B	Apply a gradient colour for the background of an image
C	Enter a text in to a graphic
D	To get a part of an image which consists of a selected colour



(9). When you are going to configure a network with 10 computers

- Write an advantage and a disadvantage of using Shielded twisted pair cable for that.
- Which media can be used to prevent from the disadvantage that you mentioned above.

(10). When we are going to prepare an information system for a large-scale business,

- Write a method to collect information Quickly.
- Mention two testing methods that you can use before implementing the system.

02. Following is a spreadsheet which is used to keep details of sales in an organization. Study it and write answers for given questions.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Sales Details - January to March												
2													
3	pro_num	Pro_name	Unit price	Quantity			Total price			Total price (Discounted)			Highest sale
4				Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar	
5	p0034	cupboard s1	4000	200	180	250	800000	720000	1000000	760000	669600	920000	920000
6	p0342	cupboard s2	5500	120	130	200	660000	715000	1100000	627000	664950	1012000	1012000
7	p0383	cupboard m1	6300	100	130	180	630000	819000	1134000	598500	761670	1043280	1043280
8	p1238	container s1	1300	130	125	100	169000	162500	130000	160550	151125	119600	160550
9	p1980	container s3	1250	50	70	45	62500	87500	56250	59375	81375	51750	81375
10													
11		Discount		5%	7%	8.00%						Total sale	7680775
12													

- (1). Total income of P0034 for January is calculated in G5. Write the necessary formula which should be entered in cell G5 to display the total income of P0034. (This should be able to find the income of all other products for January to March.)
- (2). Discount rates for all months are given in D11 to F11. Considering particular discount rate for each month, it is required to find the final discounted price for all the products. What is the necessary formula which should be entered in J5 to find the discounted price of p0034.
- (3). Write down the formula in K8 when the formula written in (ii) above is copied to cell K8 to calculate the discounted price for month February.
- (4). Write down the function which should be entered in M5 to find the highest sales of P0034 within the past 3 months.
- (5). Considering all three months with discounted amount, it is required to find total sales in M11. Which should be the function to be entered in M11 to find the total sale of all months.
- (6). Your friend says that pie charts can be used to show all sales in past 3 months.
 - a. Do you agree with this statement?
 - b. Give reasons.

03. Following is a database which is used in an educational system. Answer for given questions using the database given below.

Student

<u>stid</u>	stname	c_id
st0451	K. Madhuka	C_3400
st0482	M. Perera	C_4500
st0892	L. Dushan	C_5656
st0687	L. Kaumadi	C_3400
st0983	R. Silva	C_4500
st0984	P. Shamin	C_3400

Lecturer

<u>lec_id</u>	l_name	Subject	No_of hours
L_0012	Mr. P.Perera	Java	12
L_0034	Ms. G. Silva	HTML	10
L_0014	Mr. K. Soysa	PHP	8
L_0023	Mr. R. Ranjith	SAD	10

Course

<u>c_id</u>	c_name	Availability
C_2900	DIT	YES
C_4500	CIT	YES
C_5656	DIT2	YES
C_3400	PGT	YES

lecturer_course

<u>C_id</u>	<u>lec_id</u>	Location
C_4500	L_0023	LR_01
C_5656	L_0034	LR_01
C_3400	L_0034	LR_05
C_5656	L_0014	LR_06

- (1). Write 2 examples for foreign keys using the above database and write two purposes of using a foreign key of the database.
- (2). The director board of the institute has decided to stop the course number C_2900.
 - a. Mention the table/s which are affected due to above incident.
 - b. Show particular records.
- (3). R Thisum is going to enter in to this organization and he is going to start PGT course.
 - a. Mention the table/s which are affected due to above incident.
 - b. Show particular records.
- (4). What is the relationship between Student table and Course table.

04.

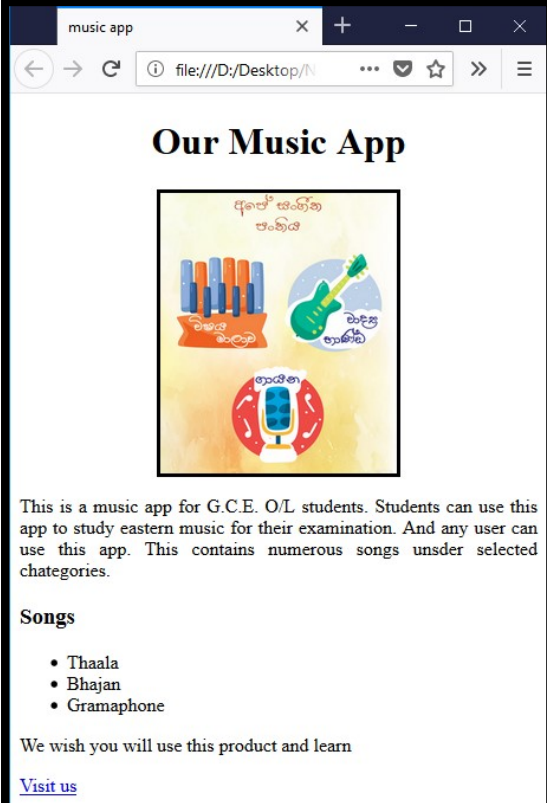
- (1). Write whether the following statements are correct or incorrect regarding tools used in graphic editing.
 - a. Colour combinations used in television screens or computer screens are cyan, magenta, yellow and black.
 - b. It is possible to compress graphics to a minimum size using lossy compression.
 - c. Quality of a vector image can be changed when its' size is reduced.
 - d. When creating an animation, its animation speed will be changed according to the frame rate of the file.

- (2). Following HTML code segment has spaces given and required terms are given in the box.
Select the correct term and write it with relevant number.
(justify , head , title , center , h1 , ul , ol , h3 , p , href , img , hr , br)

```

<html>
< ❶ >
    <❷ >music app</❷>
</❶ >
<body>
    <❸>< ❹ >Our Music App</❹></❸>
    <center><❺ src="images/enada_ol2.png"
width="200px" border="3px"></center>
    <❻ align="❼ " size="7px"> This is a music app for G.C.E. O/L
students. Students can use this app to study eastern music for
their examination. And any user can use this app. This
contains numerous songs under selected chategories.</❻>
    <❽>Songs</❽>
    <❾>
        <li>Thaala</li>
        <li>Bhajan</li>
        <li>Gramophone</li>
    </❾>
    <p>We wish you will use this product & learn</p>
    <a Ⓣ="http://e-thaksalawa.moe.gov.lk/web/si/e-naada-
ol.html">Visit us</a>

</body>
</html>
        
```



05.

- (1). “New designs” is a successful business. But they have problems in their current information system that they used. Head of the organization needs to have a new computerized system for their business.
- Though they need to get this new system quickly, it is difficult to clarify all the requirements clearly as this main staff do not have a proper understanding of it.
- What can be the reasons which are caused to occur this requirement for a new system?
 - Mention 2 benefits that the head of the organization may expect from the new system.
 - They are going to use spiral model to develop the new system. Do you agree with this idea? Give reasons for your answer.

- (2). The “New Designs” business is going to reconstruct their network connection with other branches which are located in other cities. They need to improve their communication among all branches. Fill in the blanks using given terms according to the above situation.
- “New designs” is going to configure the network with all other branches in the country. That is called
 - One branch needs to connect all the computers together and they need to connect that network to the internet. For this requirement they need
 - is used to transfer large files through internet.
 - When a branch uses they can reduce the cost on software and they can reduce cost for maintenance also.
(Router , Hub , FTP, WAN , LAN , cloud computing)

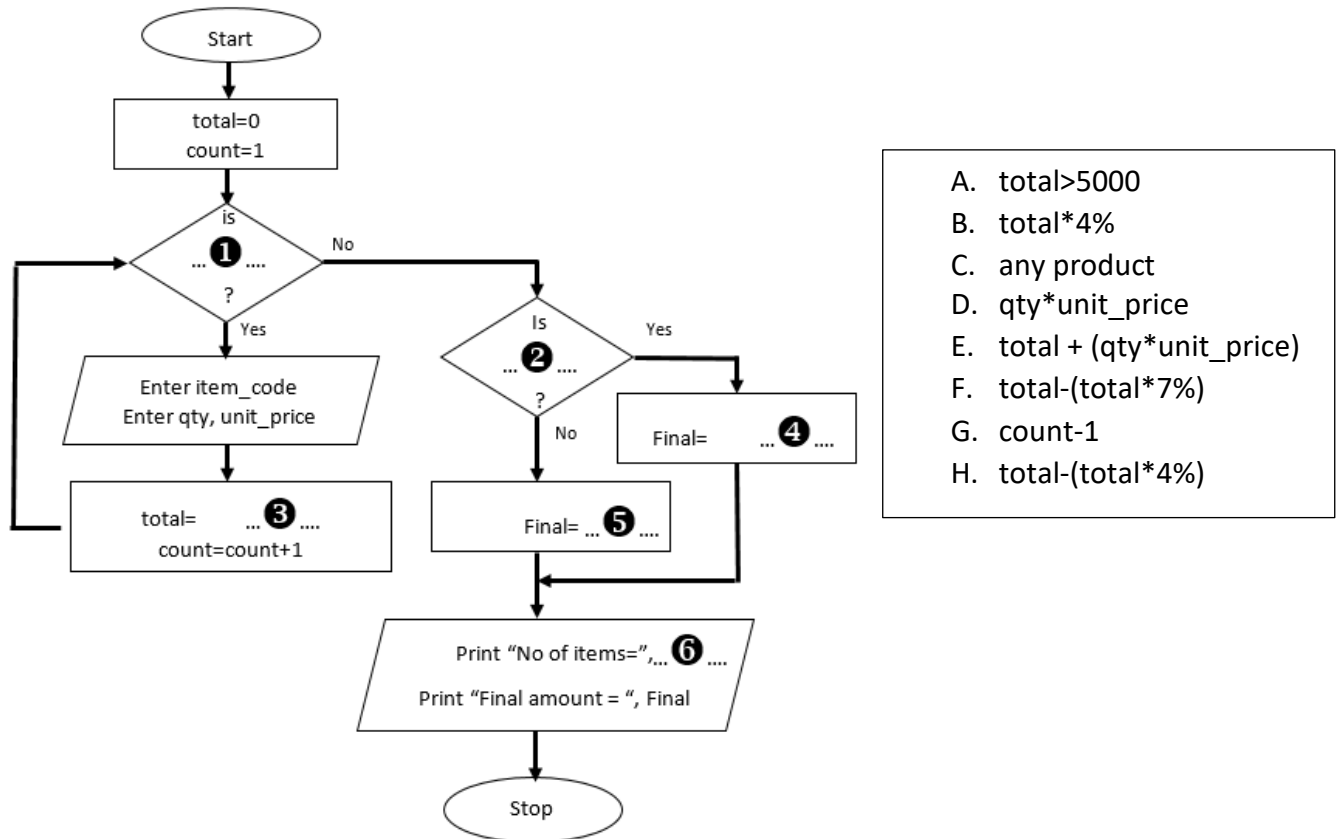
06.

- (1). There are three tests for an entrance examination. If any candidate fails at least one test (marks less than 50) he will not get the opportunity for the course. If a candidate passes all the tests then he will be able to follow the course. This test will be closed when 10 students are selected.
- The pseudocode for the above situation is given below and it has errors. Correct the code and re-write it.

```
1  Start
2  pass_applicant=0
3  while(pass_applicant=<10) do
4  i/p test1, test2, test3
5      if (test1>=50 and test2>=50 or test3<50) then
6          o/p “You have selected”
7          pass_applicant=pass_applicant+1
8      else
9          o/p “You have not selected”
10     endif
11     end while
12     o/p “10 applicants have already selected”
13 stop
```

- (2). Following is a flow chart which is drawn for a selling product of an organization. When prices and quantities of all the products selected by the customer are entered, the total bill is calculated. After that decides the discount according to the total bill. If the bill is higher than 5000, high discount rate will be applied.

Select the correct term to fill in the blanks and write the letter with the relevant number.



07.

- (1). “Techno Vision” is a large-scale business and they are going to do all the payments and business activities through the new web site.
 - a. Write 2 problems that they face when they are going to do their transactions through their new web site.
 - b. Mention two prevention methods that their customers can use when they do transactions with the new system to secure their personal data.
- (2). There are many issues which are occurred with the use of computers. Health issues and e waste are main issues among them.
 - a. Briefly mention two things that we can do as an organization, to reduce the e-waste.
 - b. Write a solution for each of the following health problems.
 Vision problem, mental stress
- (3). You are assigned to prepare a leaflet to aware people about above-mentioned problems. You are going to get required images and other resources from the internet. Write two steps to get those resources without having unethical activities.