

စက်မှုနည်းပညာမြင်တင်ရေးနှင့်ပူးပေါင်းဆောင်ရွက်ရေးဦးစီးဌာန
ကွန်ပျူဗာတာတ္ထာသိုလ်
ပထမနှစ် (B.C.Sc./B.C.Tech.)
ပထမနှစ်ဝက်စာမေးပွဲ (မြန်မာစာ)
မတ်လ, ၂၀၁၆
၆၇-၄

မေးခွန်းအားလုံးဖြေဆိပ်

ခွင့်ပြုခိုင်(၃)နာရီ

၁။ (က) နှစ်သက်ရာ နှစ်ခု ကိုဖြေဆိပ်။
သရသံ၊ စကားလုံး၊ ပေါင်းစပ်ပွဲ

(ခ) အကွာာန်ပြု။

ပြောင်၊ ပျော်၊ ပျော်၊ ပျော်၊ ပျော်၊ ကျောင်၊ ကျောင်၊ ကျောင်၊ ကျောင်၊ ဆင်၊
ဆက်ရက်၊ ဆ ဆင်၊ ခိုင်ရက်၊ ဆတ်၊ ဆတ်

၂။ နှစ်သက်ရာ တစ်ပွဲ ကိုဖြေဆိပ်။

(က) “မောင်ဘစီ” စကားပြု မှ မှတ်သားချီးမွမ်းဖွယ်ကောင်းသော မောင်ဘစီ ၅၁ရှိက်
ကို လေ့လာတင်ပြပါ။

(ခ) ပြည်ထောင်စုကြီးထဲမှ ပြည်ထောင်စုကလေးသဖွယ်ဖြစ်နေသောတ္ထာသိုလ်အကြောင်း

၃။ နှစ်သက်ရာ တစ်ပွဲ ကို ဆွဲးနွေးတင်ပြပါ။

(က) “ဂုဏ်သာရ” စာဆိပ်၏ လေးနက်သောအနှစ်သာရ ဟူသည့်အဆိုကိုပြည့်စုံစွာရှင်းပြပါ။

(ခ) “သရပါတ်ခါးမှပဲ့တင်သံ” ကဗျာမှ ကျွန်စစ်သား၏ စကားသစ္ာကို မှတ်သားဖွယ်
တင်ပြပါ။

၄။ နှစ်သက်ရာ တစ်ပွဲ ၅၁အရေးအဖွဲ့ကို စီကုံးတင်ပြပါ။

(က) “လမ်းဖောက်ခြင်း” စကားပြု အရေးအသား

(ခ) “ဆီမလူးတဲ့ပေါ်းလွှာ” ကဗျာမှ စာဆိပ်၏ အရေးအဖွဲ့စွမ်းရည်ကို ဝေဖန်ဆန်းစစ်ပါ။

၅။ နှစ်သက်ရာ တစ်ပွဲ ကိုစီကုံးတင်ပြပါ။

(က) အမျိုးသားယဉ်ကျေးမှု

(ခ) မြန်မာရှိုးရာ ရာသီပွဲတော်များ

**DEPARTMENT OF TECHNOLOGY PROMOTION AND COORDINATION
UNIVERSITY OF COMPUTER STUDIES
FIRST YEAR
FIRST SEMESTER EXAMINATION
MARCH, 2016
ENGLISH**

ZONE IV

Answer All Questions.

Time Allowed: 3 Hours

L Read the passages and answer the following questions. (20 Marks)

When was the last time you saw a frog? Chances are, if you live in a city, you have not seen one for some time. Even in wet areas once teeming with frogs and toads, it is becoming less and less easy to find those slimy, hopping and sometimes poisonous members of the animal kingdom. All over the world, and even in remote parts of Australia, frogs are losing the ecological battle for survival, and biologists are at a loss to explain their demise. Are amphibians simply oversensitive to changes in the ecosystem? Could it be that their rapid decline in numbers is signaling some coming environmental disaster for us all? This frightening scenario is in part the consequence of a dramatic increase over the last quarter century in the development of once natural areas of wet marshland ; home not only to frogs but to all manner of wildlife However, as yet, there are no obvious reasons why certain frog species are disappearing from rainforests in Australia that have barely been touched by human hand The mystery is unsettling to say the least, for it is known that amphibian species are extremely sensitive to environmental variations in temperature and moisture levels. The danger is that planet Earth might not only lose a vital link in the ecological food chain (frogs keep populations of otherwise pestilent insects at manageable levels), but we might be increasing our output of air pollutants to levels that may have already become irreversible. Frogs could be inadvertently warning us of a catastrophe.

An example of a species of frog that, at far as is known, has become extinct, is the platypus frog Like the well-known Australian mammal it was named after, it exhibited some very strange behavior; Instead of giving birth to tadpoles in the water, it raised its young within its stomach. The baby frogs were actually born from out of their mother's mouth. Discovered in 1981, less than ten years later the frog had completely vanished from the crystal clear waters of Booloumba Creek near Queensland's Sunshine Coast. Unfortunately, this freak of nature is not the only frog species to have been lost in Australia. Since the 1970s, no less than eight others have suffered the same fate.

One theory that seems to fit the facts concerns the depletion of the ozone layer, a well-documented phenomenon which has led to a sharp increase in ultraviolet radiation levels. The ozone layer is meant to shield the Earth from UV rays, but increased radiation may be having a greater effect upon frog populations than previously believed. Another theory is that worldwide temperature increases are upsetting the breeding cycles of frogs.

Questions 1-10

Do the following statements agree with the information given in Reading Passage? On your answer sheet, write

TRUE *if the statement agrees with the information*

FALSE *if the statement contradicts the information*

NOT GIVEN *if there is no information on this*

1. Frogs are disappearing only from city areas.
2. Frogs and toads are usually poisonous.
3. Biologists are unable to explain why frogs are dying.
4. The frogs' natural habitat is becoming more and more developed.
5. Attempts are being made to halt the development of wet marshland.
6. Frogs are important in the ecosystem because they control pests.
7. The platypus frog became extinct by 1991.
8. Frogs usually give birth to their young in an underwater nest.
9. Eight frog species have become extinct so far in Australia.
10. It is a fact that frogs' breeding cycles are upset by worldwide increases in temperature.

II. Fill in the spaces with the words below.

(10 Marks)

protect

hackers

intruders

cookie

firewalls

online

solutions

secure

confidential

alerts

Security is crucial when you send 1..... information online. Consider, for example, the process of buying a book on the Web. You have to type your credit card number into an order form which passes from computer to computer on its way to the 2..... bookstore. If one of the intermediary computers is infiltrated by 3....., your data can be copied. To avoid risks, you should set all security 4..... to high on your web browser. Mozilla Firefox displays a lock when the website is secure and allows you to disable or delete 5..... small files placed on your hard drive by web servers so that they can recognize your PC when you return to their site.

If you use online banking services, make sure they use **digital certificates** - files that are like digital identification cards and that identify users and web servers. Also be sure to use a browser that is compliant with SSL (Secure Sockets Layer), a protocol which provides 6..... transactions.

Private networks can be attacked by 7..... who attempt to obtain information such as Social Security numbers, bank accounts or research and business reports. To 8..... crucial data, companies hire security consultants who analyse the risks and provide 9..... . The most common methods of protection are **passwords** for access control, 10..... and **encryption** and **decryption** systems.

III. (A) Put the verbs in brackets into the *simple present* or the *present continuous tense*. (5 Marks)

1. Cuckoos (not build) nests. They (use) the nests of other birds.
2. You can't see Tom now: he (have) a bath.
3. He usually (drink) coffee but today he (drink) tea.

(B) Make questions from these statements. (5 Marks)

1. He had breakfast early.
2. They were eating ice cream.
3. She likes horror films.
4. Ko Ko has been to Japan before.
5. He can speak English.

(C) Choose the correct verbs in brackets. (5 Marks)

1. One of the football players (score / scores) a goal .
2. Most of the candidates (register / registers).
3. Nobody (has / have) a right to make decision.
4. Every student (take / takes) the test.
5. None of the writers (is / are) fond of this law.

(D) Complete the gaps using an appropriate article. (5 Marks)

Would you like to hear 1..... story about 2..... Englishman, 3..... Irishman and 4..... Scotsman?

No. I've heard stories about Englishmen, Irishmen and Scotsmen before and they are all 5..... same.

(E) Find each error in the following sentences and rewrite the correct sentences. (10 Marks)

1. The Internet is a network link other networks.
2. Graphs and diagrams can be more effective ways of communicate with clients than lists of figures.
3. In the future, all elections will be carried out using e-card.
4. An e-cash is like the paper version, but in digital form.
5. A young computer programmer clever is developing a new application.
6. If I have the money, I would invest in some new multimedia software.
7. If you liked entertainment, you will love the latest multimedia video games.
8. If I was you, I'd create my own website.
9. Should I use your phone? I need to talk to my friend.
10. To view a PDF file, you needn't have Adobe Acrobat Reader.

IV.(A) The table below shows how many tourists from five countries visited Australia in different years from 1991 to 1999. Write a report for a university lecturer describing the information below. (7 Marks)

Country of Residence	1991	1993	1995	1997	1999
United States	259	267	288	310	393
Canada	51	48	55	61	75
United Kingdom	258	302	335	388	509
Germany	75	102	120	125	140
Other Europe	172	200	259	319	389

IV.(B) Describe a leisure activity e.g. a hobby, sport or game that is popular in your country. (7 Marks)

You should write:

What this activity is and what people do

Where they do it

Why people enjoy doing this activity

And also write what you like or dislike about this activity.

- IV.(C)**
1. What do you think is the best way to keep in touch with friends and family when you're away from home? Why? (2 Marks)
 2. What do you think are the best ways to find and make new friends when abroad? (2 Marks)
 3. What things do you like most about your own culture? (2 Marks)

V. Write about the following topic: (20 Marks)

The world is experiencing a dramatic increase in population. This is causing problems not only for poor, undeveloped countries, but also for industrialised and developing nations.

Describe some of the problems that overpopulation causes, and suggest at least one possible solution.

**Department of Technology Promotion and Coordination
University of Computer Studies
First Year B.C.Sc./B.C.Tech.**

PHYSICS

Mid-Term Examination

March, 2016

Zone IV

Time allowed 3:hours

Answer ALL questions.

- (a). How do you distinguish between mass and weight? What do you understand the words "static equilibrium"? When two equal and opposite forces act on a stationary object, what will happen?

In order to slide a 750 N chest across the floor at constant speed, you must push horizontally with a force of 450 N. The chest is rather short and is in no danger of toppling over. (i) What is the coefficient of kinetic friction? (ii) Suppose you push with a force of 110 N and the cabinet does not budge. Now what is the force of friction on the chest? Assume that $\mu_s = 1.2 \mu_k$.

- (b). Does a man weight more at the North Pole or at the equator? Does he weight more at the top of Mt. Everest or at the base of the mountain? Define position and displacement. Are they the same?

During a walk on the Moon, an astronaut accidentally drops his camera over a 20 m cliff. It leaves his hands with zero speed, and after 2 s it has attained a velocity of 3.3m/s downward. How far has the camera fallen after 4s? (20 marks)

- 2(a). Write down the mathematical expression of the terms average velocity and average acceleration? Can the velocity of an object be zero and the acceleration be nonzero at the same time? Explain. Two spaceships are moving from the same starting point in the +x-direction with constant accelerations. In component form, the silver spaceship starts with an initial velocity of +2.00 km/s and has an acceleration of +0.400 km/s². The black spaceship starts with a velocity of +6.00 km/s and has an acceleration of -0.400 km/s². Find the time at which the silver spaceship just overtakes the black spaceship.

- (b). What do you understand projectile motion? Find the horizontal component and vertical component of velocities at the highest point of the projectile motion. An inline skater is traveling on a level road with a speed of 8.94 m/s. Then she comes to a long hill at a 15.0° angle of incline. 120.0 s later she is still climbing the hill while her speed has decreased to 7.15 m/s (a). What is the change in her velocity? (b) What is her average acceleration during the 120.0-s time interval? (20 marks)

- 3(a). What do you understand uniform circular motion? In uniform circular motion, is the velocity constant? Is the acceleration constant? Explain. The turntable of a record player reaches its rated frequency of rotation, 33.3 rpm, in 2.0 s, starting from rest. (a) Assuming the angular acceleration is constant, what is its magnitude? (b) How many revolutions does the turntable make during this time interval?

- (b). What do you understand the friction? How much work is done when the force is perpendicular to the object's velocity? Define average power.

A 1000.0 kg car climbs a hill with a 4.0° incline at a constant 12.0 m/s. (i) At what rate is the gravitational potential energy increasing? (ii) If the mechanical power output of the engine is 20.0 kW, find the force of air resistance on the car. (20 marks)

- 4(a). State conservation of mechanical energy? The maximum speed of a child on a swing is 4.9 m/s. The child's height above the ground is 0.70 m at the lowest point in his motion. How high above the ground is he at his highest point?

A 0.02 kg bullet traveling at 200.0 m/s east hits a motionless 2.0 kg block and bounces off it, retracing its original path with a velocity of 100.0 m/s west. What is the final velocity of the block? Assume the block rests on a perfectly frictionless horizontal surface.

- (b) State law of conservation of linear momentum?

At a Route 128 highway on-ramp, a car of mass 1.5×10^3 kg is stopped at a stop sign, waiting for a break in traffic before merging with the cars on the highway. Another car of mass 2×10^3 kg comes up from behind, with 17.5 ms^{-1} hits the stopped car. Suppose the two cars collided elastically. An elastic collision would push the stopped car onto the highway at 20 ms^{-1} . (a). Calculate the velocity of the another car just after the collision. (b) Find the total kinetic energy of the two cars both before and after the collision and verify that the collision is elastic. (20 marks)

- 5(a). Is it possible for a car to move in circular path and what kind of acceleration does it move? Define the terms: centripetal acceleration and tangential acceleration. Write down the relation between linear velocity and angular velocity.

A potter's wheel is a heavy stone disk upon which the pottery is shaped. Potter's wheels were once driven by the potter pushing on a foot treadle; today most potter's wheels are driven by electric motors. (i) If the potter's wheel is a uniform disk of mass 40 kg and diameter 0.5 m, how much work must be done by the motor to bring the wheel from rest to 80 rpm? (ii) If the motor delivers a constant torque of 8.2 N-m during this time, through how many revolutions does the wheel turn in coming up to speed?

- (b). What do you understand work done by a constant torque?

Two carpenters are carrying a uniform 6x6 beam. The beam is 2.44 m (8.00 ft) long and weighs 425 N (95.5 lb). One of the carpenters, being a bit stronger than the other, agrees to carry the beam 1.00 m in from the end; the other carries the beam at its opposite end. What is the upward force exerted on the beam by each carpenter? (20 marks)

Answer all q

1. Define A
(a) Integr
(b) Contr
(c) Micro
(d) Divid

2. Differenti
(a) Non-g
(b) CISC
(c) Direct
(d) Volati

3. (a) Conv
(i). (135
(ii). (2A
(iii). (10
(iv). (52

- (b) Using
many b

- (c) Write
notation

4. Calculate
(a) A com
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B

- (b) Subtra
(c) Multipl
(d) Divide
(e) Comp

Department of Technology Promotion and Coordination

University of Computer Studies

First Year (B.C.Sc./B.C.Tech.)

First Semester Examination

Introduction to Computer System (CST-101)

March, 2016

Zone IV

Time allowed: 3 hours

Answer all questions

-
- 1. Define Any Five the following:** 10 marks
 - (a) Integrated circuits
 - (b) Control Unit
 - (c) Microcode
 - (d) Divide by zero
 - (e) Seek time
 - (f) Magnetic tape
 - (g) Plotter
 - (h) System Program
 - 2. Differentiate Any Three of the following:** 12 marks
 - (a) Non-positional and positional number system
 - (b) CISC and RISC processors
 - (c) Direct and Random access storage devices
 - (d) Volatile and Non-volatile storage
 - 3. (a) Convert the following:** 4 marks
 - (i). $(135)_{10} \rightarrow (\quad)_2$
 - (ii). $(2A3B)_{16} \rightarrow (\quad)_{10}$
 - (iii). $(10101000)_2 \rightarrow (\quad)_{16}$
 - (iv). $(524)_6 \rightarrow (\quad)_4$
(b) Using hexadecimal notation, write the zoned-decimal coding for the number, 1256. How many bytes are required for this representation? 2 marks
 - (c) Write the ACSII-8 coding for the word "Vision" in the both binary and hexadecimal notations. How many bytes are required to store this word using this coding** 2 marks
 - 4. Calculate the followings:** 10 marks
 - (a) A computer uses ASCII for its internal representation, in which order will this computer sort the following strings?
BED, 2 good, 512, BaD, ADD, a1B2
 - (b) Subtract 011011_2 from 110111_2 using complementary method.
 - (c) Multiply 101100_2 from 111_2
 - (d) Divide $BE3F_{16}$ by $7D_{16}$
 - (e) Complement of 6_8

5. (a) How many bytes will be required to store the word 'LUCKY' in (i) a character – addressable computer, (ii) a word – addressable computer having word length of 64 bits? 3 marks
- (b) A disk pack consists of 6 disk plates. Each plate has 400 tracks and there are 50 sectors per track. If 512 bytes can be stored per sector, calculate its total storage capacity. 4 marks
- (c) Rotational speed of a disk system having a single recording surface is 3600 rpm. It has 80 sectors per track and 512 bytes per sector? What is the amount of data transferred in one full revolution of disk. 4 marks
- (d) A computer has 128 GB of memory. How many characters can be stored in its memory at a time? 4 marks
6. Answer Any six of the followings: 30 marks
- (a) Write short notes for Memory Cards.
 - (b) Write the main steps involved in execution of an instruction by a computer's CPU.
 - (c) Draw a block diagram to illustrate basic organization of a computer system.
 - (d) Briefly describe the functions of various registers?
 - (e) What is a digitizer? What are its two main components and its main areas of applications?
 - (f) Write a short note on Middleware.
 - (g) Discuss about Backup Policy.
 - (h) List the limitations of optical disks as a secondary storage devices.
7. (a) Write the full form of the following abbreviations: 8 marks
- | | |
|-----------|-------------|
| (i) ENIAC | (v) MMC |
| (ii) VLSI | (vi) MICR |
| (iii) CRT | (vii) CAD |
| (iv) OMR | (viii) SDLC |
- (b) (i) Write the similarities and differences between 7 bit and 8 bit ASCII. 2 marks
- (ii) Tape density varies from 800 bpi in older system to 77,000 bpi in modern systems. What is the storage capacity of 2400 feet tape for data recording density of older system? 3 marks
- (iii) A computer has 2 GB of memory. How many characters can be stored in its memory at a time? 2 marks

Department of Technology Promotion and Coordination
University of Computer Studies
B.C.Sc./B.C.Tech.(First Year)
First Semester Examination
Mathematics of Computing I (CST-102)
March,2016
Zone IV

Answer All Questions.

Time allowed: 3 hours
(5-marks)

- (a) Find a formula for the function graphed in figure(1).

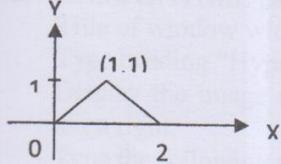


Figure (1)

- (b) Graph the function $f(x) = \sin(x - \pi/4) + 1$. What is the period of the function? (7-marks)
- (c) The graph of the function $y = 1 + 1/x^2$ is compressed vertically by a factor of 2. Give an equation for the compressed graph. (8-marks)
- (d) Find an equation for a line that is tangent to the graph of $y = e^x$ at $P(a, e^a)$ and goes through the origin. (6-marks)
- (e) Find the limit in (i) $\lim_{x \rightarrow -2^+} \left(\frac{x}{x+1} \right) \left(\frac{2x+5}{x^2+x} \right)$ (ii) $\lim_{x \rightarrow 4} \frac{4-x}{5-\sqrt{x^2+9}}$ (8-marks)
- (f) Define $f(3)$ in a way that extends $f(x) = \frac{x^2-9}{x-3}$ to be continuous at $x=3$. (6-marks)
- (g) Find the derivatives of the following functions.
- (i) $y = \frac{1}{2}x^4 - \frac{3}{2}x^2 - x$ (ii) $y = x^2 \sin^4 x + x \cos^{-2} x$ (iii) $p = \frac{q \sin q}{q^2-1}$ (10-marks)
- (h) In $xy + y^2 = 1$, use implicit differentiation to find $\frac{dy}{dx}$ and then $\frac{d^2y}{dx^2}$. (6-marks)
- (i) Find the Linearization $L(x)$ of $f(x) = x^2 + 2x$ at $x = a = 0.1$. (4-marks)
- (j) Find the absolute maximum and minimum values of the following function. Then graph the function and identify the points on the graph where the absolute extrema occur.
 $f(x) = -\frac{1}{x^2}$, $0.5 \leq x \leq 2$ (8-marks)
- (k) Find the value or values of c by means of the Mean Value Theorem for the function $f(x) = x^{2/3}$ and interval $[0,1]$. (7-marks)
- (l) Find the average value of the function $f(x) = -3x^2 - 1$ on $[0,1]$. (5 marks)
- (m) Evaluate. (i) $\int_1^{-1} (t+1)^2 dt$ (ii) $\int r^2 (\frac{r^3}{18} - 1)^5 dr$ (7-marks)
- (n) Show that the value of $\int_0^1 \sqrt{1 + \cos x} dx$ is less than or equal to $\sqrt{2}$. (6-marks)
- (o) Find the total area of the region between the x-axis and the graph of $y = 3x^2 - 3$, $-2 \leq x \leq 2$ (7-marks)

Department of Technology Promotion and Coordination
University of Computer Studies
First Year (B.C.Sc / B.C.Tech), First Semester Examination
CST-103(Computer Application Techniques I)

March, 2016

Zone IV

Answer all questions.

Time allowed- 3:00hours

1. (a) Create an HTML page with the following:

Title of window with “Computer Application”.

Type heading “Hypertext Markup Language” with heading 1 style, center and italic.

Display the image (cat.gif) with width and height(120,80), text message is “beautiful” and align right.

Type the following paragraph with indentation effect and bold type.

“HTML is the set of markup symbols or codes placed in a file intended for display on a web browser.”

To link the Email address kokomaung@gmail.com.

Create the following:

HTML

The language use to create web page.

XHTML

Extensible Hypertext Markup Language.

Type the following:

This is mark text.

This text is bold text.

This text is strike format.

Web Development & Design.

Create a new line.

Type heading “Markup Language” with heading 2 style and font weight.

Type the following paragraph with center and big text.

“Markup languages consist of sets of directions that tell the browser software”.

(15 marks)

- 1(b). Create a web page about your favorite recipe of Myanmar traditional food with a five columns table that lists the Food’s Name, Ingredients, and Cooking hours, shows a Photograph and Comment. The last column will span all rows except the header row and should contain any comment of your favorite food. In final row, should span four columns and the place an email link to yourself on the web page.

(10 marks)

- 2 (a) Create a web page with following contents.

Some Techno-Terms You Should Know

Barney Page

A web page that to capitalize on a current craze.

Bit-Split

Any form of digital correspondence.

Byte-Bonding

When computer users discuss things that nearby on computer users don't understand.

See also gee king out.

Clickstrams

The paths a person takes as she negotiates various web pages.

- A. Type of Network
- i. Local Area Network
 - ii. Wide Area Network
- B. Network Application
- x. Electronic mail
 - y. Groupware
 - z. Videoconferencing

(10 mark)

2.(b) Create a new HTML document containing a Form.

Welcome To My Website

Name:

Password:

Email Address:

Sexs:

Male

Female

Types Advertise

Interest: Sports

Cooking

Gardening

(10 mark)

3. Write the HTML and CSS code for an embedded style sheet that configures a background color #d0e4fe, text color of #0000ff. Some section of text will have a background color of skyblue. Create a class called notice that should have italic, underline and text in red color. All paragraphs h1, h2 should have center, line height 70 pixels and in Arial, Verdana or sans-serif font. Hyperlinks should have a background color of yellow and without underline.

In HTML page: use h1 for the "JavaJam Coffee House.(Use class named notice)
Create the following link.

[Home](#)[Background](#)[Favorite](#) (Link to home.html, background.html and favorite.html)
Place the following paragraph:

"Julio Perez is the owner of the javajam coffee house, a gourmet coffee shop that serves snacks, coffee, tea, and soft drinks."

Use h2 for "Just Java".

Place the following paragraph. (Some section of text will have a background color of skyblue)
"Regular house blend, decaffeinated coffee or flavor of the day."

(15 mark)

4. Create a file named format.css that includes the following CSS rules. (Saved with format.css)

- Crete a CSS rule that specify the hypertext with font size 12 pixels, font face Arial, Century "Times New Roman" and bold.

- (10 mark)
- (ii) Create a CSS rule that specify the style links for in general with green color and no underline.
 - (iii) Create a CSS rule that specify the style for links that have already been visited with red color and no underline.
 - (iv) Create a CSS rule that specify the style for when someone is hovering over a links with background color pink and overline.
 - (v) Create a CSS rule that specify the style for links that are currently active (being clicked) with olive and underline.
 - (vi) Create a CSS rule that specify in some paragraph with capitalized sentences. Set the gap between each word 20 pixels and text color is cyan.
 - (vii) Create a CSS rule that specify the list with decimal marker.
 - (viii) Create a CSS rule that specify the some division with a single dotted blue border line. It is with align right, Arial Narrow, bold and italic. It is height 75 pixels, width 150 pixels and margin space 30 pixels. It has a scroll to the appropriate contents.

Type an HTML page with the following. It applies the format.css file.

- (i) Type the following text in division that applies the above CSS rule.
"Extranet is a private network that is contained within an organization or business. Its purpose is to share organizational information and resources among coworkers".
- (ii) Type the following list with decimal marker."
 1. World Wide Work or WWW
 2. Web Accessibility Initiative or WAIIn this list the text WWW and WAI link to "<http://www.w3schools.com>" and "<http://www.WAI.com>" site.
- (iii) Type the following paragraph. (Capitalize Sentences)
"The color of the text enclosed in the container is set by the color attribute, just as you learned to set text color in the body tag."

(20 marks)

5. Write the HTML and CSS code for an external style sheet that configures a background of Web page with repeated images (use desired image) horizontally and has scroll attachment. And then set the background color with #cccccc. An id selector that specifies that all elements named "note" with uppercase form and letter spacing 2em. Some element with font size 4em. Create an id selector "note1" with the following attributes: fixed position, background color green. h2, h3 should have text color orange, width 600pixels, left right margin 15pixel. Create a CSS rule that specify the list item with square marker. (Saved as exercise.css)

In HTML page: (Apply the CSS rules with exercise.css)

Use h2 for "Fish Creek Animal Hospital". (Id called note)

Place the following paragraph. "Our professionals welcome owners to stay with their pets during any medical procedure. Veterinarians and staff are on duty 24 hours a day, 7days a week."

Create the following list. (Includes the above CSS rule).

- Ice Cream
- Cake
- Chocolate

Use h3 for "Enjoy Nature In Luxury".

Place the following paragraph. (Called note1)

"Bring a sense of adventure and some time to relax".

(20 marks)

of skyblue)

(15 mark

format.css)
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Department of Technology Promotion and Coordination
University of Computer Studies
First Year (B.C.Sc)
CST-104 (Programming logic and Design Comprehensive)
First Semester Examination
March, 2016
Zone IV

Answer all questions.

Time allowed: 3hours

I Which of the following are true or false? (20 marks)

1. The grammar rules of a computer programming language are its syntax.
2. A program with syntax errors can execute but might produce incorrect results.
3. When you draw a flowchart, you use a diamond shape to represent a decision operation.
4. A hierarchy chart tells you which routines call which other routines.
5. The values stored in an uninitialized variable is garbage.
6. The operand to the right of an assignment operator must be a name that represents a memory address.
7. Most programs contain a main program, which contains the mainline logic; this program then accesses other modules or subroutines.
8. A group of statement that executes as a unit is a block.
9. The statement if age \geq 65 then seniorDiscount="yes" is an example of a loop.
10. To make a while loop execute correctly, a loop control variable should be tested before entering a loop body.
11. Structured programs are clearer than unstructured programs.
12. When you use a range check, you compare a variable to the lowest or highest value in the range.
13. The then clause is the part of a decision that executes when a tested condition in a decision is true.
14. In an OR selection, two or more conditions must be met in order for an event to take place.
15. A report that lists only totals, with no details about individual records, is a(n) final report.
16. When one loop is nested inside another, the loop that contains the other loop is called the outer loop.
17. Most, but not all, sets of instructions can be expressed in a structured format.
18. In an array, each element has the same data type.

19. Parallel arrays must be the same data type.
20. You can use an array to replace a long series of decisions.

II. Choose the correct answers.

(20 marks)

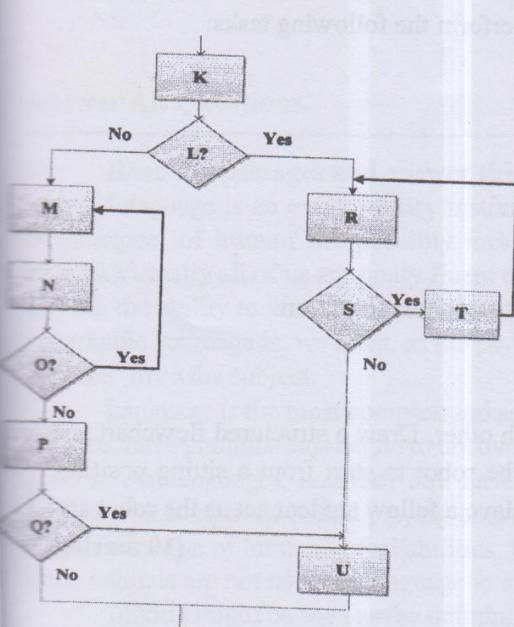
1. Which of the following is temporary, internal storage?
 - a. CPU
 - b. hard disk
 - c. keyboard
 - d. memory
2. The two most commonly used tools for planning a program's logic are _____.
 - a. flowcharts and pseudocode
 - b. ASCII and EBCDIC
 - c. Java and Visual Basic
 - d. word processors and spreadsheets
3. What does a declaration provide for a variable?
 - a. a name
 - b. a data type
 - c. both of the above
 - d. none of the above
4. The three structures of structured programming are _____.
 - a. sequence, selection and loop
 - b. sequence, order and process
 - c. selection, loop and iteration
 - d. if, else and then
5. The statement if age ≥ 65 then seniorDiscount = "yes" is an example of a _____.
 - a. sequence
 - b. loop
 - c. dual-alternative selection
 - d. single-alternative selection
6. When you use a range check, you compare a variable to the _____ value in the range.
 - a. lowest
 - b. middle
 - c. highest
 - d. lowest or highest
7. If $a > b$ is False, then which of the following is always true?
 - a. $a \leq b$
 - b. $a < b$
 - c. $a = b$
 - d. $a \geq b$
8. The statements executed within a loop are known collectively as the _____.
 - a. loop body
 - b. sequences
 - c. loop controls
 - d. sentinels
9. The subscripts of any array are always _____.
 - a. integers
 - b. fractions
 - c. characters
 - d. strings of characters
10. A counter keeps track of _____.
 - a. the number of times an event has occurred
 - b. the number of machine cycles required by a segment of a program
 - c. the number of loop structures within a program
 - d. the number of times software has been revised

III. Answer All questions.

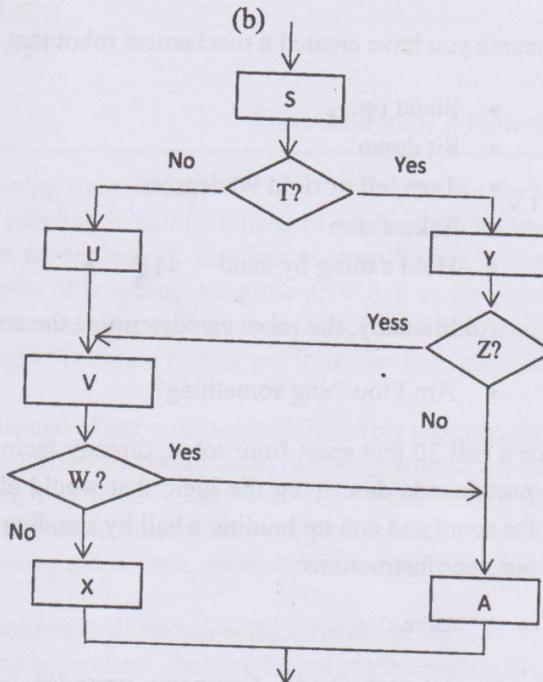
(30 marks)

1. Redraw the unstructured flowcharts to structured flowcharts.

(a)



(b)



2. Draw the truth table for the following expressions:

- (a) $X \text{ OR } Y \text{ AND } Z$
 (b) $A \text{ AND } B \text{ AND } C$

3. What is the output of the giving programs?

(a)

```

i=1, j=6
n=7
while i < j
  m = 5
  while m < n
    output "Hello World"
    m=m + 1
  endwhile
  i = i+1
endwhile
  
```

(b)

```

d = 4
e = 6
f = 7
while d < f
  d = d + 1
  e = e - 1
endwhile
output d, e, f
  
```

- (a) Draw the hierarchy chart and then plan the logic for a program that calculates the gown size a student needs for a graduation ceremony. The program uses three modules. The first prompts a user for and accepts the student's height in inches. While the users enter '0' for the height in inches, the second module accepts the student's weight in pounds and converts the student's height to centimeters and weight to grams. Then, it calculates the graduation gown size needed by adding 1/3 of the weight in grams to the value of height in centimeters. The program's output

the gown size the student should order. There are 2.54 centimeters in an inch and 453.59 grams in a pound. Use named constants wherever you think they are appropriate. The last module displays the message "End of Job". (ch2) (10 marks)

(b) Assume you have created a mechanical robot that can perform the following tasks:

- Stand up
- Sit down
- Turn left or right 90 degrees
- Take a step
- Hold a thing by hand

Additionally, the robot can determine the answer to one test condition.

- Am I touching something?

Place a ball 30 feet apart from robot, directly facing each other. Draw a structured flowchart and write pseudocode describing the logic that would allow the robot to start from a sitting position, cross the room and end up holding a ball by standing up. Have a fellow student act as the robot and carry out your instructions. (10 marks)

(c) The No Interest Credit Company provides zero-interest loans to customers. Design an application that gets customer account data, including an account number, customer name, and balance due. Output the account number and name, then output the customer's projected balance each month for the next 10 months. Assume that there is no finance charge on this account, that the customer makes no new purchases, and that the customer pays off the balance with equal monthly payments, which are 10 percent of the original bill. (10 marks)

(OR)

The city of Cary is holding a special census. The city has collected data on cards that each hold the voting district and age of a citizen. The districts are numbered 1 through 105. Design a program that allows a clerk to go through the cards, entering the district for each citizen until an appropriate sentinel value is entered. The output is a list of all 22 districts and the number of residents in each.

(10 marks)