

2014-15 Mid Term



အဆင့်မြင့်သိပ္ပါနှင့် နည်းပညားစီးဌာန
ကွန်ပျူတာတွေသိလ်
ပထမနှစ် B.C.Sc./B.C.Tech.(၂၃.၃.၂၀၁၅)
ပထမနှစ်ဝက်စာမေးပွဲ (မြန်မာစာ)

မေးခွန်းအားလုံးဖြေဆိပါ။

၉၇ (၈)

ခွင့်ပြုချိန် (၃)နာရီ

၁။ (က) နှစ်သက်ရာ နှစ်ခု ကိုဖြေဆိပါ။
ပျည်းသံ၊ အကုစကားလုံး၊ ပေါင်းစပ်ပုဒ်။

(ခ) အကွဲရာစဉ်ပါ။

ကေသာ၊ ကဲလား၊ ကံကောင်း၊ ကျွေးမွှေး၊ ကြိမ်းမောင်း၊ ကျေးလက်၊ ကျောင်းတော်၊
ကျယ်ပြန်၊ ကြွေးကျွေး၊ ပရေဆေး၊ ပဒ္ဒမွှာ၊ ပရိတ်ကြီး၊ ပညာတတ်၊ ပွင့်သစ်စာ
ပြသာဒီး၊ ပျော်ထောင်အိမ်၊ ပန္တာက်ချုံ၊ ပတ္တမြေား၊ ပင်လယ်စုန်း။

၂။ နှစ်သက်ရာ တစ်ပုဒ် ကိုဖြေဆိပါ။

- (က) ငွေရောင်ဆမ်း၍ ရွှေရောင်လွှမ်းသည့်မြေ စကားပြေမှ ပူတာအုံမြို့သွားလမ်းခရီး
အတွေ့အကြုံ မှတ်တမ်းကို စာရေးသူကမည်သို့တင်ပြထားသနည်း။
- (ခ) မူသီကနှင့်စိန်ပေဒါဝကားပြေမှ တပည့်ဆိုးနှင့်တပည့်ကောင်းတို့၏ စရိတ်လကွဏာ
များကိုလေ့လာတင်ပြပါ။

၃။ နှစ်သက်ရာ တစ်ပုဒ် ကို အေးနေးတင်ပြပါ။

- (က) ဂါးသာရရှိ၍ ကဗျာမှ လေးနှင်းသောအနှစ်သာရ ဟူသောအဆိုကို ဝေဖန်ဆန်းစစ်ပါ။
- (ခ) သရပါတ်ခါးမှုပုံးတင်သံကဗျာမှ ကျွန်းစစ်သား၏ မိမိအရှင်သခင်အပေါ် ထားရှုံးခဲ့သည့်
သစ္ာတရားကို မျိုးဆက်သစ်တို့အတုယူနိုင်ရန် ဝေဖန်တင်ပြပါ။

၄။ နှစ်သက်ရာ တစ်ပုဒ် ၏အရေးအဖွဲ့ ကို စိုက်းတင်ပြပါ။

- (က) လမ်းဟောကြခိုင်း စကားပြေအရေးအသားကိုလေ့လာတင်ပြပါ။
- (ခ) တို့မြည်တို့ရွာကပျာမှ စာဆို၏ အရေးအဖွဲ့စွမ်းရည်

၅။ နှစ်သက်ရာ တစ်ပုဒ် ကိုစိုက်းတင်ပြပါ။

- (က) တွေ့သိလိုပ်တင်ခ ၏ အမျိုး၊ အမျိုးသားစိတ်ဓာတ် မှ မျိုးချစ်စိတ်ဓာတ်သို့
- (ခ) မြန်မာရှိုးရာ ရာသိပ္ပါတော်များ

THE DEPARTMENT OF ADVANCED SCIENCE AND TECHNOLOGY
UNIVERSITIES OF COMPUTER STUDIES
FIRST SEMESTER EXAMINATION
FIRST YEAR (ZONE IV)
MARCH 2015

Answer all questions.

QUESTION- I

ENGLISH

Time allowed: 3 hours

(20marks)

Seaweeds are algae that live in the sea or in brackish water. Scientists often call them 'benthic marine algae', which just means 'attached algae that live in the sea'. Seaweeds come in three basic colours: red, green, and brown: dulse is the red seaweed; sea lettuce is amongst the green algae; and the brown is a wrack. Red and brown algae are almost exclusively marine, whilst green algae are also common in freshwater and in terrestrial situations. Many of these algae are very ancient organisms, and although lumped together as 'algae' are not actually closely related, having representatives in four of the five kingdoms of organisms. There are about 10,500 species of seaweeds, of which 6,500 are red algae (Rhodophyta).

The trend today is to refer to marine algae used as food as 'sea-vegetables'. The main species used in Ireland at present are dulse, carrageen moss, and various kelps and wracks. Dulse – also known as dillisk in a number of areas – is a red alga that is eaten on both sides of the North Atlantic. Generally only eaten in Ireland after it has been dried, it is frequently sold in small packets, most commonly in the west and north. About 16 tonnes are used in Ireland at present; the species is also eaten in Canada, Iceland, Norway, France and Scotland. About 53 tonnes of carrageen moss were gathered in Ireland in 1994.

Whilst dulse and carrageen moss are worthy sea-vegetables with a history of utilization and a small but proven market, other species also show considerable promise. Our kelp resources are considerably under-utilised. All of the kelp species are edible but *Laminaria saccharinoides* probably the most palatable as it has a somewhat sweet taste, probably due to its high levels of mannitol, and it also cooks better.

Two other brown algae with potential as food are currently under investigation by us: *Himanthalia elongata*, known in some places as thongweed, and *Alaria esculenta*, also known as dabberlocks or murlins. *Himanthalia* is eaten in France after drying or pickling ('Spaghetti de mer'), and plants are sold in Ireland dried. After soaking in water it makes a surprisingly fine accompaniment to a mixed salad; it does not have the strong seaweedy taste that some dislike. With the aid of a basic research grant from Forbairt, the Irish research and development body, we are examining the growth and life cycle of populations of this species on the west coast. Plants are easy to collect but must be dried quickly and packaged well to preserve their excellent taste and mouth feel.

Alaria is a large, kelp-like brown alga that grows on exposed shores. In Ireland, plants grow to considerable sizes, being found up to 6m in length in some areas, but these are dwarfed by some Pacific species that may grow to 18m in length and to 2m in width. With marine Research Measure funding, a study of the possibility of developing fast-growing hybrids of this species by crossing species from the Atlantic and Pacific is being carried out. We have growing in culture isolates of *A. esculenta* from Ireland, Scotland, France, Norway, and Atlantic Canada and other species from British Columbia and Japan. Species of this genus are

ideal for cross-breeding studies as the males and females are tiny filamentous plants that are relatively easy to grow and propagate in culture under red light which stimulates reproduction in our growth rooms. Male and female reproductive structures occur on different plants so that we can put plants from one country in with those from another to see if they are sexually compatible.

To date, we have obtained interesting results with *A. praelonga*, a large species from Japan that co-operates sexually with *A. esculenta* from the Aran Islands and other Irish sites. The resulting Irish/Japanese progeny are grown initially in sample bottles agitated on a small shaker and their growth rates compared with plants that have resulted from self crosses. Preliminary results are very encouraging, with hybrid plants showing relatively high growth rates. We hope by this method to obtain sterile hybrids that will not reproduce in the wild so that we can introduce foreign genetic material without the fear that some sort of a tryffid will be introduced that will take over the west coast of Ireland.

While studies of these two food species are very promising, we must bear in mind that the market for such sea-vegetables is very small and needs development and investment. Nutritionally, sea-vegetables are as good as any land-vegetable and are superior in their vitamin, trace element and even protein content. The increase in catholic food tastes in Europe should see greater utilization of sea-vegetables in the next 20 years.

Questions 1-5

Classify the following features as characterizing

- A brown algae
- B green algae
- C red algae
- D brown and red algae
 - 1. are being investigated as possible food sources.
 - 2. are now called sea-vegetables.
 - 3. make up more than half of all seaweed species.
 - 4. are found on land and in freshwater.
 - 5. are nearly all marine.

Questions 6-10

Complete the table below by choosing NO MORE THAN THREE WORDS from the passage.

Types of brown algae	<i>Himanthalia elongata</i>	<i>Alaria esculenta</i>
Potential	food	food
Common name	6.....	dabberlocks or 7.....
Research funded	With a 8.....from Forbairt	by Marine research Measure
Purpose	to examine growth and life cycle populations	creation of fast-growing 9.....
Advantage	easy to collect	just right for 10.....

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QUESTION-II

(A) Complete the sentences with an appropriate relative pronoun. (10marks)

1. The treatmentvictims receive from the police varies from area to area.
2. Some peopleare burgled find it no more than an irritating inconvenience.
3. Unfortunately, people.....have been burgled once are statistically more likely to be burgled again.
4. Face to face contact was the method.... most people found helpful.
5. Burglars usually sell the thingsthey stole quite quickly.
6. If you make an insurance claim, you will need the crime reference number..... the police gave you.
7. All volunteers..... work with victims have been specially selected and trained.
8. Convicted burglars are sometimes asked to apologize personally to the people possessions they stole.
9. Volunteers are people.....work free of charge because they think the work is important.
10. Menwere still unemployed five months after leaving university numbered less than 500.

(B) Are these sentences right or wrong? Correct them if necessary. (10 marks)

1. I usually arrive early for class.
2. Temperature is increasing with pressure.
3. He is knowing Toronto very well.
4. Come on. We wait for you.
5. He constantly interrupts me when I'm speaking.

QUESTION-III

(A) Match the words on the left (1-10) with the correct meaning on the right (a-j).

(10marks)

- | | |
|-------------------------|---|
| 1. peripherals | a. the line that describes the content of an email |
| 2. ports | b. a directory that holds data, programs and other folders |
| 3. folder | c. to classify records into numerical or alphabetical order |
| 4. dock | d. input devices attached to the CPU |
| 5. search | e. which includes all the programs that control the basic functions of a computer |
| 6. sort | f. which comprises programs that let you do specific tasks |
| 7. system software | g. the name given to junk mail |
| 8. application software | h. set of icons at the bottom of the screen that give you access to the things you use most |
| 9. spam | i. sockets into which an external device may be connected |
| 10. subject | j. to look for specific information, for example the name of an employee |

(B) Complete the following passage for how to Copy and paste in word with verbs from the list. (5marks)

click select position right-click drag

First, (1)..... the text you wish to copy. To select text, (2)..... the mouse over the portion of the text that you want to copy. This part should then be highlighted. Then, (3)..... on the *Copy* icon on the Standard Toolbar. This copies the selected text to an invisible clipboard. Next, (4)..... the cursor where you want the text to appear. Finally, click the *Paste* icon. This inserts the content of the clipboard at the insertion point. As well as the icons on the toolbar, you can use the keys *Ctrl+C* for *Copy*, and *Ctrl+V* for *Paste*. These options also come up if you (5)..... the selected text.

(C) Complete these sentences with superlative form of the adjectives in brackets. (5marks)

1. Always buy the (fast).....scanner with the highest resolution you can afford.
2. They have created the (revolutionary).....camera to date.
3. The scanner gives you the (good).....scans with the (little).....effort.
4. Our university has bought the (modern).....computer equipment.
5. We have chosen the (advanced).....technology.

QUESTION- IV

(A) Choose the alternative. Just write down the number and the answer. (10marks)

1. He was amazing / amazed that the university had accepted him.
2. Living abroad is really exciting / excited!
3. He was really frustrating / frustrated that he couldn't understand the Australian accent when he first moved to Perth.
4. After awhile I felt more relaxing / relaxed about being in a foreign country.
5. He was so boring / bored during the lecture that he actually fell asleep.
6. She tried to explain the difference between the two words, but I still felt confusing / confused.
7. Learning a new language is really fascinating / fascinated!
8. I felt really annoying / annoyed by his behavior.
9. I was really shocking / shocked to hear his news.
10. That book was really interesting / interested. I'll lend it to you.

(B) Describe an important day in your life. (10marks)

You should say:

- When this day was
- If you were alone or with others
- Where you were and what happened
- And explain why this day was important to you.

QUESTION- V

(20marks)

Write an ESSAY on the following topic. Write at least 250 words.

"Reading is necessary for self-development."

Do you agree? Use specific reasons and examples to support your answer.

THE END

Department of Advanced Science and Technology

University of Computer Studies

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

Mid-Term Examination

Physics

March 2015

Answer All questions.

Zone IV

Time allowed: 3 hours

1. (a) What is the different physical property of the friction and inertia?
Damien's cricket bat has mass of 1.2 kg. He uses it to hit a ball with a mass of 160 kg forward with a force of 500 N. (i) Use Newton's law to state the force that the ball exerts on the bat. (ii) Which is greater the acceleration of the bat or the ball? Explain your answer.
When you are in a commercial airliner cruising at 6.40×10^3 m, by what percentage has your weight (as well as the weight of the airplane) changed?
(b) If an object has zero resultant force on it, can it be moving? Can it be accelerating?
Name the force that:
(i) makes a marble roll across level ground eventually come to rest
(ii) stops a car sinking into the road surface
(iii) act on a projectile
A box full of books rests on a wooden floor. The normal force the floor exerts on the box is 250 N. (i) If you push horizontally on the box with a force of 100 N, but it refuses to budge. What can you say about the coefficient of static friction between the box and the floor? (ii) If you must push horizontally on the box with a force of at least 120 N to start it sliding, what is the coefficient of static friction? (iii) Once the box is sliding, you only have to push with a force of 100 N to keep it sliding. What is the coefficient of kinetic friction?
2. (a) Define the terms *free fall* and *projectile*? In free fall, where is the acceleration of an object directed?
A motorboat accelerates from rest at a dock with a constant acceleration of magnitude 2.8 m/s^2 . After traveling directly to the east for 140 m the motor is throttled down so that the boat slows down at 1.2 m/s^2 while still moving east until its speed is 16 m/s. Just as the boat attains the velocity of 16 m/s, it passes a buoy due east of the dock. What is the total displacement of the motorboat from the dock at that time?
(b) What are the values for the components of the acceleration of the object when the object is in projectile motion?
An arrow is shot into the air at an angle of 60° above the horizontal with a speed of 30 m/s. (i) What are the x - and y - components of the velocity of the arrow at the highest point? (ii) What are the x - and y - components of the displacement of the arrow at the highest point?
3. (a) What's the general name for a force that *keeps an object moving in a circle*?
A car is going around an unbanked curved at the recommended speed of 15 m/s. (i) If the radius of curvature of the path is 25 m and the coefficient of static friction between the rubber and the road is $\mu_s = 0.7$, does the car skid as it goes around the curve? (ii) What speed is safe for traveling around the curve if the road surface is wet from a recent rainstorm and the coefficient of static friction between the wet road and the

rubber tires is $\mu_s = 0.5$? (iii) For a car to safely negotiate the curve in icy conditions at a speed of 13 m/s, what banking angle would be required?

- (b) A car is driving round a circular track at constant speed. (i) Why is the car said to be accelerating when its speed is constant? (ii) Name two forces acting on the car. Are all the forces acting on the car balanced or unbalanced? Give a reason for your answer.

A roller coaster is hauled to the top of the first hill of the ride by a motorized chain drive. After that, the train of cars is released and no more energy is supplied by an external motor. If the cars start from rest 42 m above the ground at the top of the first hill, how fast are they moving at the top of the second hill, which is 30 m above the ground? Ignore friction and air resistance.

4. (a) Why is the speed of a roller coaster greatest at the lowest point of the track? What do you understand the terms *conservative forces* and *non-conservative forces*?

A bungee jumper makes a jump in the Gorge du Verdon in southern France. The jumping platform is 210 m above the bottom of the gorge. The jumper weighs 780N. Suppose that during the jumper's descent, at a height of 140 m above the bottom of the gorge, the cord has done -21.7 kJ of work on the jumper. What is the jumper's speed at that point? Ignore air resistance.

- (b) A car and a large truck travelling at the same speed collide head-on and stick together. Which vehicle undergoes the larger change in the magnitude of its momentum? Explain your answer.

Diana is standing on a raft of mass 100 kg that is floating on a still lake. She decides to walk the length of the raft. If Diana's mass is 55 kg and she walks with a velocity of 0.91 m/s relative to the water, how fast and in what direction does the raft move while Diana is walking? Assume the raft is stationary with respect to the shore before Diana starts walking.

5. (a) A constant net torque is applied to an object. Which one of the following will not be constant? (i) angular acceleration, (ii) angular velocity, (iii) moment of inertia, or (iv) center of gravity.

A potter's wheel is a heavy stone disk upon which the pottery is shaped. Today 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 done by the motor to bring the wheel from rest to 80 rpm? (ii) If the motor delivers a constant torque of 8.2 Nm during this time, through how many revolutions does the wheel turn in coming up to speed?

- (b) (i) What is the momentum of an apple weighing 1 N just before it hits the ground, if it falls out of a tree from a height of 3 m? (ii) The apple falls because of the gravitational interaction between the apple and the Earth. How much does this interaction change the Earth's momentum? How much does it change the Earth's velocity?

Write an expression for the rotation inertia of a rod with mass M and length L that rotates about a perpendicular axis through its midpoint.

Useful Data

$$G = 6.673 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$$

$$M_E = 5.98 \times 10^{24} \text{ kg}$$

$$R_E = 6.37 \times 10^6 \text{ m}$$

$$g = 9.8 \text{ N/kg or } \text{m/s}^2$$

Department of Advanced Science and Technology

University of Computer Studies

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

Introduction to Computer Systems (CST-101)

Mid Term Examination

March 2015

Answer All questions.

Zone IV

Time Allowed : 3 hours.

- 1. Define the followings:** (16 marks)

- | | |
|-------------------------------|--------------------------|
| (a) Microprocessor | (b) Storage Unit |
| (c) Memory dump | (d) Unicode |
| (e) Clock speed | (f) Latency |
| (g) Speech recognition device | (h) Application Software |

- 2. Differentiate Any THREE of the followings:** (12 marks)

- | |
|--|
| (a) Packed decimal format and zoned decimal format |
| (b) RAM and ROM |
| (c) Sequential and direct-access devices |
| (d) Application software and system software |

- 3. (a) Write the full form of the following abbreviations:** (12 marks)

- | | |
|-------------|-----------|
| (i) LSI | (ii) SIMM |
| (iii) EPROM | (iv) USB |
| (v) WORM | (vi) OMR |

- (b) What is meant by n-bit number? How many different patterns of bits are possible with n-bits?
(c) If a computer has 4MB memory. How many locations and what are the address ranges of this memory?
(d) How many bytes will be required to store the word "PROCESSORS" in (a) character-addressable computer (b) a word-addressable computer having word-length of 64 bits?

- 4. Answer Any FIVE of the followings:** (20 marks)

- (a) List key hardware technologies used in building computers of each of the five generations.
(b) What is a system and why do we often refer to a computer as a computer system?
(c) Write key properties used to characterize and evaluate storage units of computer systems.
(d) Write a short note on RISC.
(e) Write the limitations of magnetic tape as a secondary storage device.
(f) Explain the technology used in making touch screen devices.
(g) Write key functions performed by the system software of a computer system.

- 5. Convert the followings:** (8 marks)

- | | | |
|----------------|---------------|-------|
| (a) 576_{10} | \rightarrow | $?_2$ |
| (b) 3165_8 | \rightarrow | $?_2$ |
| (c) 863_{10} | \rightarrow | $?_8$ |

- (d) $1101111101_2 \rightarrow ?_{16}$
 (e) $435_6 \rightarrow ?_4$
 (f) $111.011_2 \rightarrow ?_{10}$
 (g) $237.54_8 \rightarrow ?_{10}$
 (h) $26C.8A_{16} \rightarrow ?_{10}$

6. Calculate the followings: (16 marks)

- (a) Find the complements of 110101_2 .
 (b) Subtract 573_8 from 352_8 using complementary method.
 (c) Multiply 100111001_2 by 111_2 .
 (d) Divide 10101101_2 by 101_2 .
 (e) Multiply 2573_8 by 71_8 .
 (f) Divide 743_8 by 25_8 .
 (g) Multiply ABC_{16} by $FA5_{16}$.
 (h) Divide $BE3F_{16}$ by $7D_{16}$.

7. (a) Write the BCD coding for the word "COMPUTERS" in both binary and hexadecimal notations. How many bytes are required to store this word using this coding?

- (b) Write ASCII-7 coding for the word "Divide!" in both binary and hexadecimal notations. How many bytes are required to store this word in ASCII?
 (c) A disk pack consists of 12 disk plates and both surfaces of all disk plates can be used to store data. Each plate has 2655 tracks and there are 125 sectors per track. If 512 bytes can be stored per sector, calculate its total storage capacity.
 (d) Rotational speed of a disk system having a single recording surface is 300 rpm. It has 80 sectors/track and 512 bytes/sector. What is the transfer rate of this disk system? What is the amount of data transferred in one full revolution of the disk?

(16 marks)

Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc./B.C.Tech. (First Year)
Mid Term Examination
Mathematics of Computing I (CST-102)

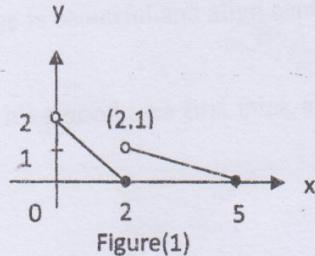
(6 marks)

Answer ALL Questions.

March, 2015
Zone IV

Time Allowed: 3 hours.

- 1.(a)(i) Graph the function $G(x) = \begin{cases} 1/x & , x < 0 \\ x & , 0 \leq x \end{cases}$
 (ii) Find a formula for the function graphed in Figure(1).



Figure(1)

hexadecimal

notations.

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312 bytes can

pm. It has 80

? What is the

(16 marks)

- (b)(i) Let $f(x) = \frac{x}{x-2}$. Find a function $y = g(x)$ so that $(f \circ g)(x) = x$. (ii) The graph of the function $y = 1 + \frac{1}{x^2}$ is compressed vertically by a factor of 2. Give an equation for the compressed graph.

- 2.(a) Find the slope of the curve $y = x^3$ at the point $P(-2, -8)$. Write an equation of the tangent line at P. Then sketch the curve and tangent together.

(b) Find the limit in (i) $\lim_{x \rightarrow 1} \frac{x-1}{\sqrt{x+3} - 2}$ (ii) $\lim_{h \rightarrow 0} \frac{\sqrt{6+h^2+11h+6} - \sqrt{6}}{h}$

(c) Prove that $\lim_{x \rightarrow 1} f(x) = 1$ if $f(x) = \begin{cases} x^2 & , x \neq 1 \\ 2 & , x = 1 \end{cases}$.

- 3.(a) At what points are the function $y = \frac{x+1}{x^2-4x+3}$ continuous?

(b) Find the first and second derivatives of the function $y = \frac{1}{9} \cot(3x - 1)$.

(c) Find the derivatives of (i) $y = x^2 \sin x + 2x \cos x - 2 \sin x$ (ii) $x + \tan(xy) = 0$.

4. Graph the function $f(x) = \sqrt{4 - x^2}$ on $-2 \leq x \leq 1$. Find the linearization $L(x)$ of the function at $x = a = 0$. Find the absolute maximum and minimum values of it. Find the value of c by means of the Mean Value Theorem. Find the average value of the function over $[-2, 2]$.

- 5.(a) Find the total area of the region between the x-axis and the graph of

$$y = 3x^2 - 3, \quad -2 \leq x \leq 2.$$

(b) Express the sum $-\frac{1}{5} + \frac{2}{5} - \frac{3}{5} + \frac{4}{5} - \frac{5}{5}$ in sigma notation.

(c) Evaluate (i) $\int \left(\frac{1}{y} - \frac{1}{y^{5/4}} \right) dy$ (ii) $\int_0^{\pi/6} (1 - \cos 3t) \sin 3t dt$.

Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc./B.C.Tech. (First Year) Mid Term Examination
CST-103 (Computer Application Technique I)

March, 2015

Zone IV

Time Allowed: 3 hours

Answer all questions

- a). Create an HTML page with following:
- title of window with "Welcome to HTML5"
 - display the image(smile.gif) with width and height(100,80), text message is beautiful and align center.
 - type heading "Web creation" with heading 2 style, center and underline.
 - type the following paragraph with indentation effect and bold type.
Although you can just jump in and start writing web pages right away, it's a good idea first think about and design your site"
 - type heading "URLs" with largest heading style, italic and right align.
 - type the following paragraph with right align and big text.
Uniform resource locator, or URL is a fancy name or address."
 - type the following.
his text is mark text.
 - his text is strike format.

I ❤ HTML5.

- to display the text "HTML is the predominant markup language for web pages". Use the abbr tag for the word "HTML".
- to create a nested list that displays your favorite subjects in three categories: HTML, JavaScript and PHP. The JavaScript category should also be divided into three types: Core, DOM and BOM.
- A relative link to background.html, when user clicks the tulips.jpg.
- Create a horizontal rule.

(15 marks)

- (b). Create a web page about your favorite movies that uses a four column table containing details about the movie. Include the following in the table.
- | Movie's Name | Types of Movie – (eg comedy, horror, action) | Brief description of the Movie | Photo |
|--------------|--|--------------------------------|-------|
| Movie's Name | Types of Movie – (eg comedy, horror, action) | Brief description of the Movie | Photo |
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| Movie's Name | Types of Movie – (eg comedy, horror, action) | Brief description of the Movie | Photo |
- The last column will span all the rows except the header row and should have a still image (desired image).
(Include at least three rows in your table.)

(10 marks)

2(a). Create the following LIST.

■ My Favorite Book Page

I. Author's Name

- Authorsearch.html

II. Book's Name

- Booksearch.html

III. Categories

5. Romance

- R. Romance.html

6. Comedy

- C. Comedy.html

7. Science

- S. Science.html

8. Other

- O. Other.html

IV. Thank you for your visit my page

Use h2 for "JavaJam Coffee House". Place the following paragraph in the page.
Julio Perez is the owner of the JavaJam coffee house, a gourmet coffee shop that serves snacks, coffee, and soft drinks".

Write the following paragraph in the page.
Julio Perez is the owner of the JavaJam coffee house, a gourmet coffee shop that serves snacks, coffee, and soft drinks".

Use h1 for "JavaJam Coffee House". Place the following paragraph in the page.
Our veterinarian creates the following paragraph in the page.

A. Full Screen
B. Open in new window
(10 mark)

2(b). Write the HTML page to create the following. The heading should display Welcome to My Favorite Food Page. The form should have the following fields: user name, e-mail, and password.

Select box with name and value attributes:

Types of Food

Chinese Food

Korean Food

Myanmar Food

European Food

An unordered list with following:

A relative link to chinese.html

A relative link to korean.html

A relative link to myanmar.html

A relative link to european.html

To create button for submit and reset.

Write the following paragraph in the page.
Julio Perez is the owner of the JavaJam coffee house, a gourmet coffee shop that serves snacks, coffee, and soft drinks".

(10 mark)

3. Write the HTML and CSS code for an embedded style sheet that configures a background color of #d0e4fe, text color of #0000FF. Some section of text will have a background color of skyblue. Create a class named notice that should have italic, underline and text in red color. All paragraph, h1, h2 should have center, line height 70pixels and in arial, verdana or sans-serif font. Hyper links 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, 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 marks)

Write the HTML and CSS code for an external style sheet that configures a background color of #FF6633. leading 1, heading 2 and italic should have box with following attributes: 2pixels width, dotted style, order color teal, and then text color pink, background color blue, width 450pixels and height 50pixels. Some paragraph should have text indent 15ex, and bold weight. Hyper links should have italic and 1.2em size. Specify the list item with uppercase letters. (Saved with format.css)

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

Use h1 for "Fish Creek Animal Hospital".

Create the following link.

HomeBackgroundFavorite (Link to home.html, background.html and favorite.html)

Place the following paragraph. (Paragraph includes text indent bold and italics.)

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

Create the following.

- A. Full Service Facility
- B. Open Door Policy

(10 marks)

(20 marks)

To My Favor

i. Write the HTML and CSS code for an external style sheet that configures a background color of #efefef and insert an background image (desired image) with following attributes: right position, no-repeat, fixed attachment. Create an id called div1 with following attributes: 3 pixels width, dashed style, #000033 color, padding of 5 pixels and 10 pixels margin. Create a class called div2 with the following attributes: relative position, 30 pixels left, 100 pixels top and width 300 pixels. Some paragraph with ivory color on grey background, 200 pixels width, 150 pixels height and has a scroll bar. Some h2 with font size 3em. It should has a drop shadow with #999999 color. The drop shadow should fall at the position x coordinate(10 pixels) and y coordinate (10 pixels) far from original text. It should be 3 pixels blurred. (Saved with external.css.)

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

Use h2 for "Winter". (Heading includes text shadow.)

Place the following paragraph. (In this paragraph includes ivory color, grey background and scroll bar.)

"Winter is the season of cold weather. The season occurs during December- February in the northern hemisphere. In the southern hemisphere winter occurs during june-august".

Use h1 for "Flowers and Seasons". (Use id named div1.)

(10 marks) Type the following paragraph. (Use class named div2.)

The various climatic changes that occur in cyclic patterns are termed as seasons. There are four general seasons occurring on Earth- Spring, Summer, Autumn and Winter".

Create a cl

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(20 marks)

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Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc. & B.C.Tech. (First Year), Mid Term Examination
CST-104 (Basic Data Processing Concept)
March 2015

Answer All Questions.

Zone IV

**Time Allowed: 3 hours
(30 marks)**

I. Choose the correct Answers.

1. Which of the following is an example of a syntax error?
 - a. producing output before accepting input
 - b. subtracting when you meant to add
 - c. misspelling a programming language word
 - d. all of the above
2. Which module in a typical program will execute the most times?
 - a. the housekeeping module
 - b. the detail loop
 - c. the end-of-job module
 - d. It is different in every program.
3. Placing a structure within another structure is called the structures.
 - a. stacking
 - b. untangling
 - c. building
 - d. nesting
4. 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
5. When you decrement a variable, you
 - a. set it to 0
 - b. reduce it by one-tenth
 - c. subtract 1 from it
 - d. remove it from a program
6. If sales = 100 , rate = 0.10 and expenses= 50, which of the following expression is true?
 - a. sales >= expenses AND rate < 1
 - b. sales < 200 OR expenses < 100
 - c. expenses = rate OR sales = rate
 - d. two of the above
7. Parallel arrays –
 - a. frequently have an indirect relationship
 - b. never have an indirect relationship
 - c. must be the same data type
 - d. must not be the same data type
8. After an accumulator or counter variable is displayed at the end of a program, it is best to
 - a. delete the variable from the program
 - b. reset the variable to 0
 - c. subtract 1 from the variable
 - d. none of the above
9. Assume the following variables contain the values shown:
numberRed = 100 , numberBlue = 200 , numberGreen = 300
wordRed = "Wagon" , wordBlue = "Sky" , wordGreen = "Grass"

Check these Boolean expressions. It is true, false, or illegal.

- a. numberBlue = 30 AND numberGreen = 300 OR numberRed = 200?
- b. numberRed = 100 OR numberRed > numberBlue?

10. If d is true, e is false, and f is false, which of the following expressions is true?

- a. e OR f AND d
- b. f AND d OR e
- c. d OR e AND f
- d. two of the above

II. Draw the hierarchy chart and design the logic for a program that contains housekeeping, detail loop, and end-of-job modules, and that calculates the service charge customers owe for writing a bad check. The main program declares any needed global variables and constants and calls the other modules. The housekeeping module displays a prompt for and accepts a customer's last name. While the user does not enter "KKK" for the name, the detail loop accepts the amount of the check in dollars and cents. The service charge is computed as \$20 plus 2 percent of the check amount. The detail loop also displays the service charge and then prompts the user for the next customer's name. The end-of-job module, which executes after the user enters the sentinel value for the name, displays a message that indicates the program is complete.

(10 marks)

III. (a) Draw a structured flowchart (or) write structured pseudocode describing how your pay bill is calculated for your lunch. Include at least two decisions.

(10 marks)

(b) Assume you have created a mechanical arm that can hold a pen. The arm can perform the following tasks:

- Lower the pen to a piece of paper.
- Raise the pen from the paper.
- Move the pen 1 inch along a straight line. (If the pen is lowered, this action draws a 1-inch line from left to right; if the pen is raised, this action just repositions the pen 1 inch to the right.)
- Turn 90 degrees to the right.

Draw a structured flowchart and write structured pseudocode describing the logic that would cause the arm to draw a 3-inch square.

(10 marks)

IV. A supervisor in a manufacturing company, wants to know which employees have increased their production this year over last year. These employees will receive certificates of commendation and bonuses. Write a pseudocode for the following:

(a) A program that continuously accepts each worker's first and last names, this year's number of units produced, and last year's number of units produced. Display each employee with a message indicating whether the employee's production has increased over last year's production.

(b) A program that accepts each worker's data and displays the name and a bonus amount. The bonuses will be distributed as follows:

If this year's production is greater than last year's production and this year's production is:

- 1000 units or fewer, the bonus is \$25.
- 1001 to 3000 units, the bonus is \$50.
- 3001 to 6000 units, the bonus is \$100.
- 6001 units and up, the bonus is \$200.

17
(20 marks)

V. The Some Interest Credit Company provides loans to customers at 1.5 percent interest per month. 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 when the balance reaches \$10 or less, the customer can pay off the account. At the beginning of every month, 1.5 percent interest is added to the balance, and then the customer makes a payment equal to 5 percent of the current balance. Assume the customer makes no new purchases. (20 marks)

(OR)

A University contains 50 classrooms numbered 1 through 50. Each classroom can contain any number of students up to 35. Each student takes an achievement test at the end of the school year and receives a score from 0 through 100. Write a program that accepts data for each student in the school—student ID, student name, classroom number, and score on the achievement test. Design a program that lists the total points scored for each of the 50 classrooms. (20 marks)

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