

အဆင့်မြင့်ပညာဦးစီးဌာန
ကွန်ပျူတာတက္ကသိုလ် (ဟင်္သာတ)
ပထမနှစ် B.C.Sc./B.C.Tech.
ပထမနှစ်ဝက်စာမေးပွဲ
မြန်မာစာ
မတ်လ ၂၀၁၈

မေးခွန်းအားလုံးဖြေဆိုပါ။

ခွင့်ပြုချိန်(၃)နာရီ။

- ၁။(က) အောက်ပါတို့မှနှစ်သက်ရာနှစ်ခုကိုသာကေအသီးသီးဖြင့်ရှင်းပြပါ။ (၁၀-မှတ်)
စကားသံ၊ သီးခြားစကားလုံး၊ ပစ္စည်းရောပုဒ်
- (ခ) အောက်ပါတို့ကိုအက္ခရာစဉ်ပါ။ (၁၀-မှတ်)
ဆွံ့အ၊ညှိုးနွမ်း၊ဆန်းကြယ်၊မက်မောလုံးဝ၊လတ်ဆတ်၊ထပ်ဆင့်၊လွယ်ကူ၊စည်းကမ်း၊ဆိပ်ကမ်း၊သင်ခန်း၊
ဝတ်ကျေ၊ဝေဖန်၊ရန်ပုံငွေ၊ရင်းချာ၊ရာပြည့်၊လွတ်တော်၊များပြား၊မြက်ခင်း၊ညချမ်း။
- ၂။ အောက်ပါတို့မှတစ်ခုကိုဆွေးနွေးတင်ပြပါ။ (၂၀-မှတ်)
- (က) ဘုရင့်နောင်ကျော်ထင်နော်ရထာ၏စိတ်ဓာတ်နှင့်ခံယူချက်
- (ခ) ဆုံးဖြတ်ချက်တစ်ခု၏တန်ဖိုးကြီးပုံ
- ၃။ အောက်ပါတို့မှတစ်ခုကိုဆွေးနွေးတင်ပြပါ။ (၂၀-မှတ်)
- (က) လောကသာရပျို့မှကန်တော်မင်းကျောင်းဆရာတော်၏အဆုံးအမဩဝါဒများ
- (ခ) ဓနုဖြူတွင် ချီရတုမှ အလောင်းဘုရားခေတ် ရေတပ်စစ်သည်တို့၏ စစ်ချီခရီးအတွေ့အကြုံနှင့်
ခံစားချက်များ
- ၄။ အောက်ပါတို့မှတစ်ခု၏အရေးအသားကိုတင်ပြပါ။ (၂၀-မှတ်)
- (က) စာဖတ်သူနှင့်စာပေစကားပြေအရေးအသား
- (ခ) သိကြားလိမ်တေးတပ်မှစာဆိုဦးပုည၏ကဗျာဥ္ဇာဏ်ရည်
- ၅။ အောက်ပါတို့မှတစ်ခုအကြောင်းကိုစာစီကုံးပါ။ (၂၀-မှတ်)
- (က) အမျိုး၊ အမျိုးသားစိတ်ဓာတ်မှမျိုးချစ်စိတ်ဓာတ်သို့
- (ခ) ကျောင်းသားလူငယ်နှင့်ကိုယ်ကျင့်တရား

*****END*****

Department Of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc./B.C.Tech.)
Mid-Term Examination
English
March, 2018

Answer All Questions.

Time Allowed: 3 Hours

QUESTION-I

(30 marks)

I. Read the article and answers the questions.

Save Time With Credit Transfers

Most students would agree that having to study a subject more than once is a waste of time, if the subject has already been passed and is well understood. Fortunately, these days credit for having passed a subject at High School or at a Technical and Further Education (TAFE) College can often be transferred to another course of study to be taken at a different institution.

This has been made possible by a range of agreements between the NSW Board of Studies, TAFE NSW, and some universities; giving students the opportunity to gain credit for courses they have completed elsewhere. In effect, it means that students do not have to attend classes for subjects they have studied previously, nor do they have to be tested in those subjects.

Apart from taking up a student's precious time, the studying of a subject in which the student has already proved his or her ability can have a negative impact on other students. There is, after all, a limit to the number of places available in any course at tertiary level, and studying a subject twice takes course places away from others.

Credit transfers can also work both ways. For instance, credit for subjects studied at TAFE after leaving school might count towards reducing the amount of time it takes to pass the Higher School Certificate (HSC) should a student wish to do so. In addition, it is now possible to study at TAFE and complete the HSC simultaneously, saving even more valuable time and money.

CREDIT TRANSFERS

HSC \longleftrightarrow TAFE \longrightarrow UNIVERSITY

Credit transfers from HSC to TAFE courses allow many opportunities to diversify and apply one's talents to the study of courses with similar background requirements. For example, studying Mathematics at 2, 3, or 4 unit levels for the HSC can give a student credit in Associate Diploma courses at TAFE in fields as wide-ranging as Building, Computer Technology, and Civil Engineering. At present more than 30 HSC subjects offer the opportunity to transfer credit to over 90 TAFE courses.

At a higher level of study, transfers of credit can presently be arranged from over 100 TAFE courses into nearly 700 university courses, and a student might be eligible for credit transfer in over a dozen or more associated courses- each leading towards a different qualification. To give only one example: the TAFE Associate Diploma in Architectural Drafting can provide credit towards a Bachelor of Science Degree, or a degree in Engineering, at a number of NSW universities.

It is very important to look carefully into the possibility of obtaining a credit transfer, if you wish to save yourself a lot of unnecessary study. By finding out about credit transfers from the student counsellor at your school or college, you may be able to avoid studying a subject more than once and obtain your chosen qualification much sooner than you expect.

Questions 1-4

Complete the following sentences with suitable **words** or **phrases**.

1. Students can save study time with _____.
2. The letters TAFE stand for _____.
3. A student with a credit transfer for a subject does not have to go to classes in that subject or be _____.
4. Two advantages of studying for the HSC while at TAFE are that students can save _____.

Questions 5-10

Do the following statements agree with the information given in Reading Passage?

Write **T** if the statement is True
 F if the statement is False
 NG if the information is Not Given in the text

5. Credit transfers are the result of agreements between some universities, the NSW Board of Studies, and TAFE NSW.
6. In courses at the third level of education there is a limit to the number of places available.
7. Credit transfers are only of use to overseas students.
8. In the concluding paragraph, studying a subject more than once is described as unnecessary study.
9. According to the reading passage, students can find out about credit transfers from the NSW Board of Studies.
10. Credit transfer is a system whereby successfully completed units of study contributing towards a degree or diploma can be transferred from one course to another.

Questions 11-15 Choose the correct letter **A, B, C** or **D**.

11. The letters HSC stand for:
A. Higher School Certificate B. Higher Students' Certificate
C. High School Course D. Higher Study Course
12. Studying a subject twice:
A. wastes a student's time B. costs a student extra money
C. takes a course place away from another student D. all of the above
13. A student may receive credit in a TAFE Associate Diploma in Computer Technology, if he or she:
A. enjoys using computers B. enjoys studying mathematics
C. studies Mathematics for the HSC D. studies Building and Civil Engineering at the same time
14. There are currently over 30 HSC subjects in which credit:
A. may be transferred to TAFE courses B. may be transferred to university courses
C. may be given to Mathematics students D. all of the above
15. Studying at TAFE may give a student the opportunity to:
A. buy a credit transfer B. gain credit towards a university course
C. choose from nearly 700 courses D. none of the above

QUESTION-II

(20 marks)

(A) Choose the correct word or words to complete each sentence.

1. Neither Peter nor James *has/have* any right to the property.
2. I enjoy *to watch/watching* romantic movies.
3. They have had *a lot of / many* homework in Mathematics recently.
4. Where is *the/a* USB drive I lent you last week?

5. Allowing prisoners to study is a good idea *so/because* they may get better jobs when they are freed.
6. I am planning *to buy/buying* a new laptop soon.
7. Nowadays, most children spend *a large number of/ a large amount of* time watching TV and playing game.
8. Slow and steady *wins/win* the race.
9. Nyi Nyi was absent yesterday *since/so* he missed his lessons.
10. Their car does 150 miles *a/an* hour.

(B) Complete the sentences with an appropriate relative pronoun.

1. The horse _____ was hit by the car was only slightly hurt.
2. Romeo and Juliet were lovers _____ parents hated each other.
3. The pizza _____ I had for lunch was disgusting!
4. The shop _____ we usually buy our bread has closed down.
5. Do you know anyone _____ could help me fix my computer?

(C) Complete the sentences with present simple or present continuous form of the verbs in brackets.

1. Normally I _____ (finish) work at five, but this week I _____ (work) until six to earn a little more money.
2. Rachel is in London at the moment. She _____ (stay) at the Park Hotel. She always _____ (stay) there when she's in London.
3. Hurry up! Everybody _____ (wait) for you.

QUESTION-III

(20 marks)

(A) Match the words in the box to their collocations. Some words can be used more than once.

road	crime(x2)	traffic(x2)
------	-----------	-------------

1. _____ prevention, wave, rate
2. _____ lights, fumes, jams
3. _____ users, rage, safety
4. heavy, local, air _____
5. organized, pretty, serious _____

(B) Choose the correct word to complete each sentence.

1. Ni Ni Khin Zaw's fans were fascinated *by/on* her voice.
2. I like my new chair. It's quite *relaxed/ relaxing*.
3. *Crossing/Voyage* is a short trip across water.
4. He was *amazed/ amazing* that the university had accepted him.
5. Everyone blamed me *with/ for* the mistake, even though it wasn't my fault.
6. A long trip for a scientific reason is called *tour/ expedition*.
7. There is a new movie playing at the theater. Are you *interested/ interesting*?
8. Thomas is keen *on/about* playing chess with his father.
9. Did you have a good *drive/ flight*? No, I hate flying.
10. She was *embarrassed/ embarrassing* when she arrived late for class.

(C) Write the abbreviations of the words that are used in a dictionary.

1. _____: transitive verb - use with a direct object
2. _____: somebody
3. _____: abbreviation
4. _____: adverb
5. _____: uncountable noun - that cannot be used with a/an and have no plural form

QUESTION-IV

(10 marks)

Complete the questions with the words in the box. There are two extra words.

When	Who	How	Why	Where	Whose
------	-----	-----	-----	-------	-------

- a. _____ don't we go out for dinner tonight?
- b. _____ chocolate is this?
- c. _____ often do you brush your teeth?
- d. _____ are you going to study?
- e. _____ is your birthday?

Now complete the conversations below with the questions a-e from above.

- 1. _____
Twice a day.
- 2. _____
It's mine.
- 3. _____
That's a great idea.
- 4. _____
March 14th
- 5. _____
IT and computing.

QUESTION-V

(20 marks)

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

Studying the English language in an English-speaking country is the best but not the only way to learn the language.

Do you agree or disagree with this statement?

*****END*****

Department of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc./B.C.Tech.)
Mid-Term Examination
Physics
March, 2018

Answer All Questions.

Time Allowed: 3 Hours

1. Choose the correct answer.

(20 marks)

- (i). A contact force between two solid objects that is perpendicular to the contact surfaces is called -----.
- (a) the gravitational force (b) the frictional force
(c) the normal force (d) the applied force
- (ii). The coefficient of static friction is always ----- the coefficient of kinetic friction for an object on a given surface.
- (a) smaller than (b) larger than
(c) equal (d) depends on how smooth the surface
- (iii). Free fall is a situation in which ----- act on an object other than the gravitational force that makes the object fall.
- (a) normal force (b) air resistance
(c) no forces (d) the weight
- (iv). A ball is thrown straight up into the air. Neglect air resistance. While the ball is in the air its acceleration
- (a) is zero (b) increases
(c) remains constant (d) decreases on the way up and increases on the way down
- (v). Name the physical quantity which is equal to the product of force and velocity.
- (a) Work (b) energy
(c) acceleration (d) power
- (vi). When a point moving with uniform circular motion in a circle, its ----- is constant.
- (a) acceleration (b) velocity
(c) speed (d) distance
- (vii). A spider sits on a turntable that is rotating at a constant 33 rpm. The tangential acceleration (a_t) of the spider is
- (a) greater the closer the spider to the central axis. (b) greater the farther the spider is from the central axis.
(c) nonzero and independent of the location of the spider on the turntable. (d) zero.
- (viii). Which of the following bodies has the largest kinetic energy
- (a) Mass 3M and speed V (b) Mass 3M and speed 2V
(c) Mass 2M and speed 3V (d) Mass M and speed 4V
- (ix). A collision in which the final kinetic energy is ----- the initial kinetic energy, the collision is said to be inelastic.
- (a) the same to (b) greater than
(c) less than (d) zero
- (x). Which of the following is a vector quantity.
- (a) Energy (b) Work
(c) Impulse (d) power

- 2.(a) When two equal and opposite forces act on a stationary object, what will happen? (2 Marks)
A box full of books rests on a wooden floor that is inclined 30° above the horizontal. Draw free body diagram for the direction of the normal force and the friction force acting on the box in

each of these situations. (i) The box is at rest. (ii) The box is being pushed and is sliding up the floor. (iii) The box is being pushed and is sliding down the floor. (6 Marks)

2. (b) Standing on a bridge, you throw a stone straight upward. The stone hits a stream, 44.1 m below the point at which you release it, 4s later. Assume $g = 9.8 \text{ m/s}^2$. (8 Marks)

(i) what is the speed of the stone just after it leaves your hand?

(ii) How high above the bridge does the stone go?

(iii) if you dropped the stone instead of throwing it, how long would it take to hit the water?

3.(a) A sailboat is sailing at 12 knots heading directly east across the harbor. When a gust of wind comes up, the boat changes its heading to 11.0° north of east and its speed increase to 14 knots. What is the magnitude and direction of the change in velocity of the sailboat? (8 Marks)

3.(b) A block of mass $m_1 = 2.6 \text{ kg}$ rests upon an incline that is angled at 30.0° above the horizontal in Figure 1. A light weight, flexible cord is connected from block 1 over an ideal, frictionless pulley to another block of mass $m_2 = 2.2 \text{ kg}$ that is hanging freely 2.0 m above the ground. The coefficient of kinetic friction between the incline and block 1 is 0.18. If the blocks are initially at rest, how long does it take for block 2 to reach the ground? Assume the cord is of negligible mass and does not stretch. (8 Marks)

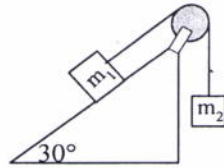


Figure 1

4.(a) A car is going around an unbanked curved at the recommended speed of 11 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 travelling 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? (8 Marks)

4.(b) In uniform circular motion, is the velocity constant? Is the acceleration constant? Explain. (2 Marks)

The turntable of a record player reaches its rated frequency of rotation, 33.3 rpm, in 2 s, starting from rest. (i) Assuming the angular acceleration is constant, what is its magnitude? (ii) How many revolutions does the turntable make during this time interval? (6 Marks)

5.(a) A barge mass 5.0×10^4 is pulled along the Erie Canal by two mules, walking along towpaths parallel to the canal on either side of it. The ropes harnessed to the mules make angles of 45° to the canal. Each mule is pulling on its rope with a force of 1.0 kN. How much work is done on the barge by both of these mules together as they pull the barge 150 m along the canal? (4 Marks)

5.(b) 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? (6 Marks)

5.(c) A sled of mass 5 kg is dragged to a distance of 5.0 m along a floor by a rope at an angle of 60° with the horizontal floor. The tension in the rope is 30.0 N. How much work is done by the rope on the sled? (6 Marks)

6.(a) A rifle has a mass of 4.5 kg and it fires a bullet of mass 10g at a muzzle speed of 820 m/s. what is the recoil speed of the rifle as the bullet leaves the gun barrel? (6 Marks)

6.(b) What average force is necessary to bring a 50.0 kg sled from rest to a speed of 3.0 m/s in a period of 20.0 s? Assume frictionless ice. (4 Marks)

6.(c) A spring of negligible mass is compressed between two blocks. A and B which are at rest on a frictionless horizontal surface at a distance of 1.0 m from a wall on the left and 3.0 m from a wall on the right. The sizes of the blocks and spring are small. When the spring is released, body A moves toward the left wall and strikes it at the same instant that body B strikes the right wall. The mass of A is 0.60 kg. What is mass of B? (6 Marks)

*****END*****

Department of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc./ B.C.Tech.)
Introduction to Computer Systems (CST-101)
Mid Term Examination
March, 2018

Answer ALL questions.

Time Allowed: 3 Hours

1. Choose the correct answer for each of the following questions. (10 marks)
- (i) _____ is the father of modern digital programmable computers.
A. Dr. John Von Neumann B. Charles Babbage C. John Atanasoff D. Blaise Pascal
- (ii) During data processing, actual execution of instructions takes place in the _____ of a computer system.
A. Secondary storage unit B. Control Unit C. Arithmetic logic unit (ALU) D. Primary storage unit
- (iii) BCD is a 6-bit code that can represent _____ different characters.
A. 32 B. 64 C. 128 D. 256
- (iv) _____ holds the address of the next instruction for execution.
A. Memory Address Register B. Memory Buffer Register
C. Program Control register D. Instruction register
- (v) For a number having n digits, its complement is the different between the number and _____.
A. $(\text{Base})^{n-1}$ B. $(\text{Base})^n$ C. $(\text{Base})^n - 1$ D. $(\text{Base})^n + 1$
- (vi) _____ is a set of tools and data that helps applications use networked resources and services.
A. Software B. Middleware C. Hardware D. Firmware
- (vii) _____ are page printers that produce high quality output by forming characters and images with tiny ink particles.
A. Inkjet printers B. Drum printers C. Dot-matrix printers D. Laser printers
- (viii) A programming language that a computer understands without using a translation program is called _____.
A. programming language B. assembly language C. machine language D. symbolic language
- (ix) An optical-disk storage system consists of a metallic or plastic disk coated with _____.
A. iron oxide B. flexible plastic C. rigid metal D. highly reflective material
- (x) _____ number system is more meaningful to us than other number system.
A. binary B. decimal C. octal D. hexadecimal
2. Define short notes on **ANY FIVE** of the followings: (10 marks)
- | | |
|-------------------------------|----------------------|
| (a) Data Processing | (b) Registers |
| (c) Transfer Rate | (d) Magnetic Tape |
| (e) Speech recognition device | (f) Software Package |
| (g) Method | (h) Class |
3. Differentiate **ANY FOUR** of the followings: (16 marks)
- (a) Data and Information
(b) PROM and EPROM
(c) Sequential and Random Access Storage Device
(d) Bar Code Reader and Image Scanner
(e) Machine Language and Assembly Language
4. Answer the following questions. (10 marks)
- (a) How many different patterns of bits are possible with (i) 7-bits and (ii) 32-bits?
(b) Find the complement of $7C_{16}$.
(c) What happens when a number is divided by zero in a computer?

- (d) A computer uses ASCII for its internal representation of characters. In which order will this computer sort the strings?
CPU, ALU, 512, CSS
- (e) What is the access time of a disk system with average seek time of 20 milliseconds and average latency of 7 milliseconds?

5. Write full form of **ANY EIGHT** of the following abbreviations. **(8 marks)**

- | | |
|-----------|------------|
| (a) EDVAC | (b) LSI |
| (c) SRAM | (d) IBG |
| (e) USB | (f) OCR |
| (g) CRT | (h) COBOL |
| (i) RPG | (j) SNOBOL |

6. Answer **ANY SIX** of the followings: **(24 marks)**

- (a) List key hardware technologies used in building computers of each of the five generations.
- (b) Draw a block diagram to illustrate basic organization of a computer system.
- (c) Write the main functions of two main components of CPU.
- (d) Write some typical use of magnetic disks of each type.
- (e) What are the basic storage media components used in mass storage devices?
- (f) Explain the technologies used in making touch screen devices.
- (g) What is utility program? Describe tasks which are commonly performed by utility programs?
- (h) What are the advantages of assembly language over machine language?

7. (a) Convert the followings: **(6 marks)**

- | | |
|----------------------|-----------------------|
| (1) $(1011010)_2$ | = (?) ₁₀ |
| (2) $(1110001011)_2$ | = (?) ₁₆ |
| (3) $(451)_8$ | = (?) ₁₆ |
| (4) $(62)_9$ | = (?) ₃ |
| (5) $(634)_{10}$ | = (?) ₁₆ |
| (6) $(613)_{10}$ | = (?) ₈ |

(b) Calculate the following problems. **(8 marks)**

- (i) Subtract 0111000_2 from 1011100_2 using complementary method.
- (ii) Multiply 1001×1110 .
- (iii) Divide the hexadecimal number FF3 by ED.
- (iv) Using octal notation, write the BCD code for the word 'BINARY'. How many bytes are required to store this word using BCD code?

(c) Answer the following questions. **(8 marks)**

- (i) How many bytes will be required to store the word "UNIVERSITY" in (a) a character addressable computer, (b) a word-addressable computer having word-length of 64 bits?
- (ii) 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.

*****END*****

Department of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc./B.C.Tech.)
Mid-Term Examination
Mathematics of Computing I (CST-102)
March, 2018

Answer All Questions.

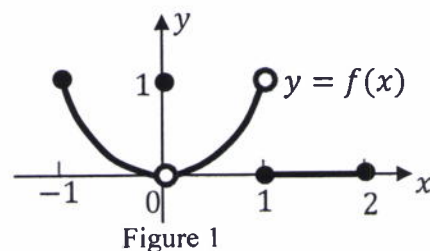
Time Allowed: 3 Hours.

1. (a) If $f(x) = \sqrt{x+1}$ and $g(x) = \frac{1}{x}$; write formulae for $f \circ f$, $g \circ g$, $f \circ g$, $g \circ f$ and find their domains.
- (b) The function $y = \sqrt{4-x^2}$ is stretched horizontally by a factor of 2. Give an equation for the function.
- (c) Graph the function $y = \sin 2x$. What is the period of the function?

2. (a) Find the average rate of change of the function $f(x) = x^3 + 1$ over the interval $[-1, 1]$.

- (b) Find the limits (i) $\lim_{x \rightarrow 0} \frac{\sqrt{x^2+100} - 10}{x^2}$ (ii) $\lim_{h \rightarrow 0} \frac{\sqrt{5h+4} - 2}{h}$.

- (c) Which of the following statements about the function $y = f(x)$ graphed here (figure 1) are true, and which are false.



- (i) $\lim_{x \rightarrow -1^+} f(x) = 1$ (ii) $\lim_{x \rightarrow 0^-} f(x) = 0$
 (iii) $\lim_{x \rightarrow 0^-} f(x) = 1$ (iv) $\lim_{x \rightarrow 0^-} f(x) =$

$\lim_{x \rightarrow 0^+} f(x)$

- (v) $\lim_{x \rightarrow 0} f(x)$ exists

3. (a) Find the derivatives of all orders of the function in (i) $y = \frac{x^4}{2} - \frac{3}{2}x^2 - x$ (ii) $y = \sec(\tan x)$.

- (b) Find the linearization $L(x)$ of $f(x) = x^3 - 2x + 3$, $a = 2$.

- (c) (i) Find the derivatives of $y = x^2 \cos x$

- (ii) Given $y = f(u)$ and $u = g(x)$, find $\frac{dy}{dx} = f'(g(x)) g'(x)$, $y = \sin u$, $u = 3x + 1$.

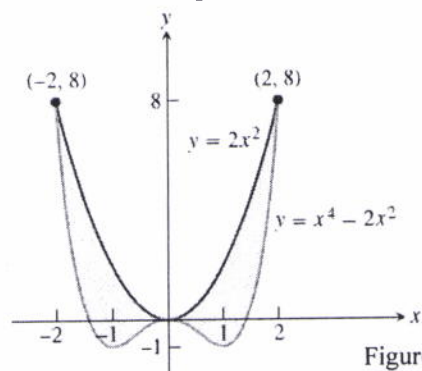
4. (a) Find the absolute maximum and minimum values of the function $f(x) = \frac{2}{3}x - 5$ on $-2 \leq x \leq 3$. Then graph the function. Identify the points on the graph where the absolute extrema occur, and include their coordinates.

- (b) Find the values of "c" that satisfy the equation $\frac{f(b)-f(a)}{b-a} = f'(c)$ in the conclusion of the Mean Value Theorem for the function $f(x) = x^2 + 2x - 1$ and interval $[0, 1]$.

5. (a) Express the sum $1 + 4 + 9 + 16$ in sigma notation.

- (b) Evaluate (i) $\int \sin^2 x \, dx$ (ii) $\int \frac{2z}{\sqrt[3]{z^2+1}} \, dz$.

- (c) Find the total area of the shaded region in figure 2.



**Department of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc./B.C.Tech.)
Mid Term Examination
Computer Application Technique I (CST-103)
March, 2018**

Answer all Questions

Time Allowed: 3 Hours


1. (a) Create an HTML page which writes correcting HTML tags for given format of information:

(15 marks)

- a) Title of window with "Welcome to my page".
- b) Create a nested categories: Markup Languages, JavaScript, JSP. The Markup Language category should also be divided into five type: SGML, HTML, XML, XHTML, HTML5.
- c) Heading Level 2 with center: "Computer University"
- d) Display the image (fruits.jpg) with width and height (100,100) text message is "Figure".
- e) Insert a new break line.
- f) Create the following.
FTP
File Transfer Protocol is a set of rules that allow files to be exchanged between computers on the Internet.
HTTP
HTTP is a set of rules for exchanging files such as text, images, audio, video and other multimedia on the Web.
- g) The hyperlink address: Google to "http://www.google.com".
- h) Chemical Formula: $H_2O + CO_2$.
- i) Paragraph all text color in red: "The purpose of TCP is to ensure the integrity of network communication. TCP starts by breaking files and messages into individual units called **packets**."
- j) Create the horizontal line.

1.(b) Create the HTML page with following table:

(10 marks)

Computer Device	
Tempory Memory	Stick
Disk	CD
	DVD
Welcome to my Music Page	
	

Remarks: Image use "Penguins.jpg."

2. Create the following problems.

(20 marks)

<p>(a) Create the following LIST.</p> <ol style="list-style-type: none"> A. Use of Color <ol style="list-style-type: none"> a. Choosing Colors b. Accessibility and Color c. Color and Yours Target Audience B. Use of Graphic and Multimedia <ol style="list-style-type: none"> i. File Size and Image Dimensions Matter ii. Antialiased/Aliased Text in Media iii. Use only Necessary Multimedia 	<p>(b) Create a HTML FORM page with following format and form objects shown below.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px;"> <p>Name: <input style="width: 100%;" type="text"/></p> <p>Roll Number: <input style="width: 80%;" type="text"/></p> <p>Father Name: <input style="width: 80%;" type="text"/></p> <p><input type="radio"/> Male <input type="radio"/> Female</p> <p>Select Year</p> <p><input type="checkbox"/> First Year</p> <p><input type="checkbox"/> Second Year</p> <p><input type="checkbox"/> Third Year</p> <p><input type="checkbox"/> Fourth Year</p> <p><input type="checkbox"/> Fifth Year</p> <p><input type="button" value="OK"/> <input type="button" value="Cancel"/></p> </div>
--	--

3. Write the CSS Code for an embedded style sheet that configures a background image(flower.jpg), text color of #FF00000. Heading style 1 should have the text color as cyan, italic, center. A paragraph that has a text indent of 1em, text to be brown. H2 element with background color of #0000FF, width and height 100 pixels each. **(15 marks)**

In HTML page: use h1 for the "Pacific Trails Resort".

Place the following paragraph:

"Pacific Trails Resort offers a special lodging experience on the California North Coast. Relax in serenity with panoramic views of the Pacific Ocean."

Use h2 for "Enjoy Nature in Luxury."

Place the following paragraph:

"Our luxury yurts are permanent structures four feet off the ground. Each yurt has canvas walls, a wooden floor, and a roof dome that can be opened."

4. Write CSS code for an external style sheet (saved with external.css) that configures as follows:
The body background image of trillumgradient.jpg. This style rule will be applied by browsers that do not support multiple background images. The trillumgradient.jpg image should not repeat and should be displayed in the lower right corner. The h1 selector to configure 10 pixels of right padding and right-aligned of Verdana, Helvetica, sans-serif blue (0,0,255) text that is 70% opaque, with a font size of 5em. Body, p and image should have box with 2 pixels green solid line. It has a padding 3 pixels.

Create HTML page that apply the CSS rules from "external.css". **(20 marks)**

- Use h1 for "Fish Creek Animal Hospital".(center aligned)
- Place the following paragraph.(Some section of text will have a bold and italic).
"Our professional *welcome owner* to stay with their pet during any medical procedure."
- background Image(trillumgradient.jpg) with width(70) and height(50) pixels.
- Place the following paragraph with center:
"1-800-555-5555
124,Grassy lane
Fish Creek,W15534"

5. Create external style sheet file. This CSS file specifies the background color body with "pink". Configure the h1 selector with height 50 pixels, width 700 pixels, font size 2 em, left padding 150 pixels, top padding 10 pixels, background color blue, font color "yellow" and rounded border with 3 pixels width. Configure the h2 selector with font size 2em and color with "red". Define an id selector to specify the some division with width 900pixels, height 120 pixels, padding 5 pixels, all margin 10 pixels and solid border with green. Define a class selector to specify the some division with width 400 pixels, height 350 pixels, background color "cyan", solid border with "#fff0033" color and place at the x coordinates 30 pixels and y coordinate 250 pixels absolutely. (saved file with named "externalstyle.css")

Create an HTML page with following.(Apply the CSS rules with external.css) **(20 marks)**

- a) Use h1 for "Lighthouse Bisto".
- b) Create the division with width 900pixels, height 120 pixels.(Apply a CSS rule above).
- c) Create another division at the x coordinates 30 pixels and y coordinate 250pixels absolutely.(Apply a CSS rule above).
- d) Add a heading "Locally Roasted Free-Trade Coffee" with h2 heading level.
- e) Add a paragraph into second division.
"Indulge in the aroma of freshly ground roast coffee. Specially drinks are available hot or cold."
- f) Create another division the following text.
"Copyright © 2016 Lighthouse bistro."

*****END*****

Department of Higher Education
University of Computer Studies, Hinthada
First Year (B.C.Sc. / B.C.Tech.)
Mid Term Examination
Programming Logic and Design (CST-104)
March, 2018

Answer all Questions

Time Allowed: 3 Hours

1. Choose the correct answer(s) for the following statements. (20 marks)
- (1) A message that asks a user for input is a _____.
(A) comment (B) prompt (C) question (D) declaration
 - (2) A programming language's rules are its _____.
(A) syntax (B) logic (C) format (D) options
 - (3) The parallelogram is the flowchart symbol representing _____.
(A) input (B) output (C) both a and b (D) none of the above
 - (4) What are non executing statements that programmers place within their code to explain program statements in English?
(A) comments (B) pseudocode (C) trivial (D) user documentation
 - (5) Each variable in an array must have the same _____ as the others.
(A) data type (B) subscript (C) value (D) memory location
 - (6) If price = 12 and cost = 10, then the result for the statement cost + price * cost _____.
(A) 220 (B) 130 (C) 180 (D) 200
 - (7) A _____ is a number that indicates the position of an array element.
(A) subscript (B) memory location (C) value (D) flag
 - (8) Usually, you compared only variables that have the same _____.
(A) type (B) size (C) name (D) value
 - (9) If a <= b is false, then which of the following is always true?
(A) a <= b (B) a < b (C) a = b (D) a > b
 - (10) When you use a range check, you compare a variable to the _____ value in the range.
(A) lowest (B) highest (C) middle (D) lowest or highest
 - (11) All selection statements must have _____.
(A) a then clause (B) an else clause (C) both of these (D) none of these
 - (12) Adding 1 to a variable is also called _____ it.
(A) digesting (B) resetting (C) decrementing (D) incrementing
 - (13) The subscript of any array are always _____.
(A) integers (B) fractions (C) characters (D) strings of characters
 - (14) Every module has the following except _____.
(A) a header (B) local variables (C) a body (D) a return statement
 - (15) The size of the array is the number of _____ it can hold.
(A) elements (B) integers (C) characters (D) fractions
 - (16) A program that contains an infinite loop is one that never end. (True/False)
 - (17) A program with syntax errors can execute but might produce incorrect results. (True/False)
 - (18) Multiplication and division have higher precedence than addition or subtraction. (True/False)
 - (19) Each array element is accessed using a subscript, which can be a number or a string. (True/False)
 - (20) If salary is a string variables, then the statement set salary = "12.50" is valid. (True/False)
2. Determine the following statements are true or false / valid or invalid / illegal? (20 marks)
- (a) If **income** and **outcome** are **numeric** variables, and **itemName** and **itemCode** are **string** variables, which of the following statements are valid assignments? If a statement is not valid, **explain why not.**

a) income = itemName	f) itemCode = itemName
b) outcome = income - 100	g) itemCode = "123"
c) itemName = Premier	h) itemCode = income
d) "121" = itemName	i) 3000 = outcome
e) itemName = "Premier" + "Super"	j) outcome = income / 2

(b) Assume the following variables contain the values: salePrice = 200, purchasePrice = 100, saleItem = "Book", purchaseItem = "Pencil". For each of the following **Boolean expressions**, decide whether the statement is **true, false or illegal**.

a) salePrice = purchasePrice?	f) purchaseItem >= saleItem?
b) salePrice >= 200?	g) salePrice <= purchasePrice?
c) purchasePrice = purchaseItem?	h) salePrice >= 200 AND saleItem = "Ruler"?
d) saleItem = purchaseItem?	i) purchasePrice = purchasePrice-1?
e) saleItem = "Pen"?	j) purchasePrice = 100 OR salePrice = 100?

3. Determine correct (true) output of the followings.

(20 marks)

(1) num x = 1 while (x<20) output x x = x * 3 end while	(2) num number = 0 while (number <= 10) number = number + 2 output number end while	(3) num n = 30, I = 5 while i <= n if i % 5 = 0 then output i end if i = i + 1 end while
(4) num SIZE = 5 num array[SIZE] = {1, 2, 5, 6, 8} num sum = 0, x = 0 while x < SIZE sum = sum + array[x] x = x + 1 end while output sum	(5) num SIZE = 5, x = 0 num arr[SIZE] = 5, 4, 1, 3, 2 num y = arr[0] while x < SIZE if arr[x] < y then y = arr[x] end if x = x + 1 end while output y	(6) num j=1, k=6, n=3 while j<k while j<n output "Good Luck" j=j+2 end while output "Good Luck" j=j+2 end while
(7) num p = 7, q = 5, r = 6 while p>q output "*" while r>q output "*" r = r - 1 end while p = p - 1 end while if p = q AND r = q then output "*" end if	(8) In the following pseudo code, what discount will an customer in age 18, receives? if age < 10 then discount = 0.50 else if age < 18 then discount = 0.40 else if age < 30 then discount = 0.30 else discount = 0.20 end if end if end if	(9) num a = 2, b = 4, c = 6 while a<c a = a + 2 b = b + a end while output a, b, c
	(10) Convert the following while loop to a for loop. num x = 0, y = 0, k = 5 while x <= k x = x + 1 y = y + 3 end while	

4.(a) Draw a flowchart or pseudo code for a program that accepts each student's records which include students first and last name, gender, roll no, mark. Display each student's records that the enrollment is accepted. The student enrollment will evaluate as follow. (10 marks)

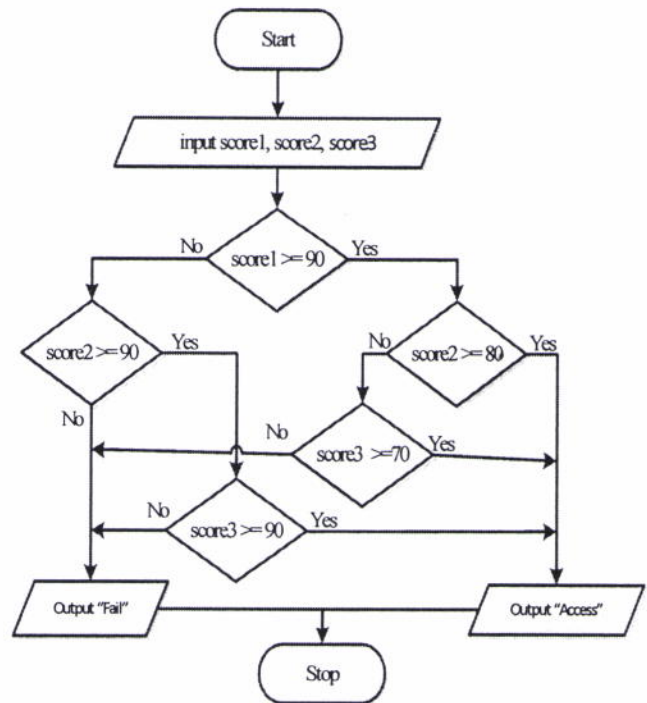
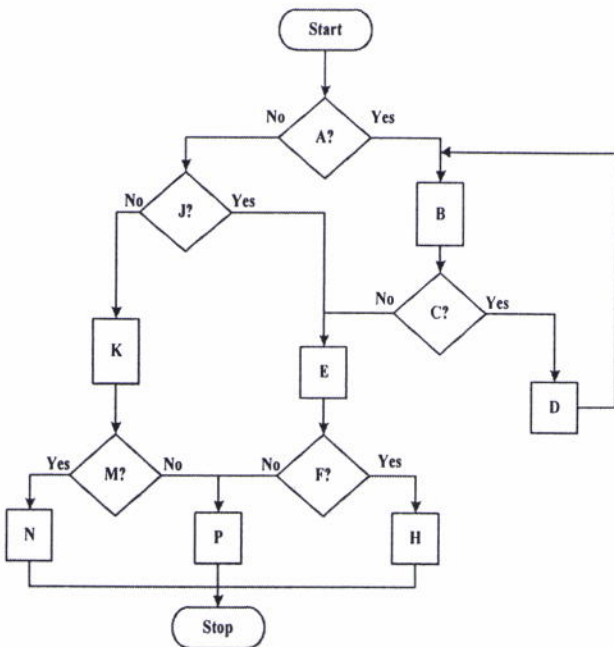
gender	total marks	enrollment
male	≥ 400	Accept
female	≥ 420	Reject
male or female	< 400	Reject

4.(b) The Howell Bank provides savings accounts that compound interest on a yearly basis. In other words, if you deposit \$100 for two years at 4 percent interest, at the end of one year you will have \$104. At the end of two years, you will have the \$104 plus 4 percent of that, or \$108.16. Design a program that accepts an account number, the account owner's first and last names, and a balance. The program operates continuously until an appropriate sentinel value is entered for the account number. Output the projected running total balance for each year for the next 20 years. (10 marks)

5. Consider the following flowchart segments, are they structured? If not, redraw structured one that do the same thing and write correct pseudo code for the flowchart. (20 marks)

(a)

(b)



*****END*****