

THE DEPARTMENT OF ADVANCED SCIENCE AND TECHNOLOGY

UNIVERSITIES OF COMPUTER STUDIES, ZONE IV

SECOND YEAR B.C.Sc. / B.C.Tech.

FIRST SEMESTER EXAMINATION

MARCH 2014

Answer all questions.

ENGLISH

Time allowed: 3 hours

QUESTION – I

An ancient language of whistles that enabled long-distance communication long before the invention of the mobile phone will be saved from extinction on a volcanic island off the west coast of Africa. The island is part of the Canary Islands and is called La Gomera. The language, Silbo Gomero, which sounds like birdsong, was used by the people on the island to communicate up to three kilometers across the deep valleys that radiate from La Gomera's central volcanic peak.

With the opening of the island to tourism and the arrival of the telephone, Silbo Gomero had started to die out. Luckily, the island authorities realized what they were losing before it was too late and, since 1999, Silbo Gomero has been part of the school curriculum for children up to the age of 14. About 3000 students spend 25 minutes a week learning it, which is enough to understand the basics. The name, Silbo Gomero, comes from the Spanish verb 'silbar' meaning 'to whistle' and 'Gomero' meaning 'coming from the island of La Gomera'.

The language is made up of four vowels and four consonants, which can be whistled to make more than 4000 words. In the past, children learnt it from their parents but as fewer and fewer adults were teaching their children, it became necessary for the government to take over.

According to Eugenio Darias, a teacher of Silbo Gomero and director of the island's Silbo programme, "There are few really good silbadores, fluent whistlers of the language, so far, but lots of students are learning to use it and understand it. We've been very pleased with the results".

An important step towards saving the language was the First International Congress of Whistled Languages, which was held in La Gomera in 2003. Silbo-like whistling has been found in parts of Greece, Turkey, China and Mexico, but none is as developed as Silbo Gomero. Research will now be carried out in Venezuela, Cuba and Texas – all places to which Gomerans have traditionally emigrated and where traces of the language still survive.

Dr. Francisco Rivero is a researcher at La Laguna University in Santa Cruz de Tenerife.

"Historically, from the earliest settlers up until quite recently, the Silbo Gomero language was the mobile phone of the period. It allowed people to communicate across great distances because its frequency allowed the sound to be transmitted". Although Silbo probably originated in the Atlas Mountains of North Africa 2500 years ago, it was adapted to La Gomera by adopting Spanish speech patterns." It relies on vowels rather than consonants", explains Dr. Rivero.

“These are whistled at different frequencies, using Spanish grammar. If we spoke English, we’d use an English structure for whistling. It’s not just disjointed words – it flows, and you can quite easily have a proper conversation with someone”.

“Silbo Gomero is the most important pre-Hispanic cultural heritage we have. It is unique and has many values – historical, linguistic, anthropological and aesthetic”, says Moises Plasencia, Director of the Canary Islands’ Historical Heritage department. Señor Plasencia has begun working to persuade UNESCO to support La Gomera’s efforts to save island’s language.

Questions 1 - 10

Do the following statements reflect the claims of the writer in the reading passage? Write

YES if the statement reflects the claims of the writer

NO if the statement contradicts the claims of the writer

NOT GIVEN if there is no information on this

1. Schoolchildren started to learn Silbo Gomero in the 19th century.
2. Silbo Gomero was derived from the Spanish language.
3. Chinese developed the whistling language and passed to their generations.
4. Silbo Gomero was only used face to face.
5. Silbo Gomero began to disappear with the introduction of more modern technology.
6. Schoolchildren in La Gomera enjoy learning Silbo Gomero.
7. Schoolchildren on the island have a 25-minute lesson in Silbo Gomero once a day.
8. Dr. Rivero is the best teacher of Silbo Gomero on the island.
9. Having an international conference on the island is believed to be a good thing for the future of Silbo Gomero.
10. It would be impossible to adapt Silbo to English.

QUESTION – II

(A) Complete the sentences using **the comparative or superlative form of the word** in brackets. Just write down the number and the answer.

1. My mother is a (good).....cook than my father.
2. This is (good).....hamburger I’ve ever eaten!
3. The old chef was (bad).....than the new one.
4. This restaurant is (expensive).....in London. It costs a fortune.
5. This is one of the (easy).....recipes I know – a child could make it.
6. He always chooses (expensive).....dish on the menu because he gets a basic salary.
7. Jose’s mother always finds (cheap).....vegetables in the market than in the supermarket.
8. I think salad is (healthy).....than chips.
9. People say small vegetables are (nice).....than large ones.
10. Chips are (not expensive).....as caviar.

5

(B) Complete the passage using the verbs in brackets in the right form of the passive. Just write down the number and the answer.

1. My phone (make) in the USA.
2. Bill Gates (say) to be the richest man in the world today.
3. One mobile phone (steal) every minute in the UK.
4. Mobile phones (should/switch off) in the cinema.
5. Yesterday, Helen (tell) to switch her phone off during lectures.
6. When mobile phones (first design) , security was a big issue.
7. Text messaging (often use) because it is cheaper than phoning.
8. I (just call) by an old friend I haven't seen for ages.
9. Mobiles (carry) by virtually everyone in the near future.
10. The photos (take) at the party last night using Alex's mobile.

QUESTION - III

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

1. This city tour is really *bored* / *boring*.
2. I was very *surprised* / *surprising* to get a fax from the college.
3. It was really *excited* / *exciting* to have lessons by radio.
4. I was *astonished* / *astonishing* to read that a quarter of Americans are overweight.
5. This book I'm reading on further education is very *interested* / *interesting*.
6. I was *frightening* / *frightened* when I saw a big snake.
7. There are some very *interested* / *interesting* museums to visit in Sydney.
8. The Forth Bridge is a striking structure so everyone would be *amazed* / *amazing* when they saw it.
9. You must be reasonably healthy to swim with sharks, because it can be pretty *terrifying* / *terrified*.
10. Many people are *fascinating* / *fascinated* by foreign cities that are very different from ones in their own country.

(B) Complete the sentences with a verb below in the right form.

change	give	invest	leave	lend
make	pay	save	spend	waste

1. Don't your money on buying a cheap office desk – it won't last very long.
2. My grandmother me \$10,000 when she died.

3. Claudia all her money on presents for the family.
4. Don't your money at the airport – they don't give a very good rate.
5. Every month I a certain percentage of my salary into my pension scheme.
6. Can you me \$20 until the weekend?
7. The woman \$10 to the man playing the guitar in the market square.
8. If you your money in stocks and shares, you might lose it.
9. Jon over \$100 by buying his books second hand.
10. Steve Rogers his money selling insurance.

QUESTION – IV

(A) *How do you spend money? Answer these questions with complete sense.*

1. Do you spend more than you have?
2. What is the best way to make money?
3. Would you ever buy anything second hand?
4. Would you lend or borrow money?
5. What are the advantages of saving money?

(B) *Describe a trip you have taken recently. Write at least 150 words.*

You should say:

- Where you went
- Who went with you
- Why you went there

And describe some things you saw and did your trip.

QUESTION – V

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

“Some people like to travel with a companion. Other people prefer to travel alone.”
Which do you prefer? Use specific reasons and examples to support your choice.

THE END

Department of Advance Science and Technology

University of Computer Studies, Yangon

Java Programming (CST - 201)

B.C.Sc. and B.C.Tech First Term Examination

March 2014

Answer all questions

Zone IV

Time allowed 3 hours

1. (a) Indicate whether each of the statements (i) to (x) is *valid* OR *invalid*. (10 marks)

- (i) boolean a=1;
- (ii) byte b=300;
- (iii) double c=5.2E5 + 3;
- (iv) float d=5.0/2;
- (v) char e=0;
- (vi) String f=null;
- (vii) int g=5.5F;
- (viii) short h=-0;
- (ix) char i='A' + 'B';
- (x) double j=1. + 6;

(b) (i) Write a fragment of Java code to get GCD (Greatest Common Divisor) of two numbers. (5 marks)

(ii) Complete the following Java code to compute the *total* of 7 random odd numbers ranging from 0 to 7 (inclusive). (5 marks)

```
public class OddTotal {  
    public static void main(String args[ ]) {  
        int total = _____(a)_____;  
        for (int count = 1; _____(b)_____; count++) {  
            int randomInt;  
            do {  
                randomInt = _____(c)_____;  
            } while (_____ (d)_____);  
            System.out.println(randomInt);  
            total _____(e)_____;  
        }  
    }  
}
```

2. (a) Write a method int **reverse**(int num) to print the reverse of a given number, num, and return it. (e.g., the reverse of 1234 is 4321) (7 marks)

(b) Create a Java class, **MyDate**, that keeps track of the date as day, month and year of type integer and provide the following methods:

(i) **MyDate(int day, int month, int year)** constructor to create the date object with given day, month and year.

(ii) **boolean isLeapYear()** returns true if the year is a leap year. A year is a leap year if it is divisible by 4 but not by 100, or it is divisible by 400.

(iii) **boolean isValidDate()** returns true if the year, month, and day constitute a valid date. Assume that year is between 1 and 9999, month is between 1 (Jan) to 12 (Dec) and day shall be between 1 and 28|29|30|31 depending on the month and whether it is a leap year or not.

(iv) **String getDayOfWeek()**: returns the day of the week, where 0 for Sunday, 1 for Monday, ..., 6 for Saturday. (13 marks)

3. Create a menu-driven Java application to work with months of the year with the user. Assume that you have created a file “months.txt” which consists of the month number and month name and days of month separated by ‘#’ as follows:

1#January#31
2#February#28
3#March#31
4#April#30
5#May#31
6#June#30
7#July#31
8#August#31
9#September#30
10#October#31
11#November#30
12#December#31

Your program should have the following menu:

1: get Month name from month number

2: get Days in month from given month number

3: show all Month names and days of month in neat tabular format

- According to menu 1, your program should have a method to ask the month number from user as keyboard input and show corresponding month name from the file.
- According to menu 2, your program should have a method to ask the month number from user and show corresponding days of month from the file.
- According to menu 3, your program should have a method to display all the months and days from your file in neat tabular format.
- In the main() method, the program shows the menu and process according to user request.

(20 marks)

4. (i) Create the **encapsulated** *BankAccount* class including the following data:

1. name
2. accountNumber
3. balance

and following methods:

4. double *deposit*(double amount) that will increase the balance with the given amount and return the new balance.
5. double *withdraw*(double amount) that will check the balance and make the withdrawal operation when enough. If the operation is successful, the method will return the new balance, otherwise it will return -1.
6. boolean *checkBalance*(double amount) that will check if the balance is enough or not for the given amount.

(10 marks)

- (b) Assume you have created an abstract base class, *Animal*, and subclasses, *Dog* and *Cat*.

The *Animal* class has an abstract *sound()* method which is implemented by *Dog* and *Cat* classes.

Define an *AnimalList* class that can store an arbitrary collection of objects of subclasses. It should contain the methods to add, remove *Animal* object from the list as well as returning the *Animal* object at a given index.

Write the user class by creating instances of *Dog* and *Cat* class as *Animal*, store them in an *AnimalList*, remove some *Animal* objects from the list, and invoke the *sound()* method after retrieving from this list. (Note: use *LinkedList* to store *Animal* objects.)

(10 marks)

5. Consider the following application:

A Student of UCSY has five attributes: *name*, *ID* which is the student's roll number, *Math* marks, *Programming* marks and *OS* marks. There are five students and their data are given in the following table:

Name	ID	Math	Programming	OS
Mya Mya	10	70	67	59
Mg Mg	2	90	56	67
Aye Aye	15	60	90	76
Bo Bo	4	85	89	69
Su Su	5	68	55	76

Develop an application to display the sorted lists of sales person based on the descending ordering of their Programming marks in neat tabular format as follows:

Before Sorting:

Name	ID	Math	Programming	OS
Mya Mya	10	70	67	59
Mg Mg	2	90	56	67
Aye Aye	15	60	90	76
Bo Bo	4	85	89	69
Su Su	5	68	55	76

After Sorting:

Name	ID	Math	Programming	OS
Aye Aye	15	60	90	76
Bo Bo	4	85	89	69
Mya Mya	10	70	67	59
Mg Mg	2	90	56	67
Su Su	5	68	55	76

Use Arrays class and Comparator interface for sorting students.

(20 marks)

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Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc./B.C.Tech. (Second Year)
Mid Term Examination
Mathematics of Computing II (CST-202)

31-3-2014

Zone IV

Time Allowed: 3 hours.

Answer ALL Questions.

- 1(a) (i) How many strings of five ASCII characters contain the character @ ("at" sign) at least once?
 (ii) How many license plates can be made using either two uppercase English letters followed by four digits or two digits followed by four uppercase English letters?
- (b) What is the least number of area codes needed to guarantee that the 25 million phones in a state can be assigned distinct 10-digit telephone numbers? (Assume that telephone numbers are of the form NXX-NXX-XXXX, where the first three digits form the area code, N represents a digit from 2 to 9 inclusive, and X represents any digit.)

- 2(a) The English alphabet contains 21 consonants and five vowels. How many strings of six lowercase letters of the English alphabet contain (i) exactly one vowel? (ii) exactly two vowels? (iii) at least one vowel?

- (b) Determine whether R on the set of all integers is reflexive, symmetric, antisymmetric, and/or transitive, where $(x, y) \in R$ if and only if (i) $xy \geq 1$ (ii) $x \equiv y \pmod{7}$.

- 3(a) Solve the initial value problem. Show the steps of derivation, beginning with the general solution.

$$xy' + y = 0, \quad y(4) = 6.$$

- (b) Test for exactness and solve the Differential Equation $2xydx + x^2dy = 0$.

- 4(a) Find the general solution of the Differential Equation $y' + y \sin x = e^{\cos x}, \quad y(0) = -2.5$.

- (b) Verify that the given functions are linearly independent and form a basis of solutions of the given Ordinary Differential Equation and solve the initial value problem.

$$y'' + 2y' + 2y = 0, \quad y(0) = 0, \quad y'(0) = 15, \quad e^{-x} \cos x, \quad e^{-x} \sin x.$$

- 5(a) Solve the homogeneous linear Ordinary Differential Equation with constant coefficients.

$$y'' + y' - 6y = 0, \quad y(0) = 10, \quad y'(0) = 0.$$

- (b)(i) Find a second order homogeneous linear Ordinary Differential Equation for which the given functions are solutions. (ii) Show linear independence by the Wronskian. (iii) Solve the initial value problem $\cosh 1.8x, \sinh 1.8x, y(0) = 14.20, y'(0) = 16.38$.

Department of Advanced Science and Technology

University of Computer Studies

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

First Semester Examination

Digital System Design I (CST 203)

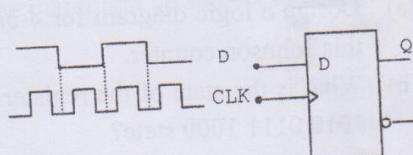
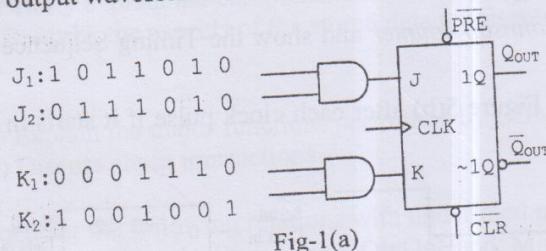
March, 2014

Answer all questions.

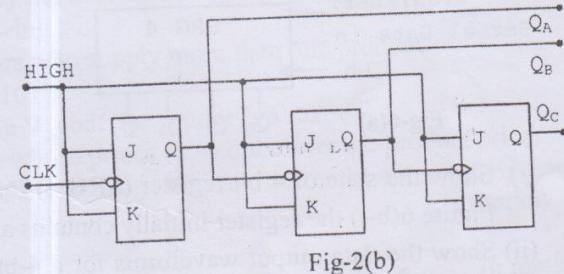
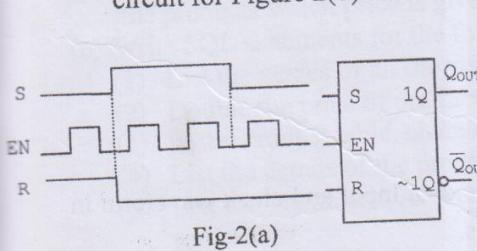
Zone IV

Time allowed: 3 hours

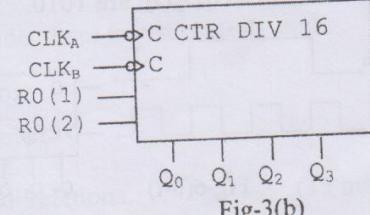
- 1 (a) The following serial data are applied to the flip-flop through the AND gates as indicated in Figure 1(a). Determine the resulting serial data that appear on the Q output. Assume that Q is initially 0 and that \overline{PRE} and \overline{CLR} are HIGH. Right most bit are apply first.
- (b) For a positive edge-triggered D flip-flop with the inputs in Figure 1(b), develop the Q output waveform relative to the clock. Assume that Q is initially LOW.



- 2 (a) For a gated S-R latch, determine the Q and \overline{Q} for the input in Figure 2(a). Show them in proper relation to the enable input. Assume that Q starts LOW.
- (b) Determine the output waveforms in relation to the clock for Q_A , Q_B and Q_C in the circuit for Figure 2(b) and show the binary sequence represented by these waveforms.



- 3 (a) Develop a synchronous 3 bit up/down with a Gray code sequence. The counter should count up when UP / DOWN control input is 1 and count down when the control input is 0.
- (b) Show how to connect a 74LS93A 4 bits bit asynchronous counter can be connected as a modulus 13.



- 4 (a) Show the timing diagram and determine the sequence of a *4-bit synchronous binary up/down counter* if the clock and *UP / DOWN* control inputs have waveforms as shown in Figure 4(a). The counter starts in the all 0s state and is positive edge-triggered.

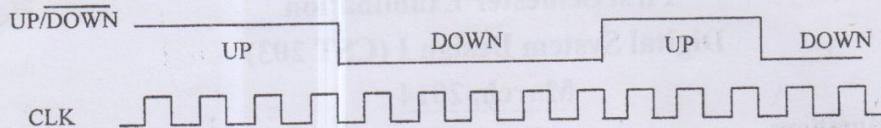


Fig -4(a)

- (b) For each of the cascaded counter configurations in Figure 4-b, determine the frequency of the waveform at each point indicated by a circled number and determine the overall modulus.

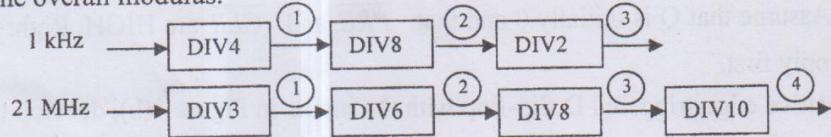


Fig-4(b)

- 5 (a) Design a logic diagram for 4-bit Johnson counter and show the Timing Sequence for this Johnson counter.

(b) What is the state of the register in Figure 5(b) after each clock pulse if it starts in the 1010 0111 1000 state?

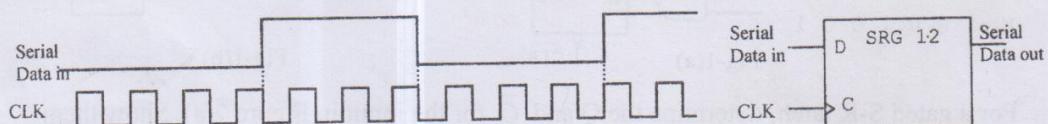


Fig-5(b)

- 6 (a) Design a logic diagram for 4 bit bidirectional shift register as shown in logic symbol.

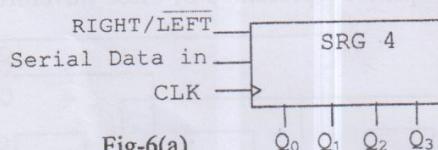


Fig-6(a) Q_0 Q_1 Q_2 Q_3

- (b) (i) Show the state of 4 bit register (SRG 4) for the data input and clock waveform in Figure 6(b-i) the register initially contains all 1s.

(ii) Show the data output waveforms for a 4-bit register with the parallel inputs data and the clock and *SHIFT* / *LOAD* waveforms given in Figure 6-b(ii). The parallel data D₃ D₂ D₁ D₀ are 1010.

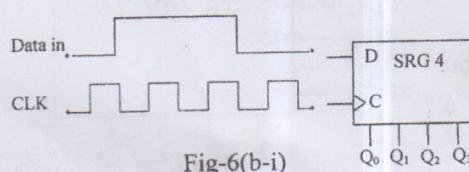


Fig-6(b-i)

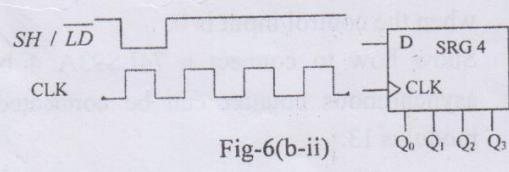


Fig-6(b-ii)

✓

Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc./B.C.Tech. (Second Year)
Mid-term Examination
CST-204 (DBMS)

April, 2014

Answer all questions.

Zone IV

Time allowed : 3 hours

- I. Define any five of the following: (15 marks)
- (i) Properties of relation
 - (ii) Domain
 - (iii) Data Administrator (DA) and Database Administrator (DBA)
 - (iv) DDL and DML
 - (v) Tuple, cardinality and degree
 - (vi) Optimizer
- II. (a) Briefly explain the components of database system. (12marks)
(b) Describe the aspects of the stored data representation that might be subject to change. (8 marks)
- III. (a) Explain the major functions performed by DBMS. (15 marks)
(b) Discuss about transactions. (8 marks)
- IV. Consider the following relations with underlined primary keys.
Product (P_code, Description, QtyOnHand, MinQty, Price, Discount, V_code)
Vendor (V_code, Name, Address)
Here a vendor can supply more than one product but a product is supplied by only one vendor.
(a) Write a program with embedded SQL statements to list all P_code and description for the products which price is given by the host variable P.
(b) Write SQL statements for the following:
(1) List the names of all the vendors who supply more than one product.
(2) Double the price of product 'p101'.
(3) In the Product table, change the V_code for vendor 'v3' to 'v7'.
(4) List the details of the products whose prices exceed the average product price.
(5) List the Name and Address of the vendors who are currently not supplying any product. (21 marks)
- V. (a) Define 1NF, 2NF and 3NF. (6 marks)
(b) A relation NADDR is defined as follows.
NADDR = (name, street, city, state, postal_code)
where name is unique, and for any given postal code, there is just one city and state.
(1) Give a set of FDs for this relation.
(2) In relation NADDR, What are the candidate keys?
(3) Is NADDR in 1NF? 2NF? 3NF? Explain why?
(4) If NADDR is not in 3NF, normalize it into 3NF relations. (15 marks)

Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc. (Second Year) Mid Term Examination
CS-205 Computer Application Technique II

Ques

March, 2014

Zone IV

Time Allowed: 3 hours

Answer all questions

1. Create an HTML page with the following:

- (i) Create an object named **Tank** that has 2 properties named 'thetype', and 'thesize' and a method named **theprice**.
- (ii) Create a function named **get_price()** that will calculate the price of a tank. The basic price is 50000 kyats assigns to the variable named **the_price**. If the **thetype** property of object is 'Steel', add 100000 kyats; otherwise add 70000 kyats. If the **thesize** property of object is 'large', add 30000 kyats. If the **thesize** property of object is 'medium', add 20000 kyats; otherwise add 10000 kyats. Then add 2000 kyats as carriage outward cost. End the function with a return statement that returns the value of **the_price**. Use this function as a method of tank object.
- (iii) Create two variables that assign the desired type and size of tank with prompt.
- (iv) Create an instance of **Tank** and name these 'home_tank'. Send the value of two variables as the parameters.
- (v) Write the feature and price for the above instance to browser screen.

The information of desired tank and it price:

Tank Type : xxxxx
Size : xxxxxx
Price : xxxxxx kyats.

(15 marks)

2. Create an HTML page with following:

- (i) Create a function named **newpage()**.
- (ii) In this function, (A) Assign the value of the three text boxes of form to the three variables named **thename**, **theclass** and **thesalary**, then calculate the tax and assign to a variable named **thetax**. If the value of **thesalary** is greater than \$5000, the tax will be 5% on the salary. Otherwise, the tax will be 2% of the salary. (B) Then have a new document open in the browser window that displays a page with following design:

Your name is <thename>
Your class is <theclass>
Your salary is \$<thesalary>
So, you must pay for tax \$<tax>.

- (iii) Create a form named **myform**. In the **myform**, create three text boxes. Name the first one **yourname**, the second **yourclass** and the third **yoursalary**. Create a button that calls the **newpage()** function when it is clicked. Label the button "Click Here for a New Page".

(10 marks)

3.(a).Create an HTML page with following contents:

- (i) Create a function named **change_vlinkcolor()** that will change the color of visited link text of document with its parameter value.
- (ii) Create a function named **change_bgcolor()** that will change the background color of document with its parameter value.
- (iii) Create following text links that will change the background color with its text value. Be sure these call the **change_bgcolor()** function.

Cade Blue Crimson

- (iv) Create a form with a button that will change the visited link text color with its value. Be sure that call the **change_vlinkcolor()** function. Label it 'Dark Green'.
- (v) Create another Form. When the viewer submit button is clicked, send a alert says "Thank you"
- (vi) Add a text box that asks for the viewer's name. Set it up so that when the viewer gives the focus away from text box, an alert pop up that says "Thanks, if that is your real name!"

- (vii) Add a second text box that asks the viewer for E-mail address. Set it up so that when the viewer gives the text box focus, an alert pop up that says "You need an @ symbol".
- (viii) Create a select box has two options 'Yes' and 'No' that ask the viewer 'Single'. Set default option is 'Yes'. If the user chooses a new option, send an alert says "Why did you change that?"
- (ix) Create a button that changes the text in the status bar of the browser to "This is new status." when clicked by the viewer. Use a value "Change Status!" as label of button.
- (x) Add submit button.

(18 marks)

3(b). Create two HTML pages with following contents:

The first page

- (i) Create a function name welcome_site() that pops up an alert says, "Welcome to My Site". And then execute this function at every 10 seconds.
- (ii) Create a function named new_window() that opens a new window with 'text1.html'. Give it dimension of 300 x 200 pixels, and give it an initial position on the screen of (20,20). Also, give it a status bar and a menu bar.
- (iii) Create a button that calls the new_window()function when clicked to open a new window. Label it 'Open New Window'.
- (iv) Create a button that stop the endless calling of welcome_site() function. Label it 'Stop Welcome'.

The second page(text1.html)

- (i) Type the text "This is text1.html to open in new window."
- (ii) Create a button that enabled the viewer to close the current window. Label it 'Close'. (7 marks)

4(a). Draw up the balance sheet to record the following items using the Standard Layout. (5 marks)

	\$
Capital	59020
Building	45000
Furniture	2760
Motor vehicle	6400
Creditors	1250
Stock	5360
Debtors	8200
Cash at bank	2950
Loan	2900
Cash in hand	100
Profit	8200
Drawings	600

(b). Draw up the double entry accounts to record the following transactions, balance off the accounts at the end of month and extract the Trial Balance. (20 marks)

1 July. A trader started business with \$ 50000 in the bank

5 July. Thomas lent him \$ 6000 in cash. Bought goods on credit from Jones \$ 1740 and Charles \$ 3800.

10 July. Sold goods for cash \$ 1200. Took \$ 300 of the cash and paid it into the bank.

15 July. Sold goods on credit to Newman \$ 1300. We returned goods to Jones \$ 150. Bought goods by cash \$ 700. Paid for wages \$ 300 and rent of \$ 400 by cash.

18 July. Paid by cheque the amount owing to Jones. Paid by cheque to Charles \$ 1700.

22 July. Bought office furniture on credit from Faster Ltd. \$ 700. Returned some of office furniture costing \$ 160 to Faster Ltd.

25 July. He put a further \$ 500 into the business in the form of cash.

27 July. Cash sales \$ 1850 in which received \$ 1800 and remaining balance is given as discount.

30 July. Received cheque from Newman \$ 1230 and the remaining balance is offer as discount. Banked taking for the day \$ 100.

5(a). The following Trial balance has been drawn up by an inexperienced Account clerk, redraft the Trial balance to show the correct entries. (5 marks)

	Dr	Cr
Sales	60000	
Fixture and Fittings		32000
Equipment		6000
Purchases	25000	
Return In		400
Return Out		300
Debtors		1200
Creditors	2000	
Capital	3000	
Stock		2500
Bank Loan		2300
Rent	300	
Stationery	700	
Discount Allowed		150
Discount Received	650	
	91650	44850
	68,250	68,250

(b). A firm has produced the following Trial Balance at 31st May 2003. Prepare a Trading, Profit & Loss Account and a Balance Sheet at that date. (20 marks)

	Dr	Cr
Bank	7000	
Cash	3000	
Debtors and Creditors	12000	5300
Provision for bad debts		1000
Bank loan		3000
Premises	20000	
Capital		61000
Fixture and fitting	35000	
Sales and Purchases	17400	30500
Return	200	500
Interest	300	1000
Wages	10400	
Discount	300	200
Accumulated Depreciation		3500
Rent	400	
	106000	106000

Adjustments:

1. Closing stock \$ 1000.
2. Rent owing \$ 700.
3. Wages include \$ 2000 which the owner took as "Wages"
4. Provision for bad debt is to be decreased 2% of debtors.
5. Calculate depreciation for Fixture and fitting at 10% of cost.

Department of Advanced Science and Technology
University of Computer Studies
B.C.Sc.(Second Year)
Mid-Term Examination
CS-206(Software Engineering)

April, 2014

Answer all questions.

Zone IV

Time allowed : 3 hours

1. Answer any four of the followings: (20 marks)

- (i) Important distinctions between the system engineering process and software development process.
- (ii) Four principal dimensions to system dependability.
- (iii) Two process models that have been explicitly designed to support process iteration.
- (iv) The types of requirements that can be classified software system requirements.
- (v) What are the requirements engineering process?

2. (a) Discuss the system procurement process. (10 marks)

- (b) Describe the safety-critical system in detail.
(or)

Explain the three types of damage that may be caused through external attack and comparable approaches that may be used to assure the security of a system.

(15 marks)

3.(a) What are the principle stages of the waterfall model map onto fundamental development activities? (10 marks)

- (b) Describe the seven sections include in project plan.

(or)

Briefly discuss about milestones and deliverables. (10 marks)

4.(a) System requirements are more detail descriptions of the user requirements. Briefly explain it. (10 marks)

✓(b) Discuss the requirement engineering process in detail.

(or)

Describe the three principal stages to a change management process. (10 marks)

5. Using the following number of activities, duration (weeks) and dependencies between activities. Draw the activity diagram showing the project schedule.

(15 marks)

<u>Activities</u>	<u>Duration(Weeks)</u>	<u>Dependencies</u>
A	7	-
B	3	A
C	1	B
D	8	A
E	2	D,C
F	1	D,C
G	3	F
H	2	E,G
J	1	H

Department of Advanced Science and Technology

University of Computer Studies

B.C.Tech. (Second Year) Mid Term Examination

CT-205 Computer Application Technique II

March, 2014

Zone IV

Time Allowed: 3 hours

Answer all questions

1. Create an HTML page with the following:

- (i) Create an object named **Tank** that has 2 properties named 'thetype', and 'thesize' and a method named **theprice**.
- (ii) Create a function named **get_price()** that will calculate the price of a tank. The basic price is 50000 kyats assigns to the variable named **_price**. If the **thetype** property of object is 'Steel', add 100000 kyats; otherwise add 70000 kyats. If the **thesize** property of object is 'large', add 30000 kyats. If the **thesize** property of object is 'medium', add 20000 kyats; otherwise add 10000 kyats. Then add 2000 kyats as carriage outward cost. End the function with a return statement that returns the value of **the_price**. Use this function as a method of tank object.
- (iii) Create two variables that assign the desired type and size of tank with prompt.
- (iv) Create an instance of **Tank** and name these 'home_tank'. Send the value of two variables as the parameters.
- (v) Write the feature and price for the above instance to browser screen.

The information of desired tank and it price:

Tank Type : xxxxx
Size : xxxxx
Price : xxxxx kyats.

(15 marks)

2. Create an HTML page with following:

- (i) Create a function named **newpage()**.
- (ii) In this function, (A) Assign the value of the three text boxes of form to the three variables named **thename**, **theclass** and **thesalary**, then calculate the tax and assign to a variable named **thetax**. If the value of **thesalary** is greater than \$5000, the tax will be 5% on the salary. Otherwise, the tax will be 2% of the salary. (B) Then have a new document open in the browser window that displays a page with following design:

Your name is <thename>

Your class is <theclass>

Your salary is \$<thesalary>

So, you must pay for tax \$<tax>.

- (iii) Create a form named **myform**. In the **myform**, create three text boxes. Name the first one **yourname**, the second **yourclass** and the third **yoursalary**. Create a button that calls the **newpage()** function when it is clicked. Label the button "Click Here for a New Page".

(10 marks)

3(a).Create an HTML page with following contents:

- (i) Create a function named **change_vlinkcolor()** that will change the color of visited link text of document with its parameter value.
- (ii) Create a function named **change_bgcolor()** that will change the background color of document with its parameter value.
- (iii) Create following text links that will change the background color with its text value. Be sure these call the **change_bgcolor()** function.
Cade Blue Crimson
- (iv) Create a form with a button that will change the visited link text color with its value. Be sure that call the **change_vlinkcolor()** function. Label it 'Dark Green'.

- (v) Create another Form. When the viewer submit button is clicked, send a alert says "Thank you"
- (vi) Add a text box that asks for the viewer's name. Set it up so that when the viewer gives the focus away from text box, an alert pop up that says "Thanks, if that is your real name!"
- (vii) Add a second text box that asks the viewer for E-mail address. Set it up so that when the viewer gives the text box focus, an alert pop up that says "You need an @ symbol".
- (viii) Create a select box has two options 'Yes' and 'No' that ask the viewer 'Single'. Set default option is 'Yes'. If the user chooses a new option, send an alert says "Why did you change that?"
- (ix) Create a button that changes the text in the status bar of the browser to "This is new status." when clicked by the viewer. Use a value "Change Status!" as label of button.
- (x) Add submit button.

(18 marks)

3(b). Create two HTML pages with following contents:

The first page

- (i) Create a function name welcome_site() that pops up an alert says, "Welcome to My Site". And then execute this function at every 10 seconds.
- (ii) Create a function named new_window() that opens a new window with 'text1.html'. Give it dimension of 300 x 200 pixels, and give it an initial position on the screen of (20,20). Also, give it a status bar and a menu bar.
- (iii) Create a button that calls the new_window()function when clicked to open a new window. Label it 'Open New Window'.
- (iv) Create a button that stop the endless calling of welcome_site() function. Label it 'Stop Welcome'.

The second page(text1.html)

- (i) Type the text "This is text1.html to open in new window."
- (ii) Create a button that enabled the viewer to close the current window. Label it 'Close'.

(7 marks)

4(a). Create an HTML document with following form and form's controls.

- (i) The form has a select box and a submit button.
- (ii) Create a select box with given options and the first option in this select box asks the user to select a suit of cards. "Hearts", "Diamonds", "Spades", "Clubs"
- (iii) Create a function named validate() that check the one of the suits of cards has be selected. That will have been passed the form object as a parameter. If the viewer select first option, an alert pop up says "Please select a suite of cards" and validation fails. Call the validate() function when the submit button is submitted.
- (iv) Create a submit button. Label it "Send selection".

(15 marks)

4(b). Create an HTLM page with following.

- (i) Create a form with two text boxes named "the_number" and "the_url" and a submit button. Have it call a function named "check_submit()" when it is submitted.
- (ii) Create a function name "check_submit" that uses two regular expressions to validate the contact number and the URL the viewer entered. Assume that you need the contact number starts 3 digits, followed by a hyphen (-) and 7 digits.
- (iii) Assume that you need the URL contain the following:

- It must begin with **http://**.
- The characters in between need to be dots (.), hyphen (-), letters or numbers.
- It must end with a dot and no more than three letters characters.

(v) If the information of contact number and the URL validate, submit the form and otherwise send an alert saying "Information invalid: Try again". (15 marks)

vi) Create an HTML document with following:

vii) Write some code that will create a status bar clock. Use the following format:

Hours, minutes and seconds. Whether it is A.M or P.M.

viii) The clock updates every second.

ix) Create an array with the following text:

"Galaxy Note III", "Galaxy Grand", "Galaxy S4", "Samsung Mega"

x) Create another array with the following text:

"Huawei Ascend P6", "Huawei Ascend Mate", "Huawei U8860 Honor"

(xi) Concatenate these two arrays into a new array and display all elements in each line of document.

(xii) Display the SamsungS4.gif image on the document. The code created will cause a mouseover event on image to change with another image.

samsungS4.gif → bigsamsungS4.gif

(xiii) Create two buttons. Make each button link to one of these URL addresses. Give the buttons the labels.

<http://www.samsung.com>

<http://www.Huawei.com>

Go to Samsung

Go to Huawei

(20 marks)

Department of Advanced Science and Technology

University of Computer Studies

Second Year (B.C.Tech.)

First Semester Examination

Electrical Circuits I (CT 206)

March, 2014

Answer all questions.

Zone IV

Time allowed: 3 hours

1 (a) Find the *power absorbed* by each element in the circuit in Fig. 1(a).

(b) Determine the current labeled I_3 in the circuit of Fig. 1(b).

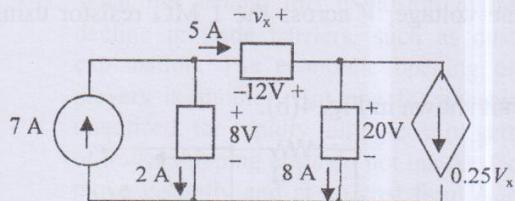


Fig. 1(a)

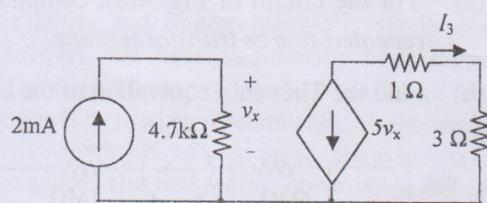


Fig. 1(b)

2 (a) Making appropriate use of *resistor combination* techniques, calculate i_3 in the circuit of Fig. 2(a) and the power provided to the circuit by the single current source.

(b) Using *nodal analysis* as appropriate, determine the current labeled i_1 in the circuit of Fig. 2(b).

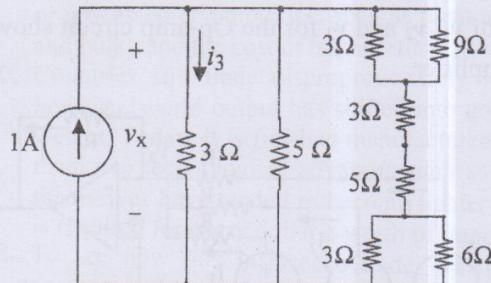


Fig. 2(a)

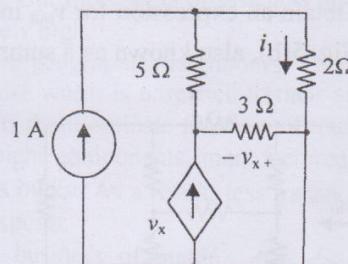


Fig. 2(b)

3 (a) Use *mesh analysis* to determine the three mesh currents in the circuit of Fig. 3(a).

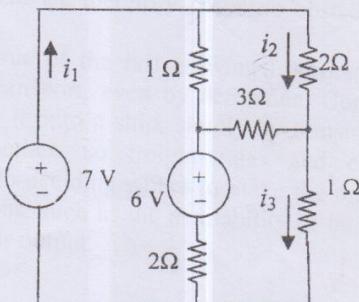


Fig. 3(a)

- (b) Determine the *nodal voltages* in the circuit of Fig. 3(b).

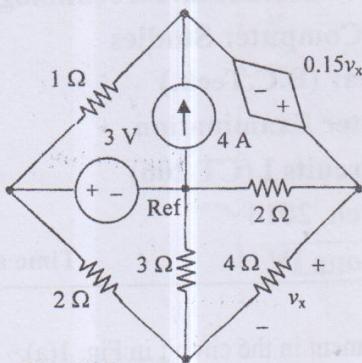


Fig. 3(b)

- 4 (a) For the circuit of Fig. 4(a), compute the voltage, V across the $1\text{ M}\Omega$ resistor using *repeated source transformations*.

- (b) Find the Thévenin equivalent of the circuit shown in Fig. 4(b).

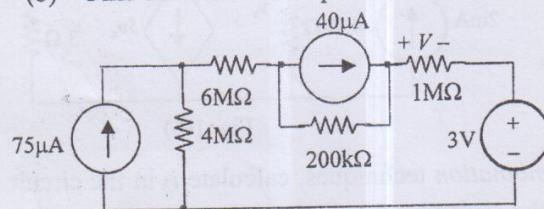


Fig. 4(a)

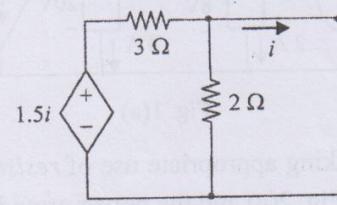


Fig. 4(b)

- 5 (a) Determine the effective resistance R_{in} of the network exhibited in Fig. 5(a).

- (b) Obtain an expression for v_{out} in terms of v_1 , v_2 and v_3 for the Op-amp circuit shown in Fig. 5(b), also known as a summing amplifier.

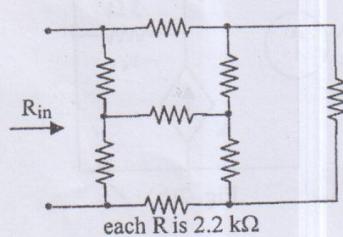


Fig. 5(a)

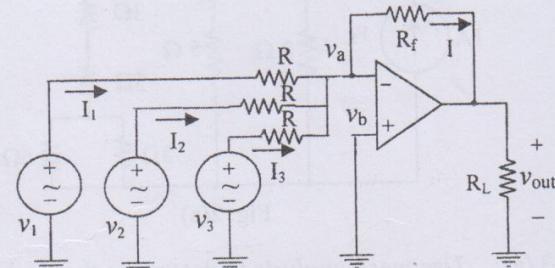


Fig. 5(b)