


Shahjalal University of Science and Technology
Institute Of Information and Communication Technology
Course No. SWE-225 (Software Requirements Engineering)

Time: 40 minutes

CT-3

Full Marks: 40

- | | | |
|----|---|----|
| 1. | What is SRS? Who are the users of a requirement Document? | 5 |
| 2. | Define functional and non functional requirements with example. | 5 |
| 3. | What are the types of non functional requirement? Describe each component for facebook.com. | 10 |
| 4. | Describe the spiral view of the requirement engineering process. | 10 |
| 5. | Why eliciting requirement is difficult? Who are the stakeholders of a software designed for Osmani Medical College? | 10 |

Term Test
SOC 201 (SWE)
Course Title: Sociology for Engineers
Time: 45 minutes Marks: 20

(Answer any one of the following questions)

1. Citing examples, how can you explain three sociological perspectives to analyze the application of software engineering?
 2. Is it possible to conduct a research based on the nexus between software engineering and employment creation? How? Explain.
 3. Explain the impact of the ownership of means of production to relations of production.
 4. Briefly explain different types of family. What major functions does family perform in the society?
 5. Why and how do skills differentials augment social stratification as a paramount reality in the society?
 6. Briefly explain the evolutionary model of social change.
 7. How does pauperization occur in society? Following Marx, delineate the impact of pauperization in society.
 8. Briefly explain the impact of technology in society.
-
5. What do you understand by (a) Product Level (b) Domain level and (c) Business Level? What are the different levels in your proposed project?

Shahjalal University of Science and Technology
Institute Of Information and Communication Technology
Course No. SWE-225 (Software Requirement Engineering)

Time: 1 hr

CT-2

Full Marks: 40

- | | | |
|----|--|----|
| 1. | What is tacit requirement and tacit demands? Explain tacit requirements of your own project. | 5 |
| 2. | Explain different types of project. Describe what type of project you have submitted? | 5 |
| 3. | What do you mean by COTS? What role do requirements have in this case? Explain with your own example. | 10 |
| 4. | Suppose you want an e-commerce site like Amazon.com for online business and you are giving this project to a software firm. What are (a) Data Requirements, (a) Functional Requirements, (a) Quality Requirements for the site? And how do you intend to achieve your business goal with this? | 10 |
| 5. | What do you understand by (a) Product Level (b) Domain level and (c) Business Level? What are the different levels in your proposed project? | 10 |

**Shahjalal University of Science and Technology
Institute Of Information and Communication Technology
Course No. SWE-225 (Software Requirement Engineering)**

Time: 40 minutes

CT-2

Full Marks: 30

1. There are many types of projects: In-house development, Product development, Time-and-material based development, Tender and Contract development. Describe with examples. 10
2. What is Business case analysis? Write a short business case analysis for “*Pathao*” app. 10
3. What is System Scope Model? Design a system scope model for *flight management system*. 10
4. Draw a high level use case for Super Shop Management Software (Like *Shwapno*). 10

Software Engineering

Course Code: CSE-219 Term Test # 1

Total Marks: 20 Date: 21st March, 2019

1. Consider an 8-bit register that has the binary number ~~10010110~~. Determine the decimal value of the number if it represents:
(i) An unsigned number. → 150
(ii) A signed number in sign-magnitude representation. -22
(iii) A signed number in 1's complement representation. 105
(iv) A signed number in 2's complement representation. 106
2. Write the minimum required MIPS instructions to implement each of the following pseudo instructions: 8
a. li \$s1, 0x12345678.
b. move \$s1, \$s2
c. bgt \$s1, \$s2, Next
d. bge \$s1, \$s2, Next
3. Write the minimum required MIPS instructions to implement each of the following. Pseudo instruction can be used. 3 + 4 = 7
a. Multiply the content of register \$s1 by 30 without using multiplication instructions.
b. if((\$s1 > 0) && ((\$s2 < 100) || (\$s2 > \$s3))) { \$s4++; }
4. Write the four design principals of ISA with a reason behind each principal using MIPS. 3 p 2

*1. Add \$s1 * m⁰
add \$s1 (2¹⁴ * 0 + 16)
add \$s1*

ur-week at the rate of Tk. 4 per hour. The
late his gross wages and effective hourly rate
eekly wage;

10

Shahjalal University of Science & Technology

Institute of Information and Communication Technology

Discipline: Software Engineering

2nd Year 1st Semester Examination, 2019

Session: 2017-18

Course: CSE 219(Computer Architecture)

Full Marks: 100

Time: 3 Hours

Credit: 3.0

Note: Answer four questions taking any two from each group. Figures at right margin show marks.

Group - A (Answer any two questions)

- 1 a) A microcontroller uses 8-bit registers. Give the following in both binary and decimal: 3

- The maximum unsigned number that can be stored.
- The smallest (negative) number and the largest (positive) number that can be stored using the sign-magnitude notation.
- The smallest (negative) number and the largest (positive) number that can be stored using the 2's complement notation.

b)

a.	$f = g - h;$
b.	$f = g + (h \div 5);$

6

For the C statements above, what is the corresponding MIPS assembly code? Use a minimal number of MIPS assembly instructions.

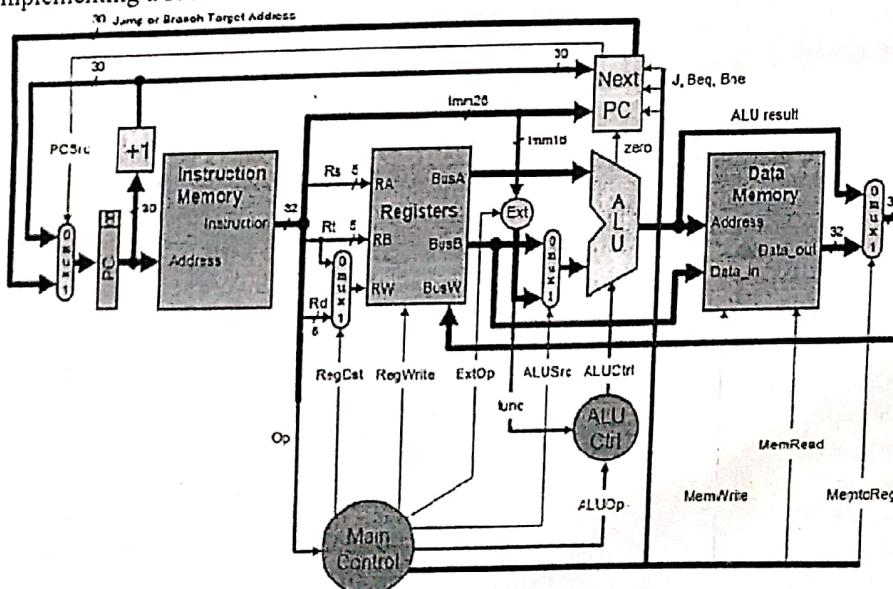
- c) What are the two principles of locality? 4
d) Show the hierarchy of memory according to storage capacity and-speed. 4
e) Consider this C program: 8

$sum = 0;$
 $for (i=0; i < n; i++) sum = sum + A[i];$

Here, A is an Array. Write the MIPS instructions for this C program.

Assume \$s0 = array address, \$s1 = array length = n

- 2 a) Consider the single-cycle datapath and control given below for the MIPS processor 7
implementing a subset of the instruction set:



Group - B
(Answer any two questions)

13

- 4 a) We wish to compare the performance of two different computers: M1 and M2. The following measurements have been made on these computers:

Program	Time on M1	Time on M2
1	2.0 seconds	1.5 seconds
2	5.0 seconds	10.0 seconds

Program	Instructions executed on M1	Instructions executed on M2
1	5×10^9	6×10^9

- (i) Which computer is faster for each program, and how many times as fast is it?
- (ii) Find the instruction execution rate (instructions per second) for each computer when running program 1.
- (iii) The clock rates for M1 and M2 are 3 GHz and 5 GHz respectively. Find the CPI for program 1 on both machines.
- (iv) Suppose that program 1 must be executed 1600 times each hour. Any remaining time should be used to run program 2. Which computer is faster for this workload? Performance is measured here by the throughput of program 2.

- b) We want to compare the performance of a single-cycle CPU design with a multicycle CPU. Suppose we add the multiply and divide instructions. The operation times are as follows:

Instruction memory access time = 190 ps, Data memory access time = 190 ps
 Register file read access time = 150 ps, Register file write access = 150 ps
 ALU delay for basic instructions = 190 ps, Delay for multiply or divide = 550 ps

Ignore the other delays in the multiplexers, control unit, sign-extension, etc.
 Assume the following instruction mix: 30% ALU, 15% multiply & divide, 30% load & store, 15% branch, and 10% jump.

- (i) What is the total delay for each instruction class and the clock cycle for the singlecycle CPU design?
- (ii) Assume we fix the clock cycle to 200 ps for a multi-cycle CPU, what is the CPI for each instruction class and the speedup over a fixed-length clock cycle? Note that this implies that multiply and divide operations will be performed in multiple cycles.

- c) Write down the pipeline stages of a single instruction.

8

- 5 a) Given that Multiplicand=1010 and Multiplier=1001.

(i) Using the unsigned multiplication hardware, show the unsigned multiplication of Multiplicand by Multiplier. The result of the multiplication should be an 8-bit unsigned number in HI and LO registers. Show the steps of your work.

(ii) Using the signed multiplication hardware, show the signed multiplication of Multiplicand by Multiplier. The result of the multiplication should be an 8-bit signed number in HI and LO registers. Show the steps of your work.

4

- b) Suppose we have two implementations of the same instruction set architecture. Computer A has a clock cycle time of 250 ps and a CPI of 2.0 for some program, and computer B has a clock cycle time of 500 ps and a CPI of 1.2 for the same program. Which computer is faster for this program and by how much?

- c) Write separate MIPS assembly programs to do each of the following using the smallest possible number of instructions.

Ask the user to enter a character, c1. Then, in a new line ask the user to enter another character, c2, greater than the first character. Then, in a new line print the characters from character c1 until character c2 as shown in the format below. If the entered character is smaller than the first character ask the user to reenter the second character.

[Answer any two questions from each part. All parts of a question must be answered chronologically.]

PART -A

- | | | |
|--|--|----|
| 1. | a. What is management accounting? How do you differentiate it from financial accounting? | 6 |
| b. What is overhead? Briefly describe the different types of overhead with example. | 6 | |
| c. As a student of software engineering, how can you explain the role of managerial accounting in any type of business organization? | 7 | |
| d. Discuss different types of costing method. | 6 | |
| 2. | a. Define product cost and period cost with example. | 07 |
| b. Various cost and sales data for Well food ltd. for the year 2017 are as follows: | 18 | |

Items	Taka	Items	Taka
Finished goods inventory, January 01	10,000	Purchase of raw materials	1,35,000
Finished goods inventory, December 31	30,000	Raw materials inventory, January 01	11,000
Depreciation, factory	25,000	Raw materials inventory, December 31	6,000
Administrative expenses	1,10,000	Direct labor	70,000
Utilities	8,000	Indirect labor	15,000
Maintenance	40,000	WIP inventory, January 01	17,000
Supplies	11,000	WIP inventory, December 31	30,000
Insurance, factory	4,000	sales	5,00,000
Depreciation, office	10,000	Seiling expenses	100,000

Required: i) prepare a cost of goods manufactured statement.

ii) Prepare an income statement for the year 2017.

- | | | |
|----|--|----|
| 3. | a. What are the different types of remuneration systems of workers? | 05 |
| b. | Jobs are issued to operator X to make 189 units and to operator Y to make 204 units for which a time allowance of 20 standard minutes and 15 standard minutes per unit, respectively, is credited. For every hour saved, bonus is paid at 50% of the basic rate, which is Tk. 4 per hour for both the employees. The basic working week is 42 hours. Hours worked in excess are paid at time rate plus one-third.
X completes his units in 45 hours and Y completes his units in 39 hours (but works a full week). Due to defective material, six of X's units and four of Y's units are subsequently scrapped, although all units produced are paid for.
You are required to calculate for each of X and Y:
(i) The amount of bonus payable;
(ii) The total gross wage payable;
(iii) The wages cost per good unit made. | 10 |
| c. | During the first week of July 2005, the workman X manufactured 300 articles. He received wages for a guaranteed 48 hour-week at the rate of Tk. 4 per hour. The estimated time to produce one article is 10 minutes and under incentive scheme the time allowed is increased by 20%. Calculate his gross wages and effective hourly rate according to:
(i) Piece work with a guaranteed weekly wage;
(ii) Rowan premium bonus; and
(iii) Halsey premium bonus, 50% to workman. | 10 |

PART- B

4. Fardin & Co. manufactures and sells a product that has seasonal variations in demand. The following information concerns operations for 2017 and for the first two quarters of 2018: The company's single product sells for Tk. 10 per unit. Budgeted sales in units for the next six quarters are as follows:
- | Particulars | 2017 | | | | 2018 | |
|----------------|---------|---------|---------|---------|---------|---------|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 |
| Budgeted sales | 200,000 | 250,000 | 300,000 | 180,000 | 240,000 | 260,000 |

- a. Sales are collected in the following pattern: 70% in the quarter the sales are made and the remaining 30% in the following quarter. On January 1, 2017 the company's balance sheet showed 130,000 in Account Receivables all of which will be collected Q1 of the year.
- b. The company desires an ending inventory of finished units on hand at the end of each quarter equal to 25% of the budgeted sales for the next quarter. On December 31, 2016, the company had 24000 units on hand.
- c. Five pounds of raw materials are required to complete one unit of product. The company requires an ending inventory of raw materials on hand at the end of each quarter equal to 15% of the production needs of the following quarter. On December 2014, 23,000 pounds of raw materials on hand.
- d. The raw material costs Tk. 1.00 per pound. Pattern: 60% paid in the quarter the purchases are made, and the remaining 40% paid in the following quarter.
- e. On January 2017, the company's balance sheet showed Tk. 81,500 in accounts payable for raw material purchases, all of which will be paid for in the first quarter of the year.

Required:
Prepare the following budgets and schedules for the year, showing both quarterly and total figures:

- A sales budget and a schedule of expected cash collections.
- A production budget.
- A direct materials purchases budget and a schedule of expected cash payments for material purchases.

5. a. "Break-even analysis is of limited use to management because a company cannot survive by just breaking even." Do you agree? Explain. 5
- b. Stratford company distributes a lightweight lawn chair that sells for \$15 per unit. Variable costs are \$6 per unit and fixed costs total \$180,000 annually. 20
(3+3
+3+
11)

Required:
Answer the following independent questions:

- What is product's CM ratio?
- Use the CM ratio to determine the break-even point in sales dollars.
- The company estimates that sales will increase by \$45,000 during the coming year due to increased demand. By how much should net operating income increase?
- Assume that the operating results for last year were as follows:

Sales	\$360,000
Variable expenses.....	\$144,000
Contribution margin.....	\$216,000
Fixed expenses.....	\$180,000
Net operating income.....	\$36,000

- Compute the degree of operating leverage at the current level of sales.
- The president expects sales to increase by 15% next year. By how much should net operating income increase?
- Referring to the original data, assume that the company sold 28,000 units last year. The sales manager is convinced that a 10% reduction in the selling price, combined with a \$70,000 increase in advertising expenditures, would cause annual sales in units to increase by 50%. Prepare two contribution format income statements, one showing the results of last year's operations and one showing what the results of operations would be if these changes were made. Would you recommend that the company do as the sales manager suggests?

6. a. What is ABC? Give an example of prime cost and conversion cost.
 b. Ferris Corporation makes a single product a fire resistant commercial filing cabinet that it sells to office furniture distributors. The company has a simple ABC system that it uses for internal decision making. The company has two overhead departments whose costs are listed below:

Manufacturing Overhead	Tk. 500,000
<u>Selling and Admin Overhead</u>	<u>Tk. 300,000</u>
Total Overhead costs	Tk.
800,000	

The company's ABC system has the following activity cost pools and activity measures.

Activity Cost Pool	Activity Measure
Volume related	Number of units
Order related	Number of order
Customer support	Number of customers
Other	Not applicable

Costs assigned to the "Other" activity cost pool have no activity measure; they consist of the costs of unused capacity and organization-sustaining costs- neither of which are assigned to products, orders, or customers. Ferris Corporation distributes the costs of manufacturing overhead and of selling and administrative overhead to the activity cost pools based on employee interviews, the results of which are reported below:

Distribution of Resource Consumption across Activities

	Volume Related	Order Related	Customer Support	Other	Total
Manufacturing Overhead	50%	35%	5%	10%	100%
Selling and Admin Overhead	10%	45%	25%	20%	100%
Total Activity	1000	250	100		
	Units	Orders	Customers		

Required:

1. Perform the first-stage allocations of overhead costs to the activity cost pools.
2. Compute activity rates for the activity cost pools.
3. Office Mart is one of Ferris Corporation's customers. Last year, Office Mart ordered filing cabinets four different times. Office Mart ordered a total of 80 filing cabinets during the year. Construct a table of overhead costs of these 80 units and four orders.
4. The selling price of a filing cabinet is Tk. 595. The cost of direct materials is Tk. 180 per filing cabinet and direct labor is Tk. 50 per filing cabinet. What is the product margin on the 80 filing cabinets ordered by Office Mart? How profitable is Office Mart as a customer?

Shahjalal University of Science & Technology

Institute of Information and Communication Technology

Discipline: Software Engineering

2nd Year 1st Semester Examination, 2019

Session: 2017-18

Course: SWE 225 (Software Requirement Engineering)

Full Marks: 50

Credit: 2.0

Time: 2 Hours

Note: Figures at right margin show marks.

Group - A

- | | |
|--|--------------------|
| 1. Answer any Two | $5 \times 2 = 10$ |
| a) What is Software Requirements Engineering? Explain about the various steps involved in requirement engineering process. | 5 |
| b) Write the Metrics for Specifying Non-functional requirements. Who are the users of a requirement document? | 5 |
| c) Describe the spiral view of the requirement engineering process. | 5 |
| 2. Answer any Two | $10 \times 2 = 20$ |
| a) <u>A Hall Management System (HMS) for XYZ University</u> | 10 |

Hall Management System (HMS), will be an automatic system to allocate, update and reallocate resident students to various rooms.

A hall is governed by the Provost assisted by the House Tutors (HT) and Assistant House Tutors (AHT). Each HT and AHT is assigned to a number of hall rooms/blocks to manage. The administration is supported by a Section Officer (SO) (with his supporting staffs).

The University Central Admission Office (UCAO) assigns each admitted students to one of the halls, and UCAO sends the detail student information (SIF) to the hall office. Students who are able to reside inside the hall are called resident students and others are non-resident students. Based on the available seats, hall office seeks resident applications from the assigned students. Applications are scrutinized and students are interviewed by the HTs and AHTs. A list of successful students who are eligible to be residents are published.

Eligible students are noticed to collect the payment slips signed by the SO. Students who deposit the desired amount in a specific bank, verified by the SO, Provost issues room allocation permission slips to those. The allocation permission slip contains the assigned room number/block number.

After getting the room allocation permission slip, students go to the respective HT/AHTs, (who are in charge of the assigned rooms/blocks). HT/AHT, then issues the boarding card. The boarding card contains basic student information such as Student Name, Father's Name, Permanent Address, Phone Number, Blood group, Registration Number, Roll Number, Session and Department, collected from the SIF. In addition, it also contains the allocated room number, allocation date and allocated by. (Two identical cards are issued, one for the student and another for the office copy).

During the studentship, a student can change his/her assigned room. In that case, the card is updated accordingly, that is, the current assigned room should be de-allocated by the current HT/AHT, and new room should be allocated by the new HT/AHT. After the graduation, the card is invalidated.

(You do not need to consider authentication system, assume that all the users are already authenticated).

Define the IEEE System features in HMS Software project.

- b) What is System Scope Model? Draw the swimlane diagram for order fulfillment system of Shwapno. 10
- c) Draw a high level use case for a Departmental Store Management System. Define the task of Administrator, Supplier Admin, Distribution channel manager, Sales Employee, Outlet branch employee and more you can imagine. 10

Group - B

1. Answer any Two 5x2=10
- Describe the requirement elicitation and analysis process. 5
 - What do you understand by Requirements validation? During the requirements validation process what types of checks should be carried out? 5
 - What should the business case analysis document contain? 5
2. Answer any Two 10x2=20
- Draw the Classification of non functional requirement. Provide real examples. 10
 - i. What is COTS purchase and COTS - based acquisition? 5+5
 - ii. Write down the structure of a requirement document. 5
 - Construct a UML Class diagram for a Hospital management System where Class *ORGANIZATION* has components i.e –Patient, Hospital, Staff-Operations, Administrative, and Technical; Class WORDS and TEAM has components i.e – words, team of doctors and patients; and components of TREATMENT class : patient, doctors and treatment. 10

Institute of Information and Communication Technology

Software Engineering

Final Examination, 2nd Year 1st Semester, 2019

Course No.- SWE-223 Course Title: Objective Oriented Programming Language
Credits: 3 Full Marks: 100 Time: 3 Hours

Part A

1. Answer any five questions.
- Write the output of the following JAVA program-

```
public static void main(String args[]){
    int i = 0;
    i= i++ + i;
    System.out.println("i=" + i);
}
```

- ✓ Does java support multiple inheritances? If yes, how and if not, why?
- ✓ Can constructor be inherited?
- ✓ Compare structure from C and class in Java.
- ✓ Can you declare a constructor private? Explain.
- ✓ What is the type and value of the following expression?
 $-4 + 1/2 + 2*3 + 5.0$
- ✓ If a class want to partially implement an interface, what is the solution?

5*2

2. Answer Any Four Questions

✓ Why JAVA is called platform independent? Explain using JVM and compare it to "C".

✓ Explain pass-by-value and pass-by-reference with example.

i. You defined, for example a variable- "b". Discuss its scope and lifetime with example.

4
1

ii. Define and initialize 5 dimensional int array.

iii. Let there is a class- Table. In the following sentence, what would be the output-
`Table t = new Table();
System.out.println(t);`

1

iv. Now, we want to print= "This is a table class" when we print "System.out.println(t)" statement
earlier question without changing the print statement. How will you achieve that? Explain with
code.

4

✓ What is meant by `this` in JAVA? Write down the output of the following program.

```
public class Student {
    int rollno;
    String name;
    float fee;

    public Student(int rollno, String name, float fee) {
        this.rollno = rollno;
        this.name = name;
        this.fee = fee;
    }

    void display(){
        System.out.println(rollno+" "+name+" "+fee);
    }
}
```

```
class TestThis2{
    public static void main(String[] args) {
        Student s1=new
        Student(111,"ankit",5000f);
        Student s2=new
        Student(112,"sumit",6000f);
        s1.display();
        s2.display();
    }
}
```

2*10

3. Answer Any Two Questions

a.

5

i.

Modify the class Account to provide a method
called debit that withdraws money from an
Account. Ensure that the debit amount does
not exceed the Account's balance. If it does,
the balance should be left unchanged and the
method should print a message indicating
"Debit amount exceeded account balance."

```
public class Account{
    private double balance;
    public Account(double initialBalance){
        if(initialBalance > 0){
            balance = initialBalance;
        }
    }
    public void credit(double Amount){
        balance = balance + amount;
    }
    public double getBalance(){
        return balance;
    }
}
```

b. Differentiate and explain with example-nested class and inner class.

5

i.

In light of three principles of OOP, explain with example method overloading, overriding. Concisely
explain encapsulation with example.

7

ii. How would you pause a Java program for a while?

2

iii. Which class would you inherit to make a java application program?

1

2. Write the output of the following Java program sequence-

```

String s = "this is a test, named JAVA OOP.";
System.out.println(s.substring(0, 5));
System.out.println(s.equals("hello"));
System.out.println(s.concat("Hello"));
System.out.println(s.replaceAll("test", "exam"));
System.out.println(s.trim());
System.out.println(s.charAt(5));
System.out.println(s.toLowerCase());
}

StringTokenizer tok = new StringTokenizer(s, " ");
while (tok.hasMoreTokens()) {
    System.out.println(tok.nextToken());
}

```

Part B

5*2

4. Answer any five questions.

- Which method is used to register a mouse motion listener?
- Differentiate Vector vs ArrayList.
- Differentiate primitive data-type vs rest of the data types.
- Why do we override constructor?
- Show the auto type-promotion rules in JAVA.
- Differentiate Set vs Map.
- Why do we use "finally" in exception handling?

4*5

5. Answer Any Four Questions

- a. Write a recursive method *Sum* (as a class member) to sum the first N Fibonacci numbers.
- What is thread synchronization? How would you achieve that?

3

i.

Look the code carefully. Does the code have any bug? If not, write no problem found. If yes, correct the code and explain why.

```

public class Why {
    void hello(){
        System.out.println("Hello world");
    }
    public static void main(String[] args) {
        hello();
    }
}

```

2

- ii. Show two ways to concatenate the following two strings together to get the string "Hi, mom.":
- ```

String hi = "Hi, ";
String mom = "mom.";

```

d.

Assume you have written some classes. Belatedly, you decide they should be split into three packages, as listed in the following table. Furthermore, assume the classes are currently in the default package (they have no package statements).

| Destination Packages |            |
|----------------------|------------|
| Package Name         | Class Name |
| mygame.server        | Server     |
| mygame.shared        | Utilities  |
| mygame.client        | Client     |

- i. Which line of code will you need to add to each source file to put each class in the right package?
- ii. To adhere to the directory structure, you will need to create some directories in the development directory and put source files in the correct sub-directories. What sub-directories must you create? Which subdirectory does each source file go in?
- iii. Do you think you'll need to make any other changes to the source files to make them compile correctly? If so, what?

Create simple 2 thread program that prints 1 to 10 maintaining following structure- "Thread-1 1", "Thread-2 1" etc.

### 6. Answer Any Two Questions

2\*10

a.

- i. Write a Java program to read a number of integers from a text file (ended by a string "end") using the Scanner class. Calculate and display the sum of the numbers.
- ii. Write a simple program to replace all the occurrences of a given word str1 in a string of several lines by another word str2.

5

5

b.

- Explain, wait(), notify(), notifyAll() with example.
- ii. There are two types of input streams in JAVA. Explain those.

7

3

c.

- What is buffer? Explain, and show use of buffer in code.
- ii. Differentiate and explain different access modifiers with example.

6

4

# Shahjalal University of Science & Technology

Institute of Information and Communication Technology

**Discipline: Software Engineering**

2<sup>nd</sup> Year 1<sup>st</sup> Semester Examination, 2017

Session: 2017-18

Course: SOC-201W (Sociology For Engineers)

**Full Marks: 100**

**Credit: 3.0**

**Time: 3 Hours**

Note: Answer any four of the question taking two from each part.

## PART - A

- |                                                                                                                                       |    |
|---------------------------------------------------------------------------------------------------------------------------------------|----|
| a) What is meant by sociology?                                                                                                        | 10 |
| b) Could you notice the convergence of Sociology and Software Engineering? Discuss in line with the importance of studying sociology. | 15 |
| c) How did European sociologists contribute to the development of the science of human behavior? Discuss.                             | 10 |
| a) What is scientific method?                                                                                                         | 05 |
| b) Discuss different steps of scientific method in sociology.                                                                         | 15 |
| c) What are the codes of ethics followed by researcher?                                                                               | 05 |
| a) Define family and marriage.                                                                                                        | 10 |
| b) Elucidate the basic functions of family.                                                                                           | 10 |
| c) What changes do you observe in the traditional functions of family? Discuss with examples.                                         | 10 |

## PART - B

- |                                                                                                                                             |    |
|---------------------------------------------------------------------------------------------------------------------------------------------|----|
| 4. a) How does sociological understanding of culture differ from other social scientists?                                                   | 10 |
| b) Discuss the culture lag hypothesis with reference to the consumption of information and communication technology in Bangladeshi society. | 15 |
| c) How does the pattern of behavior and attitude emerge in life? Elucidate in light of different agents of socialization.                   | 10 |
| 5. a) What is meant by social stratification?                                                                                               | 10 |
| b) Discuss the system of stratification from sociological point of view.                                                                    | 15 |
| c) Define culture. Discuss the elements of culture citing examples of your own society.                                                     | 10 |
| 6. a) Define globalization.                                                                                                                 | 05 |
| b) What are the impacts of globalization on society due to the rise of information and communication technology? Elucidate.                 | 10 |
| c) Distinguish between crime and deviance. What are the social factors of juvenile delinquency in Bangladesh? Discuss.                      | 10 |