MID-Term Questions

Premier University
Department of Computer Science & Engineering
3rd Semester Midterm Exam, April 2019
Course Title: Data Structure
Course Code: CSE - 221

Total Marks: 20 **Time: 1 Hour**

Answer any two questions.

Q.1 Choose the best answer or answers with proper explanation: **(1+1.5)*4=10**

i) Which of these best describes an array?
a) A data structure that shows a hierarchical behavior
b) Container of objects of similar types
c) Container of objects of mixed types
d) All of the mentioned

ii) What are the advantages of arrays?
a) Easier to store elements of same data type
b) Used to implement other data structures like stack and queue
c) Convenient way to represent matrices as a 2D array
d) All of the mentioned

iii) What are the disadvantages of arrays?
a) We must know how many elements will be there in the array
b) There are chances of wastage of memory space if elements inserted in an array are lesser than the allocated size
c) Insertion and deletion becomes tedious
d) All of the mentioned

iv) Assuming integer is of 4bytes, what is the size of int arr[15];?
a) 15
b) 19
c) 11
d) 60

Q.2 a) What is the limitation of binary search? **2**
b) Suppose you have array of 12 numbers; such as 20,12,34,36,76,89, 43,23, 14, 56, 34, 23. You have to search a value 56 from that array by traversing

each value. What would be the search technique (binary or linear search) do you apply for that situation? Explain with proper reason. 3

c) Suppose you have array of 12 numbers: such as 20,12,34,36,76,89, 43,23,14,56,34,23. 5

i) What would be the number of passes for implementing bubble sort for above dataset?

ii) What would be the number of comparisons for each pass?

Q.3 a) Suppose you have array of 10 numbers: such as 20, 12,34, 36,76,89, 43,23, 14,56. You have to 4+4

i) add a value 40 at 5th position of array.
ii) delete 76 from that array.

Show all the mathematical operations for above situations.

b) Why binary search is better than linear search for large number of data? 2

Premier University Chittagong

Department of Computer Science and Engineering

Mid Term Examination (Spring-2019)

3rd Semester

Course Title: Basic Economics Course Code:ECO201

Total Marks: 20 Time: 1hour

(Answer any two from following questions. Figures in right indicates full marks)

1. Demand and supply in a market is describe by the following equations

Qd=66-3P

Qs=-4+2P

a. Solve algebraically to find equilibrium P and Q 4

b. How would a per unit sales tax t affect this equilibrium and comment on how the tax is shared between producer and consumer. 6

2. Explain following cases with graph

a. What will happen to demand line if income increase with all other things remain constant? 5

b. Between butter and vegetable oil, if there is an increment in price of butter what will happen to the demand line of vegetable oil? 5

3. Describe change in equilibrium quantity if

a. wage rate abated and level of wealth increase 5

b. price of raw material increased and preference for that good is goes down 5

Premier University

Department of Computer Science & Engineering
3rd SEMESTER MID TERM EXAMINATION - February 2019
Course title: Object Oriented Programming (CSE 211)
Section: B

Time: 1 hour | Mark: 20

Answer any two (02) questions.

Q1

a Write down the differences between **constructor and method. Explain** ***method overloading with an example.*** **06**

b *Consider the following pseudo code:* *04*

```
A obj = new A();
obj.whatIsMyName("John");
```

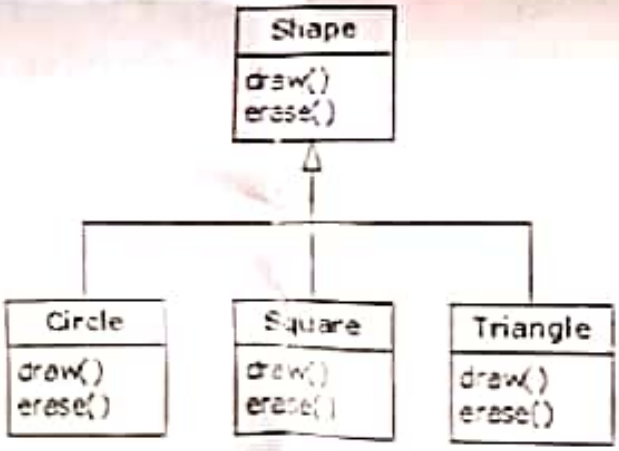
Sample output:

Hello dear, John.

Now **design the class A.**

Q2

a Considering the following illustration and inheritance rules, design the classes. **07**



b Write down the significance of ***static*** keyword in Java. **03**

3 a Write a JAVA program to find the sum of multiple numbers using **Method Overloading.** **10**

Total: 20 **Time: 60**

Answer any four Questions

Q1 Express the Boolean function in a Sum of Minterms & Product of Maxterms. 5

- F(A,B,C) = AB +A'C
- F(A,B,C) = 1

Q2 What is combinational circuit? Simplify the following Boolean function to a minimum number of literals. 5

- Y + X' Z +X Y'
- X ' YZ + XZ

Q3 Implement a full- adder with two half- adder and an OR gate. 5

Q4 Simplify the Loolean function using Map in 5

a) sum of products and
b) products of sums

$$F(A,B,C,D)= \sum (0,1,2,5,8,9,10)$$

Q5 Simplify the Boolean function F using the don't –care.conditions d, in 5

a) sum of products and
b) products of sums

$$F = A' B' D' + A' CD + A' BC$$
$$D = A' BC' D + ACD + A B' D'$$

Digital Electronics
MIDTERM

Time: 60

Total: 20

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Q5 Simplify the Boolean function F using the don't –care conditions d, in
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$$F = A' B' D' + A' CD + A' BC$$
$$D = A' BC' D + ACD + A B' D'$$

Premier University, Chittagong

Department of Computer Science and Engineering

3rd Semester Mid-term Examination, April'2019

Course Code: MAT 201, Course Title: Engineering Mathematics III

Time: 50 mins, Full Marks: 20

[N.B. - (i) Answer any *two* questions;]

1 a) State and prove Cauchy-Riemann equations. 10

b) Test C-R equations for the following functions $f(z) = \frac{1}{z}$

2 a) State and Prove Cauchy's Integral Formula 10

b) Evaluate the complex integral for $\int_C \frac{\cos\pi z^2}{(z-1)(z-2)} dz$ *where C is* $|z| = 2$

3 a) Evaluate $\int_C \frac{e^{-z}}{(z+2)^5} dz$ 10

b) State and prove Cauchy's Integral theorem.

c) Prove that the function $u = x^3 - 3xy^2 + 3x^2 - 3y^2 + 1$ satisfies the Laplace's equation.