Computer Science and Information Technology Department, UoB, Quetta
Course: Object Oriented Programming and Design
Terminal Exam 2018

MCS 2nd Semester Session: 2018-2020 Max marks: 40

Note: Attempt all questions. Every question is of 10 marks.

Question No 1: Given the string "str", what will be the output of following statements?

string str = "Terminal";

1. **cout << str.append("Exam");**
2. **cout << str.size();**
3. **cout << str.find("E");**
4. **cout << str.replace(0, 3, "tER");**
5. **cout << str.erase(8,11);**

Question No 2: Given the "Stack" class below, answer the following questions:

Stack class	Questions:
1. class Stack 2. { 3. private: 4. enum { MAX = 5 }; 5. int st[MAX]; 6. int top; 7. public: 8. Stack() { top = -1; } 9. void push(int var) 10. { st[++top] = var; } 11. int pop() 12. { return st[top--]; } 13. }	1. Which line number defines the constructor? 2. How many private data members are in this class? 3. What is the data type of MAX? 4. When a stack object is created what will be the value of top? 5. What will be the value of top if push is called the first time on stack object? 6. Object of class Stack can store how many elements? 7. What is the return type of pop()? 8. How many arguments push() takes? 9. Will the program through an error if more than 4 elements are pushed? 10. Will the program through an error if pop is called when value of top is -1?

Question No 3: Inherit a class "SafeStack" from the "Stack" class given in Question No 1, so that push and pop check for valid array index and program exits if array index is out of bounds.

Question No 4: write main function that declares an object "obj" of class SafeStack, and calls member function push() 3 times with values 10, 20, 30, then calls pop() 4 times.