RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Faculty of Engineering and Technology			
Ramaiah University of Applied Sciences			
Department	Computer Science and Engineering	Programme	B. Tech. in CSE
Semester/Batch	03rd /2017		
Course Code	CSC204A	Course Title	Advanced Programming Concepts
Course Leader(s)	V S Yerragudi/V.Pujitha		

Assignment - 2

Register No.		Name of the student	

Sections		Marking Scheme	Marks: Max Marks	First Examiner Marks	Moderator
Part A	A **1.1**	**Introduction with relevance of the debate**	01		
	A **1.2**	**Stance taken with Justification**	03		
	A **1.3**	**Conclusion**	01		
		Part-A Max Marks	10		
Part B.1	B **1.1**	**Introduction to problem**	02		
	B **1.2**	**UI Design**	02		
	B **1.3**	**Functional Decomposition**	04		
	B **1.4**	**Conclusion**	02		
		B.1 Max Marks	10		
Part B.2	B **2.1**	**Introduction**	02		
	B **2.2**	**Implementation methodology**	03		
	B **2.3**	**Comment on results**	03		
	B **2.4**	**Conclusion**	02		
		B.2 Max Marks	10		
		Total Assignment Marks	25		

Course Marks Tabulation				
Component-1 (B) Assignment	**First Examiner**	**Remarks**	**Moderator**	**Remarks**
A				
B.1				
B.2				
Marks (out of 25)				

Signature of First Examiner **Signature of Moderator**

Please note:

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.
2. The First Examiner is required to mark the comments in RED ink and the Second Examiner's comments should be in GREEN ink.
3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.
4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

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Assignment-02
Term-02

Instructions to students:

1. The assignment consists of **5** questions: Part A – **1** Question, Part B- **4** Questions.
2. Maximum marks is **25**.
3. The assignment has to be neatly word processed as per the prescribed format.
4. The maximum number of pages should be restricted to **10**.
5. Restrict your report for Part-A to 1 page only.
6. Restrict your report for Part-B to a maximum of 9 pages.
7. The printed assignment must be submitted to the course leader.
8. **Submission Date:** 22/10/2018
9. **Submission after the due date is not permitted.**
10. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
11. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

Preamble

The course on advanced programming concepts is aimed at preparing the students to design, develop and test software applications by applying different programming paradigms. The students are taught the features of functional, object oriented and event-driven programming approaches with a sample language for each approach. They apply the constructs of these approaches to design and develop software applications. They also analyze the usefulness of programming paradigms and languages based on ease of expression and scale of development effort. The first part of this assignment assesses the ability of the student to judge the usefulness and applicability of functional programming approach. The second part of the assignment assesses the ability of the student to develop programs using the functional and event driven programming approaches. It also tests the student's ability to apply the features of the selected languages for the specific problem posed.

Part -A **(05 Marks)**

Functional programming, like many paradigms before it, has proven to be useful and beneficial in addressing software crisis. However, it has also had challenges in adaptation due to its library availability and training requirements.

Read the papers "Why Functional Programming matters" by J. Hughes and "Functional Programming: Why No One Uses Functional Languages" by P. Wadler.

Debate on the statement: "***Functional programming must be used to solve all programming problems due to its expressivity".***

Your debate should emphasize on:

A1.1 Introduction with relevance of the debate
A1.2 Stance taken with Justification
A1.3 Conclusion

Part B **(20 Marks)**

Scenario: A mathematician is working on prime numbers. He needs a program that can:

- Generate the n^{th} prime number
- Test if a given number is prime
- Test if two numbers are relatively prime

B .1 Select an appropriate programming approach for User Interface design and apply functional decomposition on the problem posed.
Document the following in the report:

B 1.1 Introduction to the problem
B 1.2 Selection of an appropriate programing approach for UI design
B 1.3 Functional decomposition (include: Functions identified, Function signature specification including parameter types and return types)
B 1.4 Conclusion

B .2 Develop the software required based on your design in QB.1 .
Document the following in the report:

B 2.1 Introduction
B 2.2 Implementation methodology (Discuss the function call sequence and their implementation in the language used)
B 2.3 Comment on results (Provide at most four screenshots with explanation)
B 2.4 Conclusion

Note: All code snippets are to be added in the Appendix and not in the chapters of the report.