

Date of Examination
04 - 06 - 2018



No of Questions	04
No. of Pages	03

**GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY**  
**BACHELOR OF SCIENCE IN COMPUTER SCIENCE/ SOFTWARE**  
**ENGINEERING / COMPUTER ENGINEERING DEGREE EXAMINATION**  
**INTAKE 34 3<sup>RD</sup> SEMESTER EXAMINATION - MAY/JUNE 2018**  
(Stream - Computer Science / Software Engineering / Computer Engineering)  
**RESEARCH METHODOLOGY**  
(CS2053)

**Instructions:**

**Duration:** 03 Hours

This paper has **4 Questions**. Answer **ALL** Questions.

Total marks for this paper is 70% of your final mark. All questions carry equal marks.

Write down **ALL** the answers in the booklet provided.

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**Question 01.**

(a) Answer the following questions.

(i) With a suitable example discuss Originality, Usability and Presentability of a research. [3 Marks]

(ii) Identify what are the required skills to become a good research student. [3 Marks]

(iii) Compare and contrast survey-based and observation-based research. [3 Marks]

(iv) Discuss how IPO Approach is useful for software development based research. [3 Marks]

(b) Identify which of the following is/are true? In each case justify your answer.

(i) Most of the Engineering and Technological researches are based on design and innovations [3 Marks]

(ii) Empirical Science researches are does not come under Nobel Prize wining category. [3 Marks]

(c) Use PMS method and discuss "How to identify a solution to Dengue". [7 Marks]

## Question 02.

(a) Answer the following questions.

(i) Assume that your car is not starting. Explain briefly which approach is suitable to identify the problem in your car. [3 Marks]

(ii) Compare and contrast Milestones approach and Scientific method. [3 Marks]

(iii) Doing a research is similar to shopping. Compare search and research according to the above activity.

[3 Marks]

(b) Identify which of the following is/are true? In each case justify your answer.

(i) Literature Review enables to identify limitations. [3 Marks]

(ii) In your project Design section explain 'What' each component does and Implementation section explain 'How' each component work.

[3 Marks]

(c) The scientific method is a method or procedure that has characterized natural science since the 17th century. Using Scientific method, discuss "How to make a good coconut scraper?".

[10 Marks]

## Question 03.

(a) Answer the following questions regarding the Scientific writing.

(i) Briefly Explain AIRDaM structures of the Research article. [3 Marks]

(ii) Selecting a title for your manuscript is important part to communicate with your readers. Are you agree with this statement. Explain. [3 Marks]

(iii) Selecting a good conference or journal to publish your article is critical task. Explain why? [3 Marks]

(b) Identify which of the following is/are true? In each case justify your answer.

(i) It is useful to mention further studies in the Abstract. [3 Marks]

(ii) ORCID provides a persistent digital identifier that distinguishes you from every other researcher. [3 Marks]

(c) Use the sample paper given in the Annex 1 and answer the questions given below.

- (i) Use IEEE and Harvard reference styles to write two references of the given paper. [2 Marks]
- (ii) Use the abstract on Annex 1 and identify BPMRC. [3 Marks]
- (iii) Write small review on this paper(only 5 sentences) [5 Marks]

**Question 04.**

- (a) Answer the following questions.
  - (i) Explain why Zotero is useful for Reference Management. [3 Marks]
  - (ii) Discuss features and limitations at LaTeX. [3 Marks]
  - (iii) LaTeX knows several font size modifier-commands. What are they? [3 Marks]
- (b) Identify which of the following is/are true in the LaTeX ? In each case justify your answer.
  - (i) The LaTeX command enumerate gives a numbered list instead of itemize command. [3 Marks]
  - (ii) Latex environment is recursive. [3 Marks]
- (c) Using suitable LaTeX commands implement the document given in the Annex 2. [10 Marks]

— THE END OF PAPER —