Reg No.:	Name:	

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: BE102 Course Name: DESIGN AND ENGINEERING

Max. Marks: 50 Duration: 2 Hours

Instructions: This is an open book examination and the students are permitted to use maximum of 4 text books, class notes, own notes, earlier assignments; but access to mobile phone and internet is not allowed. Exchange of text books/notes not permitted. Add Sketches wherever possible.

PART A

Answer any 6questions, each carries 5 marks.

Marks (5)

1 Give the advantages and limitations of these three designs.

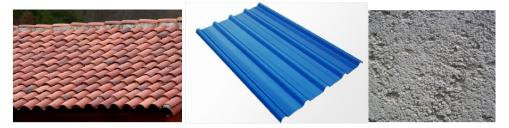


- 2 Sketch the design of a TV remote showing important buttons. (5)
- 3 State the design objectives, design constraints and design function of the fire (5) extinguisher given below.



4 List at least 10 standard parts that are commonly used in a completed residential (5) building.

- 5 Sketch an attachment for a blackboard in a class room for placing the chalks and (5) the remote of the LCD projector securely.
- 6 Identify the design for X of the following roofing materials. Justify your answer. (5)
 i) Tiles ii) Sheets iii) Concrete



- Bring out the features of user centered design and Product centered design with (5) the help of examples for each.
- 8 How modular design is realized in a bicycle? Draw the different modules (5) involved in this product.

PART B Answer any 2 questions, each carries 10 marks.

- 9 Modify the design of the conventional umbrella so that the below mentioned problems can be solved.
 - a) The floor becomes wet once you close the umbrella and put it on the floor after a (5) rain.
 - b) Opening of umbrella in a crowd can hurt people. (5)
- Bring out 2 design changes that will increase the value in case of a waste bin. (10)
- Over years, lot of workers have met with accidents while doing electrical maintenance works as part of their job in KSEB.
 - a) Prepare a questionnaire to be distributed among the employees of KSEB to find (6) out the main reason behind these accidents.
 - b) Assuming that attempting to work on a live line unknowingly is the main reason, (4) suggest a possible solution to avoid such type of accidents. The solution may be explained with the help of layout/ block diagram /sketches.
