Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name :Research Methodology and Biostatistics
Subject Code :MRM301T **Branch: M.Pharm (QA)**
Semester : 3 **Date : 27/11/2018** **Time : 02:30 To 05:30** **Marks : 75**

Instructions:
(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(20)**

a) Experimental error
b) Confounding
c) Input Factors
d) Enlist the sources for research grants
e) Describe different schemes of AICTE for research grant
f) Copyright
g) trademark protection
h) What is Central Composite Design?
i) What are contour diagrams?
j) Fractional factorial design

Attempt the following questions:

Q-2 **Attempt any two of following :** **(20)**

A	What is an invention? Describe the characteristics of patentable inventions.	**10**
B	What is research problem? Describe the criteria for selection of research problem.	**10**
C	What is patent infringement? Describe different types of patent infringement.	**10**

Q-3 **Attempt any Seven of following :** **(35)**

A	'Oral presentation is an art'. Justify the statement giving your comments.	**5**
B	Enumerate contents of research paper. Describe abstract writing in detail.	**5**
C	What is Experiment Design? Discuss fractional factorial designs with its advantages & limitations.	**5**
D	Discuss the contents of form B for preclinical study protocol preparation.	**5**
E	Write note on preparation of clinical trial protocol.	**5**
F	Enlist types of nonparametric test and explain in detail Mann Whitney U test.	**5**
G	Describe advantages and disadvantages of conventional design over experimental design.	**5**
H	Explain in detail chi square test with suitable example.	**5**
I	Explain in detail ANOVA test.	**5**