

GUJARAT TECHNOLOGICAL UNIVERSITY**M. Pharm. – SEMESTER – III • EXAMINATION – SUMMER • 2015****Subject Code: 930001****Date: 11-05-2015****Subject Name: Experimental Design and Patents****Time: 02:30 pm - 05:30 pm****Total Marks: 80****Instructions:**

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1** (a) What are the central composite designs? Discuss the advantages and applications of central composite design. **06**
- (b) Describe various conditions to be satisfied by an invention to be patentable. **05**
- (c) Justify the following statement: 'Poorly designed and analysed experiments can lead to a waste of scientific resources, and may even reach to wrong conclusions'. **05**
- Q.2** (a) Give a brief outline of Plackett Burman design. How are the main effects computed in Plackett-Burman design? **06**
- (b) Explain importance of patent search for scientist. **05**
- (c) Explain in detail non-obviousness with reference to application of patent. **05**
- Q.3** (a) Describe structure and types of patent claim with suitable examples for each. **06**
- (b) Justify the following statement and explain with examples, 'Box-Behnken design: An alternative for the optimization of analytical methods'. **05**
- (c) Enlist important websites related to patent. **05**
- Q.4** (a) Explain importance of laboratory notebook with reference to patent. Explain briefly concept of first to file versus first to invent. **06**
- (b) Write a note on Fractional Factorial Design **05**
- (c) Explain various ways of patent search. **05**
- Q.5** (a) Explain the role of ANOVA analysis in D. O. E. design. **06**
- (b) Write a note on infringement. **05**
- (c) Discuss following terminology with reference to The Patent Rule, 2003 **05**
- i) Restoration of patent ii) Prior publication
- Q. 6** (a) How to develop a prediction polynomial equation that can be used to optimize the response. **06**
- (b) Give recent example of pharmaceutical product patent rejected by supreme court of India. Describe as per 'The Patent act 1970', what are not inventions? **05**
- (c) Write a note on patent addition. **05**

- Q.7**
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| (a) | Describe following terms with reference to D.O.E design with suitable examples | 06 |
| | i. Contour plot | |
| | ii. Pharmacoinformatics | |
| (b) | Explain 'Revocation of patent' in detail as per The Patent act, 1970 | 05 |
| (c) | Write importance and applications of experimental design in Clinical trials. | 05 |
