Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharmacy Sem-III Regular Examination January 2011

Subject code: 930001

Subject Name: Experimental Design & Patents

Date:04 /01 /2011 **Time: 10.30 am – 01.30 pm**

Instructions: **Total Marks: 80**

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

Q.1 (a) What is an "invention"? Describe various conditions to be satisfied by an invention to be patentable. **06**

(b) Write a brief note on cross over design. Explain necessary computational steps in establishment of bioequivalence. **05**

(c) Explain significance of ANOVA in factorial design. **05**

Q.2 (a) Describe importance of and guidelines for preparation of laboratory note book. **06**

(b) State whether the following statement is true or false: **05**

i) Invention related to Atomic energy is patentable.

ii) Form 2 is used for filing request for extension of time.

iii) The provisional patent application has to be filed in regional patent offices, while the complete patent application can only be filed in Kolkata patent office.

iv) It is possible to obtain world patent.

v) The controller can entertain an application for compulsory license only after the expiration of three years from the date of sealing of the patent.

(c) How are data for contour plot generated for polynomial equation? **05**

Q.3 (a) Describe following terminologies: **06**

i) Priority date ii) Revocation of patent iii) Patent of addition

(b) What are central composite designs? Describe advantages and applications of central composite design. **05**

(c) "In a patent application, claim drafting is an art". Justify the statement with examples. **05**

Q.4 (a) Write a note on Response surface method (R.S.M.) **06**

(b) A factorial design was used to investigate the effect of stearate, drug and starch concentration on the thickness of tablet. **05**

Sr. No.	Stearate	Drug	Starch	Thickness of tablet
1	0	0	0	5
2	2	0	0	9
3	0	1	0	8
4	2	1	0	10.8
5	0	0	5	10
6	2	0	5	10
7	0	1	5	16.5
8	2	1	5	16.5

Construct the polynomial equation. Explain the effect of major variables on the thickness of tablet.

	(c)	Design of experiment has important role in assay optimization process. Justify this statement with suitable examples.	**05**
Q.5	(a)	As per chapter III of the Indian Patent Act 1970, what are contents of complete specifications?	**06**
	(b)	Write a note on PCT filing.	**05**
	(c)	Explain with examples, inventions which are not patentable.	**05**
Q. 6	(a)	Explain following terminologies with reference to D.O.E.: i) Interaction ii) Qualitative and quantitative factors iii) Levels	**06**
	(b)	Describe various grounds that can be raised in an opposition proceeding in India.	**05**
	(c)	What is infringement? Explain in detail different types of infringement.	**05**
Q.7	(a)	Give a brief outline of Placket Burman design. How are the main effects computed in Placket-Burman design?	**06**
	(b)	Write a note on trademark protection.	**05**
	(c)	Give a brief overview of websites that provide free information on patents.	**05**

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