Printed Pages: 4 **NBT-021**

(Following Paper ID and Roll No. to be filled in your Answer Books)	
Paper ID : 154666	**Roll No.**

B.TECH.

Theory Examination (Semester-VI) 2015-16

PHARMACEUTICAL BIOTECHNOLOGY

Time : 3 Hours ***Max. Marks : 100***

Section-A

Q1. Attempt all sections. All sections carries equal marks. Write answer of each section in short. **(10×2=20)**

(a) What are the various pharmaceutical concerns and ethical aspects of pharmaceutical biotechnology?

(b) What are the general principles concerning the drug metabolism.

(c) Explain the term moisture-activated dry granulation (MADG) forms.

(d) Illustrate the benefits of Improved Tablet Production Systems.

(e) Define Therapeutic hormones. Also give the Therapeutic uses of growth hormone.

(f) Describe the term Sustained action dosage forms.

(g) What does the terms Pharmaco-kinetics and pharmaco-dynamics imply in pharmaceutical biotechnology?

(h) Show the Gantt Chart Validation Progress process.

(i) What are the various types of reactions in bulk drug manufacture process?

(j) Elucidate the effects of antibody formation on pharmacokinetics and pharmaco-dynamics of protein drugs.

Section-B

Q2. Attempt any five questions from this section. **(5x10=50)**

(a) What do understand by the term Process Validation? Also state the numerous strategies for the process validation.

(b) (i) With the help of Physiological scheme explain the Absorption of Protein Therapeutics in human body.

(ii) What are the four Basic requirements for successful Tablet Production?

(c) Define Laxatives. State its various types and agents with their respective properties. Write down the adverse effects of over use of these substances.

(d) "Biotechnology serves as a complete one-stop source for undergraduate pharmacists, and it is valuable for researchers and professionals in the pharmaceutical industry as well." Justify the statement with your opinions.

(e) (i) What are the various basic unit processes involved in the manufacturing of tablets.

(ii) Write in detail about the analytical methods and tests for numerous drug and pharmaceuticals products.

(f) Show the purpose and scope of the present Current Good Manufacturing Practices (CGMPs) regulations.

(g) Write short notes on the following terms :

(i) Chloride channel activators

(ii) Non-steroidal anti-inflammatory drugs (NSAIDs)

(iii) Applications of female contraceptives.

(iv) Vitamins

(v) Biopharmaceuticals

(h) "The field of pharmaceutical biotechnology is evolving rapidly." Explain the statement with the help of suitable examples.

Section-C

Attempt any two questions from this section. (2×15=30)

Q3. (a) What are the special requirements for the bulk drug manufactures?

(b) With the aid of Schematic diagrams show the typical direct link of PK/PD model.

Q4. (a) How Coating of Pharmaceutical Solid -Dosage Forms being conducted in an industry.

(b) What are the various Particle-Coating Methods employed in an pharmaceutical industries.

Q5. Keeping in mind the image of Insulin Hormone, portrait your answer that should contain the below terms:-

a) The insulin molecule.

b) The insulin receptor and signal transduction.

c) Production of human insulin by recombinant DNA technology.

d) Formulation of insulin products