

[This question paper contains 3 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : **7890** **I**

Unique Paper Code : 3183010015

Name of the Paper : Advances in Pharmaceutical Science

Name of the Course : **B.Sc.(Hons.)
Biomedical Science
(NEP-UGCF)**

Semester : VIII

Time : 2 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) Attempt any **four** questions in **all**. Question **NO.1** is compulsory.
- (c) Subparts of the questions must be attempted together..

1. (a) Define the following (**Any Five**) 2×5=10
- (i) Bioavailability
 - (ii) Excipient
 - (iii) Prebiotic

P.T.O.

- (iv) Ointment
- (v) Drug dissolution
- (vi) New drug approval process
- (b) Differentiate between **(Any Two)** $2 \times 2.5 = 5$
 - (i) Alkaloids and Flavonoids
 - (ii) Biosensors and Biosimilars
 - (iii) Recombinant Engineered Protein and Hormone
- 2. (a) Write short notes on **(Any Three)**
 - (i) Pharmacy Act 1948 $3 \times 5 = 15$
 - (ii) Industrial extraction of phytochemicals
 - (iii) Recombinant vaccine
 - (iv) Sources and Pharmacological uses of Reserpine and Quercetin
- 3. (a) Discuss the methods used for isolation and purification of phytoconstituents. 8
- (b) Define a lead compound and illustrate its systematic development into a modern pharmaceutical drug using pharmacognosy. 7
- 4. (a) Elaborate on the benefits of tablet coating, enlist the various coating materials employed, and explain the working principle of a film-coating equipment. 8

- (b) What is 'personalized medicine'? Discuss its applications in disease management. 7
- 5. (a) Discuss the process and significance of preclinical testing and clinical trials in the new drug approval process. 8
- (b) Using dose-response curves, distinguish between agonists, antagonists, partial agonists, and inverse agonists, illustrating their effects on receptor activation, maximal response, and baseline activity. 7
