

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BPHARM
BRANCH: PHARMACY

SEMESTER : VIII
SESSION : SP/18

SUBJECT: PS8413 PHARMACEUTICAL & BIOMEDICAL POLYMER
TIME: 3.Hours

FULL MARKS: 60

INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) What are different methods of sterilization of implants with examples? [2]
Q.1(b) Define microencapsulation? Write the applications of the same. [4]
Q.1(c) Selection of a solvent for a polymer is very crucial factor. State the various factors to be considered in the above process. [6]
- Q.2(a) Enlist the three major factors on the success of a biomaterial or an implant is highly dependent on and enlist the requirements for an implant with an example. [2]
Q.2(b) Summarize the different methods of preparing polymers with examples and graph. [4]
Q.2(c) Describe the different methods for estimation of polymers. [6]
- Q.3(a) Illustrate the applications polymers with a neat diagram. [2]
Q.3(b) Summarize the uses four natural polymers and synthetic polymers each. [4]
Q.3(c) Compute the various natural proteins and explain the various components in each which effect their quality. [6]
- Q.4(a) What is Coacervation? Mention the factors affecting it? [2]
Q.4(b) Write the different methods of estimations of polymers. [4]
Q.4(c) Write in detail the preparation and applications of nanoparticles and liposomes. [6]
- Q.5(a) Classify biomaterial and give examples of each category. [2]
Q.5(b) Analyze different class of materials used in the body and point out their advantages, disadvantages and uses. [4]
Q.5(c) Compute the various natural polysaccharides and explain the various components in each which effect their quality. [6]
- Q.6(a) Enlist the properties of Polymers for coating applications. [2]
Q.6(b) Preparation of polymer solutions is very vital? Write in detail the different theories in support of this statement. [4]
Q.6(c) Discuss the various mechanisms involved in deterioration of polymers. [6]
- Q.7(a) How a Transplant differs from Implant? Write the advantages and limitations of a transplant? [2]
Q.7(b) State the applications and limitations of Flory-Krigbaum theory. [4]
Q.7(c) Describe the various applications of polymers in drug delivery systems. [6]

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