



All questions are to be attempted

**I- Do as shown between brackets**

**34 marks**

- 1- The coating material should have certain properties. **(Discuss?)** (4 marks)
- 2- Enteric film formers are used for acidity sensitive drugs **(Explain and give 4 examples of the film formers).** (4 marks)
- 3- Coacervation process can be induced by solvent alteration **(Write in details with example of drug prepared by this method).** (5 marks)
- 4- The spray congealing method is used for the preparation of microcapsules. **(Explain and give two examples of drugs prepared by this method).** (4 marks)
- 5- A desirable suspension should be ..... **(Complete)** (3 marks)
- 6- The emulsion is formed depending on some theories. **(Explain these theories)** (3 marks)
- 7- The ideal emulsifying agent has some characteristics. **(Enumerate these characteristics)** (6 marks)
- 8- The colloids have many applications in the pharmaceutical field. **(Show these applications)** (5 marks)

**II- Answer each of the following**

**16 marks**

- 1- How many types of plasticizers? Give two examples of each type. (3 marks)
- 2- Why the interfacial polycondensation method is not exploited? (2.5 marks)
- 3- What are the properties of solid core particles coated by pan coating method? (2 marks)
- 4- Draw a neat labeled diagram for Wurster apparatus of coating. (5 marks)
- 5- Write only the general formula of effervescent granules. (2 marks)
- 6- How can you decrease the settling rate in a suspension? (1.5 marks)

*With our best wishes*  
Prof. Dr. Hassan Mohamed El Subbagh &  
Prof. Dr. Osama A. El-Azeem Soliman