

# 0805

**21819**

**3 Hours / 80 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Illustrate your answers with neat sketches wherever necessary.  
(3) Figures to the right indicate full marks.  
(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Attempt any EIGHT of the following:** **16**
- Give any four reasons for film coating.
  - Explain any four factors affecting size reduction.
  - Define drug and dosage forms.
  - Give the significance of drying.
  - Write the difference between hard and soft gelatin capsule.
  - Find out the proportion of procaine HCL which will yield solution iso-osmotic with blood plasma.  
Given: F.P of 1% procaine HCL =  $-0.122^{\circ}\text{C}$ .
  - Explain tyndallisation process.
  - List the steps involved in slugging method.
  - Write the advantages of water as solvent for extraction.
  - Write the precautions to be taken while placing the material in hot air oven.

P.T.O.

**2. Attempt any FOUR of the following:****12**

- a) Define emulsion and list the different emulsifying agents.
- b) Write the salient features of fourth edition of I.P.
- c) Write any three ideal qualities of packing material and any three disadvantages of glass as a material for packing.
- d) Explain the following evaluation test for tablets. (any one)
  - (i) Friability
  - (ii) Disintegration
- e) Describe aerosol container with labeled diagram.
- f) Explain construction and working of Cutter Mill or Hammer Mill.

**3. Attempt any FOUR of the following:****12**

- a) Explain the working of ball mill with a well labeled diagram and give any two advantages.
- b) Explain construction and working of cyclone separator with a well labeled diagram.
- c) Describe the stages of percolation.
- d) Explain various grades of powders.
- e) Write the applications of simple distillation in pharmacy.
- f) State the following:
  - (i) Arista
  - (ii) Churna
  - (iii) Taila.

- 4. Attempt any FOUR of the following:** **12**
- a) Describe the factors which affect rate of the evaporation of liquid.
  - b) Describe construction of autoclave with diagram.
  - c) Explain working, construction of fitter leaf with neat diagram.
  - d) Describe working of FBD with well labeled diagram.
  - e) Explain the types of immunity.
  - f) Describe the process of manufacturing of hard gelatin capsules.
- 5. Attempt any FOUR of the following:** **12**
- a) Describe the method of preparation of BCG vaccine with dose, storage and uses.
  - b) Give the significance of sterilization using bactericidal solution, explain the method and name the bactericidal agents.
  - c) Describe the method of distillation for immiscible solutions.
  - d) Explain the construction and working of triple roller mill.
  - e) Write the stages involved in sterilization of surgical dressings.
  - f) How will you prepare 5 fl. Oz solutions and using that prepare a 5 litre 1 in 2000 solution?
- 6. Attempt any FOUR of the following:** **16**
- a) Explain any four manufacturing defects in tablet manufacturing.
  - b) What is aseptic technique? List the various sources of contamination and explain the sterility test.
  - c) Find the volume of 20%, 15%, 10% and 8% alcohol should be mixed to get 12% alcohol 300 ml.
  - d) Define mixing, explain the types and mechanism of mixing.
  - e) Discuss novel drug delivery systems.
  - f) Explain the method of hot percolation process with well labeled diagram and write its limitations.
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11819

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**Marks**

1. Answer any TEN of the following: 20
- Define following terms:
    - Syrup
    - Cream
  - Enlist the ideal qualities of container.
  - Explain any four factors affecting size reduction.
  - Describe simple maceration process.
  - List the precautions to be taken while using hot air oven.
  - Explain friability test for evaluation of tablets.
  - Differentiate between Endotoxin and Exotoxins.
  - Name various Novel Drug Delivery systems.
  - Enlist the ideal qualities of filter aid.
  - Write the disadvantages of formaldehyde gas when used for sterilization.

P.T.O.

- k) Differentiate between hard and soft gelatin capsules.
- l) Describe the types of mixing.

**2. Answer any FOUR of the following: 12**

- a) Define and classify dosage forms.
- b) Explain the construction and working of ball mill.
- c) Define extraction and explain reverse percolation process.
- d) Give any two applications of simple distillation. Describe method of separation for two immiscible liquids.
- e) Explain construction and applications of tray dryer.
- f) In what volume 30%, 25%, 18% alcohol should be mixed to get 500 ml 20% alcohol?

**3. Answer any FOUR of the following: 12**

- a) Define and classify immunity.
- b) Define container and closure. Draw a well labelled diagram of Aerosol container.
- c) Write construction and disadvantages of short tube evaporator.
- d) Explain any four factors affecting filtration. Draw well labelled diagram of leaf filter.
- e) Define the official grades of powders according to I.P.
- f) Define Menstrum, and Mark. Write the advantages of Alcohol as Menstrum.

**4. Answer any FOUR of the following: 12**

- a) With a well labelled diagram explain the construction of Autoclave.
- b) Give any three importance of dosage forms. Differentiate between mouthwash and gargle.
- c) Write any six salient features of IV<sup>th</sup> edition of I.P.

- d) Find the amount of sodium chloride required to make 0.5% Ephedrine HCL isotonic with blood plasma. (Given F.P. 1 %, w/v solution of ephedrine HCL =  $-0.165^{\circ}\text{C}$ )
- e) Write the advantages of micro encapsulation and list different methods of micro encapsulation.
- f) Explain theory and construction of FBD.

**5. Answer any FOUR of the following: 12**

- a) Explain any one method for preparation of small pox vaccine.
- b) Describe method for preparation of soft gelatin capsule using rotary machine.
- c) Draw a labelled diagram of apparatus used for continuous hot extraction process. Mention limitations of the process.
- d) Explain the construction and working of filter press.
- e) Explain the construction and working of Silverson mixer homogenizer.
- f) Explain the following manufacturing defects of tablets :
  - (i) Capping and lamination
  - (ii) Picking and sticking

**6. Answer any FOUR of the following: 12**

- a) Write construction and working of cyclone separation.
  - b) Give principle, method and applications of sterilization using UV radiation.
  - c) Define evaporation and explain any four factors affecting evaporation.
  - d) List the various equipment used for liquid mixing and explain how Vortex Formation can be avoided in liquid mixing.
  - e) Define tablet. Enlist various excipients used in tablet manufacturing with one example each.
  - f) Give advantages and disadvantages of glass as a material used for pharmaceutical containers and state its types.
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# 0805

**21718**

**3 Hours / 80 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
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**Marks**

1. **Answer any EIGHT of the following:** **16**
- Name some of the modern dosage forms.
  - In which year the various editions of pharmacopoeia of India came out?
  - Define ‘Containers’. What are the basic materials used in making of containers?
  - What are the various factors which affect the size reduction of drugs?
  - Name the various standards of sieves.
  - Give the list of equipments used for mixing of semi-solids.
  - Name the factors which affects the rate of filtration.
  - What is ‘Water for Injection’?
  - What are the two main steps in drying of materials?
  - Give a list of chemicals which are used as bactericide.
  - What does the term “Desiccation” mean?
  - Differentiate between fine powders and granules.

P.T.O.

- 2. Answer any FOUR of the following:** **12**
- a) Define 'Viscosity'. Write its applications in pharmacy.
  - b) What are the equipments used for mixing of liquids? Give in detail about 'Propeller Mixer'.
  - c) Explain the construction and working of 'Meta filter'.
  - d) Write the qualities of an ideal filter aids. Give examples of filter aid.
  - e) Why imbibition is necessary before packing of the drug into the percolator?
  - f) Write in detail about modified percolation process.
- 3. Answer any FOUR of the following:** **12**
- a) Explain how heat is transferred from the source of the article.
  - b) Explain with the help of a neat sketch one of the evaporators covered under the group of natural circulation evaporators.
  - c) Explain with a neat sketch the working of the apparatus used for distillation on a laboratory scale.
  - d) Explain the theory of fractional distillation.
  - e) Write the applications of drying.
  - f) Write the advantages and disadvantages of fluidised bed dryer.
- 4. Answer any FOUR of the following:** **12**
- a) Classify the different methods of sterilization.
  - b) Describe dry heat method of sterilization in detail.
  - c) Name the various manufacturing defects in tablets.
  - d) Describe in brief about dissolution test for tablets.
  - e) Write the approximate capacity in mg of a capsule having number 000, 0, 1, 2, 4 and 5.
  - f) Differentiate between hard gelatin capsule and soft gelatin capsule.



**5. Answer any FOUR of the following:****12**

- a) What are the different types of vaccines? Write the method of preparation of small pox vaccine.
- b) Discuss natural immunity in brief.
- c) Differentiate between maceration process for organised drugs and unorganised drugs.
- d) Write the importance of dosage forms.
- e) Write the salient features of third edition of Indian pharmacopoeia.
- f) Calculate the percentage of sodium chloride required to make a 1% solution of hyosine hydrobromide ISO-Isometric with body fluid. The sodium chloride equivalent of 1% hyosine hydrobromide = 0.12.

**6. Answer any FOUR of the following:****16**

- a) Give the full form of B.C.G. Discuss in brief about B.C.G. vaccine.
  - b) Explain the different types of excipients used in formulation of tablets with suitable examples of each.
  - c) Discuss in brief freeze drying.
  - d) Define the term 'Closures'. Write in detail about different types of closures commonly used in pharmaceutical industry.
  - e) Give the principle construction and working of hammer mill with a neat diagram.
  - f) Name different methods of size separation. Explain any one with a neat labelled diagram.
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**11718**

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**Marks**

- 1. Answer any EIGHT of the following:** **16**
- Why glycerine is used as a base in throat paints?
  - Define the term “Pharmacopoeia”.
  - Why glass containers are not preferred these days.
  - Write the importance of particle size reduction in pharmacy.
  - Define the terms ‘size separation’ and ‘sieve’.
  - Name the different mechanisms which are applicable in mixing of powders.
  - Name the commonly used filter aids.
  - What are the different types of distillation?
  - Write the application of spray dryer.
  - Explain the term ‘pasteurisation’.
  - Discuss in brief about B.C.G. vaccine.
  - Describe in brief ‘churnas’.

P.T.O.

**2. Answer any FOUR of the following:****12**

- a) Differentiate between active immunity and passive immunity.
- b) What are the main objectives of mixing? Give the list of equipments used for mixing of semi-solids.
- c) Differentiate between filtration and clarification. Enlist the various filter media used in pharmacy.
- d) Explain the construction and working of 'filter candle'.
- e) Write the advantages and disadvantages of tablets.
- f) Explain in detail about maceration with adjustment. How does it differ from simple maceration process?

**3. Answer any FOUR of the following:****12**

- a) Write the advantages and disadvantages of an evaporating pan.
- b) Define the terms :
  - (i) Sublimation
  - (ii) Evaporation
- c) Write the applications of simple distillation in pharmacy.
- d) How will you separate two immiscible liquids in pharmacy?  
Draw a labelled sketch of the apparatus used in the laboratory.
- e) Discuss the theory construction and working of freeze drying apparatus.
- f) Discuss in brief about. Gaseous sterilization.

**4. Answer any FOUR of the following:****12**

- a) Write in detail about moist heat method of sterilization.
- b) Explain the term 'aseptic techniques'. What are the various points to be considered while designing an aseptic room?
- c) Discuss in brief about moist granulation method.
- d) Why coating of tablet is done? What are the different methods of coating?
- e) Why ophthalmic ointments are now a days packed in capsules?
- f) What should be the properties of powder to be filled in hard gelatin capsules?

**5. Answer any FOUR of the following:****12**

- a) Write in brief about 'Mantoux test'.
- b) Explain the term 'Immunological products'. Discuss any one vaccine in brief.
- c) Discuss in brief about 'Multiple Maceration'.
- d) Why plastic containers are more commonly used now a days? Write its demerits.
- e) Explain the factors which affect the rate of evaporation of a liquid.
- f) Calculate the quantity of 60% alcohol required to make 500 ml of 20% alcohol.

**6. Answer any FOUR of the following:****16**

- a) Define 'Homogenisation'. Write the principle of homogenisation. Write in detail about 'Colloidal Mill'.
  - b) Draw a well labelled diagram of 'Soxhlet apparatus'. Mention the various limitations of continuous hot percolation process.
  - c) Give in brief the history of the 'Pharmacopoeia of India'.
  - d) How will you classify different dosage forms?
  - e) Write the principle, construction, working and uses of the disintegrator.
  - f) Describe the principle, construction, working and uses of cyclone separator.
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# 0805

**11920**

**3 Hours / 80 Marks**

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**Marks**

1. **Answer any EIGHT of the following:** **16**
- a) Define:
    - (i) Sieve number
    - (ii) Pharmaceutical aid
  - b) Define and classify Immunity
  - c) Give disadvantages of glass.
  - d) Mention precautions to be taken while using eye drops.
  - e) Give reason why Glycerine is added in throat paints?
  - f) Mention different mechanisms used for size reduction.
  - g) Draw a labelled diagram of filter candle.
  - h) What are Galanicals?
  - i) Name any two polymers used for film and enteric coating.
  - j) State difference between syrup and elixir.
  - k) List different excipients used in processing of capsule.

P.T.O.

- 1) Give metric equivalents for:
- (i) One pint
  - (ii) One fluid drachm
  - (iii) One teaspoonful
  - (iv) 15 grains

**2. Answer any FOUR of the following: 12**

- a) Define sterilization. Classify different methods used for sterilization.
- b) Give principle, working and use of fluidized bed drier.
- c) Define capsule. Differentiate between hard and soft gelatin capsules.
- d) Mention advantages and disadvantages of plastic containers.
- e) Give salient features of III<sup>RD</sup> edition of I.P.
- f) How many tablets, each containing 8.75 gr of mercuric chloride will be required to make one quart of a 0.05% solution?

**3. Answer any FOUR of the following: 12**

- a) Define and classify different types of tablets.
- b) Give principle working and use of autoclave.
- c) Based on Darcy's law, discuss different factors which affect rate of filtration.
- d) Define and discuss different types of containers.
- e) Draw a neat labelled diagram showing steam distillation at Laboratory scale.
- f) How any ml of 80%, 60%, and 50% of alcohol to be mixed to obtain 100 ml of 70% alcohol?

- 4. Answer any FOUR of the following:** **12**
- a) Define Drug. Classify different types of dosage forms with examples.
  - b) Discuss working of freeze dryer.
  - c) Explain why there is need of different dosage form.
  - d) Give advantages, disadvantages and applications of sterilization by ionising radiation.
  - e) Mention different methods used for size separation. Explain any one.
  - f) Write in brief about special applications of capsules.
- 5. Answer any FOUR of the following:** **12**
- a) Define Pharmacopoeia. Discuss history of Indian Pharmacopoeia.
  - b) Explain working of fluid energy mill with a neat diagram.
  - c) Define evaporation explain any four factors affecting rate of evaporation.
  - d) Describe various stages of sugar coating.
  - e) What is aseptic technique? State it's importance.
  - f) Mention different types of closures. Comment on materials used for making closures.



**6. Answer any FOUR of the following:****16**

- a) Discuss different official grades of powders according to I. P 2010
  - b) Classify different methods used for extraction. Draw a labelled diagram of Soxhlet extractor.
  - c) Mention all Q.C tests to be performed on tablets. Explain any one in detail.
  - d) Define the term vaccine. Discuss the method of preparation of small pox vaccine using animals.
  - e) What are NDDS? Differentiate between sustained and controlled release dosage forms.
  - f) Suggest an instrument for following operations.
    - (i) Drying of thermolabile drug
    - (ii) Film coating of tablet
    - (iii) Sterilization of powder
    - (iv) Preparation of WFI I.P.
    - (v) Size reduction of Brittle drug
    - (vi) Mixing of ointment.
    - (vii) Classification of syrups
    - (viii) Preparation of emulsion.
-