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SEAT No. :

PA-863

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[5940]-3001

S.Y. B. Pharmacy

BP301T : PHARMACEUTICAL ORGANIC CHEMISTRY - II
(2019 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

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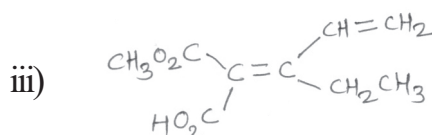
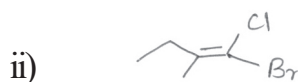
Q1) Answer any five (3 marks each):

[15]

- a) Write medicinal uses of phenanthrene.
- b) Differentiate fats and oils.
- c) Aniline is less basic than ethylamine. Give reason.
- d) Draw resonating structures of following.
 - i) Benzoic acid
 - ii) Aniline
 - iii) Phenol
- e) Describe any one method to determine Reichert Meissl (RM) value with its significance.
- f) Explain significance of & reactions of hydrolysis and hydrogenation of oils and fats.
- g) Assign E/Z configuration.

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Q2) Answer any 2 (10 marks each): **[20]**

- a) What are phenols? Explain acidity of phenols. Write any three methods of preparation and three reactions of phenols.
- b) What is aromatic electrophilic substitution reaction? Mention any three types. Write down the mechanism of Friedel Crafts Alkylation.
- c) Explain diazotization reaction of aromatic amine in detail along with various products.
- d) Write synthesis, reactions, structure and medicinal uses of Naphthalene.

Q3) Answer any 8 (5 marks each): **[40]**
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- a) Hydroxyl group is ortho-para director. Explain.
- b) Explain the effect of amino and chlorine substituent on bromination of benzene.
- c) Discuss the stability of cycloalkanes.
- d) Write synthesis and chemical reactions of Naphthalene.
- e) Give any two reactions of cyclopropane & cyclobutane.
- f) Explain preparation methods of amines.
- g) Explain Sandmeyer reaction in detail along with various products.
- h) Define meso compounds with suitable examples.
- i) Write structure, synthesis and medicinal uses of Naphthalene.
- j) Explain structure, synthesis and medicinal uses of Diphenylmethane.

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Q3) Answers any eight:

[8×5=40]

- a) Polymorphism. <https://pharmacyindia.co.in/>
- b) One component system.
- c) Pharmaceutical & biological buffers.
- d) Glass transition temperature.
- e) Protein binding. <https://pharmacyindia.co.in/>
- f) Du Niioy ring method for determination of surface tension.
- g) Solute-solvent interactions.
- h) Adsorption isotherms. <https://pharmacyindia.co.in/>
- i) Methods of crystal analysis.
- j) Surface free energy.

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SEAT No. :

PA-865

[Total No. of Pages : 2

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[5940]-3003

S.Y. B. Pharmacy

BP 303 T : PHARMACEUTICAL MICROBIOLOGY

(2019 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

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- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

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Q1) Attempt any 5 out of 7.

[5×3=15]

- a) Discuss various branches of microbiology.
- b) Differentiate between prokaryotes and eukaryotes.
- c) Describe various methods used to cultivate anaerobic bacteria.
- d) Explain in short clean area classification.
- e) Enlist factors affecting microbial spoilage. <https://pharmacyindia.co.in/>
- f) Give classification of viruses.
- g) Distinguish between prebiotics & probiotics.

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Q2) Attempt any 2 out of 4.

[2×10=20]

- a) Define culture media. Discuss different types of culture media along with its examples.
- b) Define sterilization. Enlist different methods of sterilization. Discuss dry & moist heat sterilization. <https://pharmacyindia.co.in/>
- c) Write in detail identification of bacteria by staining technique.
- d) Define microbial assay. Discuss different methods used for microbial assay of antibiotics.

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Q3) Attempt any 8 out of 10.

[8×5=40]

- a) How will you identify E. coli as a source of contamination?
- b) Write a note on phase contrast microscopy. <https://pharmacyindia.co.in/>
- c) Explain growth curve of bacteria.
- d) Write a note on LAF.
- e) Discuss mechanical method of sterilization.
- f) Write a note on fungi. <https://pharmacyindia.co.in/>
- g) Discuss applications of cell culture in pharma industry.
- h) Discuss various physical parameters required for growth of bacteria.
- i) Discuss various methods adopted for isolation of bacteria.
- j) Write a note on sterility indicators.

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SEAT No. :

PA-866

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S.Y. B. Pharmacy
PHARMACEUTICAL ENGINEERING
(2019 Pattern) (Semester - III) (BP304T)

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Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

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Q1) Answer the following questions any five. **[15]**

- a) Classify the materials of plant construction. Explain the use of ferrous metals.
- b) What is Reynold's Number? Write its significance. <https://pharmacyindia.co.in/>
- c) Classify evaporators. Explain the term evaporator capacity.
- d) Define distillation. Draw a neat and labelled diagram showing simple distillation assembly arrangement for lab scale processing.
- e) What are filter aids? List the functions of filter aids.
- f) Write a note on mechanisms of mixing for liquids.
- g) Explain: Elutriation tank. <https://pharmacyindia.co.in/>

Q2) Attempt any two from the following questions. **[20]**

- a) Define size reduction. What are its objectives? With the help of neat diagram describe in detail Ball Mill.
- b) What do you understand by "Multiple Effect Evaporator"? Describe one such evaporator. How do you feed such Evaporator? <https://pharmacyindia.co.in/>
- c) Explain the principle, construction, working uses, merits and demerits of perforated basket centrifuge. <https://pharmacyindia.co.in/>
- d) Describe in detail objectives, applications and mechanisms of heat transfer. Add a note on: Black body and Grey body. <https://pharmacyindia.co.in/>

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Q3) Attempt any Eight of the following questions.

[40]

- a) Explain the Bernoulli's theorem with its applications. <https://pharmacyindia.co.in/>
- b) Describe the mechanism and laws governing size reduction.
- c) Explain principle, construction & working of Sieve Shaker.
- d) Write a note on heat exchangers. <https://pharmacyindia.co.in/>
- e) Explain principle, construction & working of climbing film Evaporator.
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- f) Explain the fractional distillation with suitable example.
- g) Explain the mechanism of drying process. <https://pharmacyindia.co.in/>
- h) Explain the mechanism of solid mixing.
- i) Describe principle, construction & working of Plate & Frame filter.
- j) Explain the types of corrosion and their prevention.

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