

Total No. of Questions : 3]

P8911

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[6110]-492

Second Year B.Pharmacy

BP-304T : PHARMACEUTICAL ENGINEERING

(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 diagram 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) Explain the term Entrainment. How it is prevented?
- b) What is size reduction? Discuss its objectives.
- c) Define evaporation and drying. Give the differences between them.
- d) Classify the materials of plant construction. Explain ferrous metals.
- e) Define corrosion. List the types of corrosion. What is the effect of pH on corrosion?
- f) Name any two mechanisms of size separation. Explain any one.
- g) Define mixing. Distinguish solid and liquid mixing.

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Q2) Attempt any two from the following questions.

[20]

- a) Categorize the types of filters. Describe principle, construction and working of plate and frame filter press.
- b) What do you understand by "multiple effect evaporator"? Describe one such evaporator. How do you feed such evaporator?
- c) Explain the principle, construction, working and applications of Hammer mill.
- d) Explain principle, construction and operational details of Freeze dryer. Summarize its pharmaceutical applications also.

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Q3) Attempt any eight of the following questions.

- a) Explain Orifice meter in detail.
- b) Classify evaporators. Describe construction and working of Horizontal Tube Evaporator.
- c) Describe construction, working and uses of silverson emulsifier.
- d) Write a descriptive note on types of stainless steel, composition and uses.
- e) Explain Rotary Drum Filter.
- f) Explain construction, working and uses of Ball Mill.
- g) Write about Non-perforated basket centrifuge.
- h) What is sieving? Explain official standards of powders.
- i) What are filter aids? Discuss in brief.
- j) Explain Reynolds's Number with its significance.

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SEAT No. :

[Total No. of Pages : 2

P8910

[6110]-491

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S. Y. B. Pharmacy

BP303T : PHARMACEUTICAL MICROBIOLOGY

(2019 Pattern) (Semester - III) (Theory)

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Time : 3 Hours]

[Max. Marks : 75

Instructions to the candidates:

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

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Q1) Answer the following (any five)

[5×3=15]

- a) Differentiate between Gram positive and Gram negative bacterial cell.
- b) Define
 - i) D Value
 - ii) Z Value
 - iii) Culture media
- c) Write the importance of fungi.
- d) Enlist different factors influencing disinfectant action.
- e) Enlist different sources of contamination in an aseptic area.
- f) Write a function of flagella, pili and cell wall.
- g) Comment "Moist heat sterilization is more superior to dry heat sterilization".

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Q2) Answer the following (any two)

[2×10=20]

- a) Write in detail the different sources and types of microbial contamination of pharmaceutical products. Write a note on assessment of microbial contamination and spoilage.
- b) Write in detail identification of bacteria using different staining techniques.
- c) Define culture media and explain different types of culture media.
- d) What is microbiological assay? Discuss in detail general methods used for microbial assay of antibiotics as per I.P.

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Q3) Answer the following (any eight).

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- [8×5=40]
- Write working, applications, advantages & limitations of autoclave.
 - Write in detail growth curve of bacteria. <https://pharmacyindia.co.in/>
 - Explain the different methods used for isolation of pure cultures.
 - Explain the different methods used for cultivation of human viruses.
 - Describe in detail chemical agents as disinfectants. <https://pharmacyindia.co.in/>
 - Explain different branches of microbiology. <https://pharmacyindia.co.in/>
 - Write a note on Dark field microscopy.
 - Write a note on laminar air flow equipments
 - Write preservation of pharmaceutical products using antimicrobial agents
 - Explain in detail the applications of cell culture in Pharmaceutical industry and research.

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2019 Pattern
SEM - III

Total No. of Questions : 3]

Visit - pharmacyindia.co.in SEAT No. :

[Total No. of Pages : 2

P8909

[6110]-490

S.Y. B. Pharmacy

BP302T : PHYSICAL PHARMACEUTICS - I
(2019 Pattern) (Semester - III)

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[Max. Marks : 75

Time : 3 Hours]

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:

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[5×3=15]

- a) What are optically active substances?
- b) Define critical constants with examples.
- c) Explain mechanism of detergency.
- d) Explain the Fick's first law of diffusion.
- e) State Bragg's equation.
- f) What do you understand by buffer capacity?
- g) Explain significance of van der Waal's constants for real gases.

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Q2) Attempt any two:

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[2×10=20]

- a) Elaborate on Raoult's law and its deviations with the help of examples.
- b) Explain principle of capillary rise method and drop pipette method for determination of surface tension. Write a note on spreading coefficient.
- c) Classify surfactants with examples. Give HLB scale and write a note on micellar solubilisation.
- d) Explain Nernst's distribution law and significance of partition coefficient.

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Q3) Answer any eight.

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- a) Explain phase diagram of phenol water system.
- b) Explain about different methods for pH determination.
- c) Write a note on dissociation constants and its applications in pharm.
- d) Write a note on polymorphism. <https://pharmacyindia.co.in/>
- e) Explain Freundlich & Langmuir's adsorption isotherms.
- f) Significance of biological buffers.
- g) Enlist factors affecting solubility of gases in liquids. <https://pharmacyindia.co.in/>
- h) Glass transition temperature. <https://pharmacyindia.co.in/>
- i) Elaborate on colligative properties. <https://pharmacyindia.co.in/>
- j) Explain principle of liquefied propellant systems in aerosols. <https://pharmacyindia.co.in/>

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Total No. of Questions : 3]

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SEAT No. :

SEM-III

P8908

[6110]-489

[Total No. of Pages : 2

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Second Year 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) Figures to the right indicate full marks.

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Q1) Attempt the following (Any Five).

[5×3=15]

- a) Explain Huckel's rule with example.
- b) Explain the preparation of diazonium salt.
- c) Assign E and Z configuration.

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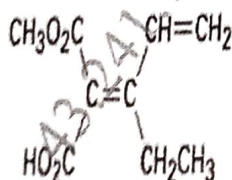
i)



ii)



iii)



- d) Define saponification value. Give its significance.
- e) Draw the structure of resorcinol, α -naphthol and β -naphthol.
- f) Write qualitative tests for phenols (any 3).
- g) Aniline is less basic than ethylamine. Give reason.

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Q2) Attempt the following (Any Two).

- [2×10=20]
- What is aromatic electrophilic substitution reaction? Mention any three types. Write down the mechanism of Friedel-Craft alkylation.
 - Discuss structure, reactions, synthesis and medicinal uses of following polycyclic compounds.
 - Phenanthrene
 - Naphthalene
 - Explain the stability of cycloalkanes along with Baeyer's strain theory and Coulson and Moffitt's modification in details.

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Q3) Attempt the following (Any Eight)

- [8×5=40]
- Explain Friedel-Craft's alkylation along with reactivity, limitations.
 - What are amines. Classify with example.
 - Discuss in detail theory of strainless rings.
 - Comment on Basicity of amines with example.
 - Write uses of resorcinol, naphthols, Phenol, Aryl diazonium salts, diphenylmethane. <https://pharmacyindia.co.in/>
 - Write Synthesis, reactions and structure and medicinal uses of Anthracene. <https://pharmacyindia.co.in/>
 - Write Synthesis, reactions of triphenylmethane.
 - Explain in detail Geometrical isomerism.
 - How will you distinguish primary, secondary and tertiary amines by Chemical test. <https://pharmacyindia.co.in/>
 - Explain Nitration and Halogenation of benzene in details.

