

Printing Pages :2

Paper Code: BP-301T

A (SVSU:2023-24/R)

Enrollment No.														
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B.PHARM
IInd YEAR, III SEMESTER EXAMINATION
PHARMACEUTICAL ORGANIC CHEMISTRY II
(BP301T)

[Time : 3:00 Hours]

[Max. Marks : 75]

I Long Question : Answer Any Two

[10×2=20]

1. Give Preparation, chemical reactions and uses of Anthracene.
2. Discuss Preparation, chemical reactions and uses of benzene.
3. Write Preparations, chemical reactions & uses of Cycloalkane.

II. Short Question: Answer any Seven

[5×7=35]

1. Write structure and uses of BHS & DDT.
2. Discuss effect of substituents on acidity of phenols.
3. Explain basicity of aromatic amines and effect of substituent.
4. Explain Baeyer strain theory of stability of Cycloalkanes and give its limitations.
5. Give structures, synthesis, reactions and uses of Naphthalene.
6. Give synthesis and reactions of benzoic acid.
7. Sachse-Mohr theory of stability of cycloalkanes
8. Discuss fatty acids reactions
9. Explain saponification value, iodine no. and Acid value of a fat/oil.

III. Objectives Question: Answer All Question

[20×1=20]

1. Which of the following compounds are more basic?
a.) Aniline b.) Benzylamine (c) Acetanilide d.) Nitro aniline
2. Phenol used as
a.) Antiseptic b.) Disinfectant c.) as anesthetic agent d.) All of these
3. Which of the following compound is aspirin
a.) Methyl salicylate (b) Salicylic acid
(c) Phenyl salicylate (d) Acetyl salicylate
4. Which of the following is not aromatic carboxylic acid
a.) Malonic acid (b) Acetic acid (c) Picric acid (d) None
5. Liquid oils converted in to Solids fats by
a.) Hydrolysis (b) Hydrogenation (c) Saponification no. (d) None
6. Alkaline hydrolysis of oils is called
(a) Diazotisation (b) Fermentation
(c) Saponification (d) Rancidification

7. Oleic acid containing
(a) 12 carbons (b) 14 carbons (c) 16 carbons (d) 18 carbons
8. BHC is used as
a.) Indicators b.) Insecticide c.) Antiseptic d.) None of these
9. Indicator is formed by
a.) Cresol b.) Benzene c.) Phenol d.) None
10. Number of pi electrons in benzene ring
a) 2 b) 6 c) 6 d) None of these
11. Basicity of aniline increases in the presence of
a.) Nitro group b.) Chloro group
c.) Methyl group d.) None
12. Acidity of Benzoic acid increases in the presence
a.) Electron donating group b.) Electron attracting group
c.) Both d.) None
13. Huckel rule states that
a.) $4n$ electrons b.) pi electrons
c.) $2n+2$ pi electron d.) $4n+2$ pi electron
14. Which mechanism an aromatic compounds react by
(a) Addition Reaction (b) Substitution Reaction
(c) Elimination reaction (d) None
15. Which of the following statements is incorrect: aromatic compounds
(a) Are planer (b) have cyclic
(c) 6 pi electron (d) 7-membered ring
16. Benzoic acid reacts with phenol to form
a.) Acid b.) Base c.) Ester d.) Ether
17. Nitrating Mixture is
a.) SO_4 b.) H_2CO_3
c.) $\text{Con H}_2\text{SO}_4$ and Con HNO_3 d.) None of these
18. Kolbe Reaction is given by
a.) Benzoic b.) Phenol
c.) Chlorobenzoic acid d.) Dichlorobenzoic acid
19. Synthetic detergents represented by
(a) RONa (b) ROSO_3Na
(c) RCOONa (d) RCOOH
20. The degree of unsaturation of a fat can be determined by
(a) Acid value (b) Iodine value
(c) Saponification no. (d) R. M Value

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B.Pharm

II YEAR, III SEMESTER EXAMINATION

Subject Name- Physical Pharmaceutics-I, BP-302T

[Time : 3:00 Hours]

[Max. Marks : 75]

I. Multiple Choice Questions (MCQ)

[20×1=20]

1. At critical temperature, surface tension of the liquid becomes
 - a. Higher
 - b. Lower
 - c. Zero
 - d. No effect
2. Unit of surface tension is
 - a. Newton/meter
 - b. Dynes
 - c. Poise
 - d. None
3. Which substance decreases the surface tension of water?
 - a. Span
 - b. methanol
 - c. sodium chloride
 - d. sucrose
4. The HLB range for hydrophilic surfactants is
 - a. 2 to 9
 - b. 9-16
 - c. 16-20
 - d. above 20
5. In detergency removal of insoluble dirt form an emulsion
 - a. deflocculated
 - b. flocculated
 - c. Stable
 - d. none
6. The DuNouy ring method is convenient when sample size is
 - a. lage
 - b. small
 - c. any size
 - d. all
7. Which complex is used as an electrode in pH determination?
 - a. layer types
 - b. clathrates
 - c. chelates
 - d. quinhydrone
8. PABA-Caffeine complex analysis can be done by
 - a. distribution method
 - b. solubility method
 - c. pH titration method
 - d. None
9. Physical stability of Vitamin A and D can be enhanced by complexation with
 - a. EDTA
 - b. Caffeine
 - c. β cyclodextrin
 - d. BAL
10. Carbon dioxide circulates in the living body by means of
 - a. Agglomeration
 - b. Aggregation
 - c. Diffusion
 - d. Flocculation
11. What is the effect of chemical reactions on solubility of liquid-gas solution?
 - a. Increases
 - b. Decreases
 - c. No effect
 - d. Both A and B
12. Inclusion complexes are also known as
 - a. Acculsion
 - b. Exclusion
 - c. Reclusion
 - d. Occlusion
13. Buffer index is also known as
 - a. Buffer efficiency
 - b. Buffer value
 - c. Both
 - d. None
14. In biological buffer system plasma is buffer
 - a. secondary
 - b. Primary
 - c. tertiary
 - d. None

15. Which one of the following is an isotonic solution
 a. 0.9N NaCl b. 0.09N NaCl c. 0.1N NaCl d. 0.01N NaCl
16. A phase exists between liquid and crystalline state is known as
 a. Metaphase b. polymorph c. mesophase d. solid crystals
17. Above which temperature, no liquefaction of gas possible
 a. Absolute b. Critical c. Boiling point d. None
18. Polymorphs are differing in
 a. Molecular weight b. Molecular number c. Shape d. crystalline structure
19. Which property is similar in case of eutectic mixtures?
 a. Boiling point b. Melting point c. Surface tension d. Lattice arrangement
20. Refractive index is equal to
 a. Speed of light in material/speed of light in vacuum
 b. Speed of light in material/speed of light in air
 c. Speed of light in vacuum/speed of light in material
 d. Speed of light in vacuum/speed of light in air

II. Long Answers (Answer 2 out of 3)

[2×10=20]

1. What are the methods to measure surface tension of a given liquid?
2. What are different methods of analysis for complexation?
3. Write in detail about buffers in pharmaceutical and biological system.

III. Short Answers (Answer 7 out of 9)

[7×5=35]

1. What you know about HLB scale? Write its estimation methods
2. Describe the phenomenon of detergency.
3. What are the factors affecting solubility of gases in liquids?
4. What are ideal and real solutions?
5. Write a note on partially miscible liquids and critical solution temperature.
6. What is the application of buffer in pharmacy?
7. Write a note on buffer capacity. Give suitable example.
8. What are buffered isotonic solutions?
9. Write about adsorption at solid interface.

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Paper Code: BP-303 T

A (SVSU:2023-24/R)

Enrollment No.

B.PHARM

3rd SEMESTER, 2nd YEAR EXAMINATION

Subject Name: Pharmaceutical Microbiology

Subject Code: BP 303T

[Time: 3:00 Hours]

[Max. Marks: 75]

Section-A

Q1. Attempt ALL questions.

(20X1=20)

- a) Staining material of gram positive bacterium is..
 (i) Fast green (ii) Haematoxylin (iii) Crystal violet (iv) Safranin
- b) Testing which confirms that products are free from the presence of viable microorganisms is known as
 (i) Minimum inhibitory coefficient (ii) Sterility testing (iii) Pyrogen testing (iv) None of these
- c) DNA present in bacteria is
 (i) Single, circular (ii) Single, linear (iii) Single, crossed (iv) Double, circular
- d) Which of the following methods are used for obtaining pure culture of microorganisms?
 (i) Streak plate method (ii) Pour plate method (iii) Spread plate method (iv) All of above
- e) The stain which differentiates two groups of bacteria in a mixture is known as
 (i) Negative stain (ii) Simple stain (iii) Differential stain (iv) Indirect stain
- f) The mycelium is complex of several filaments called
 (i) Lumen (ii) Hyphae (iii) Septum (iv) Plasmalemma
- g) Which of the following are chemical indicators of sterilization?
 (i) Browne's tube (ii) Witness tube (iii) Royce sachet (iv) All of above
- h) Test based on the rise of body temperature of rabbit is
 (i) Minimum inhibitory coefficient (ii) Sterility testing (iii) Pyrogen testing (iv) None of these
- i) Microorganisms which grow in absence of oxygen are called
 (i) Aerobic (ii) Microscopic (iii) Anaerobic (iv) None of above
- j) Citrate utilization test is usually performed on
 (i) Simmon's citrate agar (ii) Chocolate agar (iii) Nutrient agar (iv) MacConkey agar
- k) The process of autoclaving is
 (i) Only vegetable cell gets killed (ii) Spores and vegetative cell gets killed
 (iii) Spores get killed only (iv) Nucleus of the cell gets killed
- l) Common mode of reproduction in yeast is
 (i) Sexual reproduction (ii) Fragmentation (iii) Budding (iv) Binary fission
- m) Germ theory of disease was postulated by
 (i) Anttony Vanleeuwenhoek (ii) L. Pastuer (iii) R. Koch (iv) P. Ehrlich
- n) When exact composition of medium is known, the medium is described as
 (i) Chemically defined (ii) Selective (iii) Complex (iv) Differential
- o) Generation time of tuberculous bacillus is
 (i) 15 days (ii) 15 hours (iii) 15 minutes (iv) 15 seconds
- p) is found in all bacterial cells.
 (i) Capsule (ii) Pilli (iii) Ribosome (iv) Spores
- q) The epidemic that infected Europe, Middle East and North Africa and killed tens of millions of people was known as the Black Death.
 (i) Breathing of foul air (ii) Anthrax (iii) Bubonic plague (iv) Small pox
- r) Gram staining was introduced by
 (i) Christian gram (ii) Alfred gram (iii) Robert hook (iv) Louis Pasteur
- s) What are ribosome's composed of
 (i) Proteins (ii) DNA (iii) RNA (iv) Both (i) & (iii)
- t) Best autoclaving is achieved at
 (i) 121°C for 15 min. (ii) 120°C for 1 hr. (iii) 110°C for 2 hr. (iv) 100°C for 3 hr.

[P.T.O.]

Section-B

Q2. Answer any TWO questions.

(2X10=20)

- a) Discuss various method of sterilization.
- b) Write classification and mode of action of disinfectant.
- c) Write the mechanism, procedure and advantages of gram staining techniques.

Section-C

Q2. Answer any SEVEN questions.

(7X5=35)

- a) What are prokaryotes and eukaryotes
- b) Discuss the methods for prevention of contamination in aseptic area.
- c) Write a short note on Autoclave.
- d) Differentiate between dry and moist heat sterilization.
- e) Explain cell culture in pharmaceutical industry and research.
- f) Explain about different culture media.
- g) What is IMViC test?
- h) Describe the bacterial growth curve with all phases.
- i) Difference between bacteriostatic and bacteriocidal agent.

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Paper Code: BP-304 T

B (SVSU:2023-24/R)

Enrollment No.

COURSE NAME- B.PHARM
SECOND YEAR THIRD SEMESTER EXAMINATION

Subject Name: Pharmaceutical Engineering
[Time: 3:00 Hours]

Subject Code: BP 304T
[Max. Marks: 75]

Section-A**Q1. Attempt ALL questions.****(20X1=20)**

- i. The fluid flow in which the fluid particles in one layer do not mix with the fluid particles in the other layer is called:
 - (a) Laminar flow
 - (b) Turbulent flow
 - (c) Layer flow
 - (d) None of these
- ii. The optimum speed of a perforated basket centrifuge is:
 - (a) 1,000 rpm
 - (b) 2,000 rpm
 - (c) 3,000 rpm
 - (d) None of these
- iii. Ball mill is based on the principle of:
 - (a) Impact
 - (b) Impact & Attrition
 - (c) Compression
 - (d) Cutting
- iv. Colloid mill used for purpose
 - (a) Mixing
 - (b) Size reduction
 - (c) Both (i) & (ii)
 - (d) Filtration
- v. In solid mixing convective mixing mechanism is also known as
 - (a) Micro mixing
 - (b) Distributive mixing
 - (c) Shear mixing
 - (d) Macro mixing
- vi. Ultrafine particle size reduction can be done by mill
 - (a) Roller
 - (b) Hammer
 - (c) Fluid energy
 - (d) Cutter
- vii. Stainless steel is an example of:
 - (a) Non ferrous metal
 - (b) Ferrous metal
 - (c) Non metal
 - (d) None of these
- viii. Rate of filtration proportional to the viscosity of the fluid.
 - (a) Directly
 - (b) Inversely
 - (c) Both (i) & (ii)
 - (d) None of these
- ix. For mixing of dry powder mixer is used.
 - (a) Planetary mixer
 - (b) Sigma blade mixer
 - (c) Ribbon mixer
 - (d) None of these
- x. filter is used for continuous operation and is utilized to filter slurries containing high proportion of solids.
 - (a) Drum filter
 - (b) Filter leaf
 - (c) Filter press
 - (d) All of these
- xi. Levigation is also known as
 - (a) Dry grinding
 - (b) Wet grinding
 - (c) Both (i) & (ii)
 - (d) None of these
- xii. Separation of liquid by distillation is based on the following principles
 - (a) Vapour Pressure
 - (b) Miscibility
 - (c) Viscosity
 - (d) None of these
- xiii. Fluid energy mill is also known as
 - (a) Micronizer
 - (b) Pulveriser
 - (c) Jet mill
 - (d) Boiling Point
- xiv. End runner mill work on the principle of
 - (a) Crushing & Friction
 - (b) Cutting & Attrition
 - (c) Crushing & Shearing
 - (d) All of these
- xv. The mill does not have any moving part in the grinding area
 - (a) Disintegrator mill
 - (b) Fluid energy mill
 - (c) Hammer mill
 - (d) Grinding
- xvi. Evaporation occurs only.
 - (a) After boiling
 - (b) After extreme cooling
 - (c) At surface of fluid
 - (d) Colloid mill
- xvii. Most commonly used size separation instrument in laboratory.
 - (a) Cyclone separator
 - (b) Sedimentation tank
 - (c) Sieve shaker
 - (d) None of these
- xviii. Differential distillation is
 - (a) Simple distillation
 - (b) Vacuum distillation
 - (c) Molecular distillation
 - (d) All of these
- xix. Type I Florentine receivers is used for
 - (a) Oil heavier than water
 - (b) Oil lighter than water
 - (c) Both (i) & (ii)
 - (d) None of these
- xx. Which one of the following of continuous types of centrifuge?
 - (a) Perforated centrifuge
 - (b) Super centrifuge
 - (c) Non-perforated
 - (d) None of these

[P.T.O.]

Section-B

(2X10=20)

Q2. Answer any TWO questions.

- i. With neat labeled diagram explain Principle, construction and working of plate and frame filter.
- ii. Write factor affecting on mixing and explain mechanism of solid mixing.

OR

Explain in detail Bernoulli's Theorem & its significance. Derive its equation.

- iii. Define and classify evaporation. Describe in detail factor affecting evaporation.

OR

Write principle, construction, working, advantages and disadvantages of fluid energy mill.

Section-C

(7X5=35)

Q3. Answer any SEVEN questions.

- i. Describe the principle, construction and working of simple distillation.
- ii. Explain in detail Ball Mill with its merits and demerits.
- iii. Explain in detail multiple effect evaporators.
- iv. Explain the theory behind drying.

OR

What is a Drying Curve? Explain the rate of drying curve with diagram.

- v. With neat labeled diagram explain construction and working of filter leaf.
- vi. What are the official standards of Powders? Give the Principle, construction, working and uses of cyclone separator.
- vii. Give the Theory, Principle, construction, working and uses of perforated basket centrifuge.
- viii. Write in brief the classification of materials for plant construction.