B. Pharm 3rd sem

Lib

BP-301T

Roll No. | | | | | | | | | | |

ODD SEMESTER EXAMINATION, 2019-20

B. Pharm- Semester III

PHARMACEUTICAL ORGANIC CHEMISTRY-II

Time: 3:00 hrs. **M.M:75 mark**

Total no. of printed pages -1

Note: All questions are compulsory.

Q1. Objective Type of Questions **20X1=20**

(1) Write one reaction for the synthesis of benzene.
(2) Draw the structure and give the uses of resorcinol.
(3) Define saponification number.
(4) Draw the structure and give the uses of diphenylmethane.
(5) Give the qualitative test for phenols.
(6) Compare the basicity of p-Nitroaniline and aniline with reason.
(7) Degree of unsaturation of lipids is measured by Iodine number. (T/F)
(8) Draw the structure for benzene diazonium chloride.
(9) PAHs stand for polyaromatic hydrocarbons. (T/F)
(10) What is the molecular formula of naphthalene?
(11) What is the order for the basicity for the various types of amines?
(12) Electrophilic substitution reaction in naphthalene takes place at which position?
(13) Name any one electron releasing and electron withdrawing group.
(14) Give the examples of some oxidizing agents.
(15) Claisen rearrangement involves thermal rearrangement of aryl ally ether to an o-allyl phenol. (T/F)
(16) Hinsberg test is commonly used in the test for phenol. (T/F)
(17) ..... are the hydrolytic products of fats.
(18) Huckel's rule can be stated as (4n+1) pie electron. (T/F).
(19) Phenol is also known as.....acid.
(20) Write the full form of VLDL and HDL.

Q2. Long answer type questions (any two) **2X10=20**

1. Give any one reaction for the synthesis of phenol. Why phenols are acidic in nature? Describe the effect of substituents on the acidity of phenols with examples.
2. Give the reaction mechanism of Friedel-Crafts alkylation and Friedel-Crafts acylation in benzene and also its limitations.
3. Describe in detail fats and oils with their classification. Write in detail the reactions of fatty acids.

Q3. Short answer type questions (any seven) **7X5=35**

1. What are the evidences and theories in the structure deviation of benzene?
2. Give in detail the structure and uses of DDT and Diphenyl methane.
3. Write the general method of preparation of aromatic acids and explain the effect the various substituents on the acidity of benzoic acid.
4. What is cyclopropane? Give its reaction.
5. Give one method of synthesis of benzoic acid. Write two chemical reactions of benzoic acid.
6. Define iodine number (iodine value). Describe the principle involved in the determination of iodine value.
7. Define acid value and saponification value. How it can be determined and what is its significance?
8. What do you understand by basicity of amines? What effects does an electron releasing group have on the basicity of amines?
9. What are reactions for benzene and explain the mechanistic pathway for any one reaction?

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ODD SEMESTER EXAMINATION 2019-20

B. Pharm- Semester III

PHYSICAL PHARMACEUTICS - I

Time: 3 hours **Max. marks:75**

Total no. of printed pages: 3

Note: All questions are compulsory.

Q1. Attempt all questions: **20x1=20**

1. Which one of these is used as tonicity adjuster?
   a) Dextrose
   b) NaCl
   c) Boric acid
   d) All of the above

2. Antifoaming agents have HLB value of:
   a) 1-3
   b) 6-9
   c) 15-18
   d) None of the above

3. The pH of a pharmaceutical buffer system can be calculated by:
   a) Nernst Eq
   b) Noyes Whitney Eq
   c) Henderson Hassel Balch Eq
   d) Michaelis Menten Eq

4. Among the following preparation, which one will be the most irritating to the eye?
   a) Purified water
   b) 0.7% NaCl solution
   c) 0.9% NaCl solution
   d) 1% NaCl solution

5. _____ is used as a standard electrode in the electrometric method of measuring pH.

6. According to IP, "Freely soluble" means ____ parts of solvent required for one part of solute:
   a) < 1
   b) 10-30
   c) 30-100
   d) 1-10

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7. The solubility of gases in liquid ____ with temperature:
   a) Decreases
   b) Increases
   c) Remain constant
   d) None of the above

8. Polysorbate 80 (Tween 80) is a surfactant of type:
   a) Anionic
   b) Cationic
   c) Amphi-ionic
   d) Non-ionic

9. Relative humidity is measured using the apparatus:
   a) Hygrometer
   b) Hydrometer
   c) Refractometer
   d) All of the above

10. An oil will spread over the surface of water & form a film when the spreading coefficient:
   a) S>0
   b) S<0
   c) S=0
   d) None of the above

11. Settling out is observed in which type of dispersions:
   a) Molecular
   b) Coarse
   c) Colloidal
   d) All of the above

12. _____ is the most common state of matter in the entire universe.

13. Numbers of moles of solute dissolved in 1kg of solvent is expressed as:
   a) Molarity
   b) Molality
   c) Normality
   d) None of the above

14. Stalagmometer is used to determine:
   a) Viscosity
   b) Solubility
   c) Surface tension
   d) pH

15. Which of the following is also known as super-cooled liquids:
   a) Crystalline solids
   b) Amorphous solid
   c) Ionic
   d) None of the above

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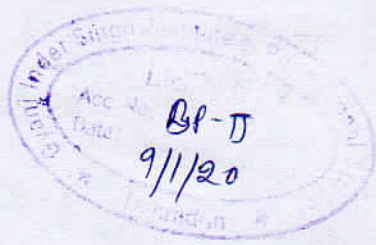
16. A 10% dextrose solution is:
    a) Hypotonic
    b) Isotonic
    c) Hypertonic
    d) Iso-osmotic

17. Which of the following is unidentate ligand:
    a) Ammonia
    b) Oxalate
    c) Ethylene diamine
    d) EDTA



18. The tonicity of a solution can be determined by:
    a) Cryoscopic
    b) Haemolytic
    c) Both
    d) None

19. Maximum buffer capacity occurs when:
    a) pH = pKa
    b) pH > pKa
    c) pH < pKa
    d) All of the above.

20. Micelles are observed when the concentration of surfactant is:
    a) < CMC
    b) > CMC
    c) = CMC
    d) None of the above.

Q2. Attempt any 2 from the following: **2x10=20**

1. Classify the various states of matter, with emphasis upon the solid state.
2. What do you understand by Surface tension? Mention various methods employed to determine surface tension.
3. Methods for determining particle size.

Q3. Attempt any 7 from the following: **7x5=35**

1. Association of solutes in solutions.
2. Differentiate between Ideal & Real solutions.
3. HLB scale.
4. How are complexes formed? What are the different types of complexes?
5. Buffered isotonic solutions.
6. Define micrometrics and its parts.
7. Explain colligative properties of a solution.
8. What is Sorenson pH scale, explain the acid base concept.
9. Dielectric constant & its practical applications

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Odd Semester Examination 2019-20
B. PHARM (SEMESTER -III)
(New Syllabus)

PHARMACEUTICAL MICROBIOLOGY

Time : 03:00 Hours **Max Marks :75**

Total no. of printed pages: 3

Note: Attempt all the questions

Q1(a) Multiple choice question **10x1=10**

1. IMVIC test is use to differentiate the gram negative enteric bacteria belonging to family.
   (i) mycobacteriaceae
   (ii) enterobacteriaceae
   (iii) chlamydaicae
   (iv) all of the above

2. Method in which a test chemical is rated for its microbicidal property with reference to phenol under identical condition
   (i) Phenol ratio method
   (ii) Phenol gradient method
   (iii) Phenol dilution method
   (iv) Phenol coefficient method

3. The process of intermittent boiling at 100^0c in three successive days for 30 minutes is known as
   (i) pasteurization
   (ii) sterilization
   (iii) tyndallization
   (iv) disinfection

4. Lithotrophs are:
   (i) Organism that use light energy
   (ii) Organism that use carbon energy
   (iii) Organism that use oxidize inorganic compounds
   (iv) Organism that use organic carbon

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5. Total aerobic microbial count present in test substances is determined as per I.P by following method except

(i) Membrane filtration
(ii) Turbidimetric method
(iii) Most probable number
(iv) Total plate count

6. In acid fast staining, the primary dye is:

i. Methylene blue
ii. Alcohol
iii. Crystal violet
iv. Carbol fuschin

7. In the process of autoclaving

(i) Only vegetative cell gets killed
(ii) Spores get killed
(iii) Nucleus of the cell get killed
(iv) Spores and vegetative cell gets killed

8. Efficiency of HEPA filter is

(i) 99.7
(ii) 90.07
(iii) 88.87
(iv) 98.97

9. Burning to ashes is referred to as

(i) inertization
(ii) sanitization
(iii) incineration
(iv) disinfection

10. Study of fungi is known as

(i) virology
(ii) bacteriology
(iii) parasitology
(iv) mycology

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Odd Semester Examination 2019-20
B. PHARM (SEMESTER -III)
PHARMACEUTICAL ENGINEERING

Time : 03:00 Hours **Max Marks :75**

Total no. of printed pages: 4

NOTE : All questions are compulsory.

Q1 . Attempt all the questions **20x1=20**

(a) Corrosion of metals is fairly high in one of the following medium:

i. Acidic
ii. Alkaline
iii. Neutral
iv. Non-aqueous

(b) Reynolds number depends on one of the following factors:

i. Roughness of the pipe
ii. Surface area of the pipe
iii. Volume of the liquid
iv. Viscosity of the liquid

(c) During size separation movement of particles can be enhanced by one of the following modes

i. Attrition
ii. Agitation
iii. Gravitation
iv. Mixing

(d) Which type of head is measured using Pitot tube?

i. Static velocity head
ii. Kinetic velocity head
iii. Inclined manometer
iv. Simple manometer

(e) Which one of the following parameters of finished product is not influenced by the selection of size reduction equipment?

i. Porosity

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ii. Shape
iii. Surface roughness
iv. True density

(f) Fourier's law is applicable to one of the following types of heat flow
i. Conduction
ii. Convection
iii. Emission
iv. Radiation

(g) In air separator centrifugal force for circulation of air is applied by one of the following ways
i. Appling vacuum
ii. Rotating blades
iii. Pumping
iv. Atomising air

(h) Which one of the following method is used for the distillation of Camphor?
i. Azeotropic distillation
ii. Evaporative distillation
iii. Fractional distillation
iv. Steam distillation

(i) In climbing film evaporator, what is the purpose of the entrainment separator?
i. Allowing the heat to transfer
ii. Allowing the vapour to escape
iii. Breaking the foam
iv. Pulling the liquid up

(j) Which is the principle difference (in the purpose) that influenced centrifugation?
i. Interfacial tension
ii. Densities
iii. Particle sizes
iv. Viscosity

(k) A serve form of corrosion that develops in highly localized area of metal surface is called as
i. Pitting Corrosion
ii. Erosion
iii. Galvanic Corrosion
iv. Stress Corrosion

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(l) On what aspect of pressure does the filter leaf work?

i. Atmospheric pressure
ii. Negative pressure
iii. Normal Pressure
iv. Pressure in Zero

(m) Which one of the following metals can retard the corrosion of metals?

i. Carbon Steel
ii. Chromium
iii. Iron
iv. Zinc

(n) Which one of the following is a Filtration Centrifuge?

i. Conical disc centrifuge
ii. Continuous horizontal centrifuge
iii. Super centrifuge
iv. Perforated basket centrifuge

(o) Which one of the filter consists of pre-filter & final filter?

i. Meta filter
ii. Rotary drum filter
iii. Cartridge filter
iv. Sweetland filter

(p) Which mixing equipment produces Tumbling as a mechanism in Solid-Solid mixing

i. V-Cone blender
ii. Ribbon blender
iii. Sigma blender
iv. Fluidised mixer

(q) In fluidised bed drying, removal of moisture involves one of the following mechanism

i. High amount of diffusion
ii. High interfacial contact
iii. High Capillary action
iv. High osmotic pressure

(r) Which type of distillation is used for the preparation of Aromatic Sprit of Ammonia?

i. Flash Distillation
ii. Fractional Distillation
iii. Molecular Distillation
iv. Simple Distillation

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(s) The mechanism of mixing in **Silverson Mixer** is-

i. Convective mixing
ii. Laminar mixing
iii. Molecular diffusion
iv. Turbulent mixing

(t) According to **Fourier's law**, conduction of heat through a metal wall is-

i. Inversely proportional to Temperature difference
ii. proportional to Area of metal wall
iii. proportional to Thickness of wall
iv. Proportional to Weight of metal wall

Q2. Long Answer Type (Attempt **Any Two**) **2x10=20**

(a). Draw well labelled diagram, give principle, construction, working and application of fluidized bed dryer.

(b). Define centrifugation. Discuss the principle, construction, application and application of perforated basket centrifuge.

(c). Define the term distillation. Explain the distillation under reduced pressure in detail.

Q3. Short Answer Type (Attempt **Any Seven**) **7x5=35**

(a) Define filter aids with suitable examples. Explain the various theories of filtration.

(b) Define Reynolds numbers. Describe the construction and working principle of Venturi meter with help of a neat diagram.

(c) Explain why Bernoulli equation are considered numerically correct but theoretically.

(d) Explain mechanism of size separation and official standards of powders.

(e) Explain heat transfer with its mechanism.

(f) Discuss principle and working of multiple film evaporator.

(g) Enlist various grades of powders official in Pharmacopoeia. Explain the working of a Cyclone separator and its usefulness.

(h) Discuss factors affecting during material selected for pharmaceutical plant construction.

(i) Explain factors affecting mixing operation and types of mixing.
