THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2001**

(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION

PCI Regulation 2017 – SEMESTER I

PAPER I – HUMAN ANATOMY AND PHYSIOLOGY - I

Q.P. Code: 562001

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Define Erythropoiesis. Explain the factors influencing Erythropoiesis.
2. Give an account of anatomy and physiology of the Parasympathetic branch of autonomic nervous system.
3. Write the help of a neat labeled diagram explain bones of Skull.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Describe various types of Muscular tissue.
2. Write a note on Lymph node.
3. Discuss the mechanism of Clotting.
4. Write a note on Megaloblastic anaemia and Iron deficiency anaemia.
5. Physiology of Audition.
6. Explain role of Baroreceptors and its functions.
7. Write a note on Neuromuscular junction.
8. Explain the Physiology behind Vision formation.
9. Write a note on disorders of White Blood Corpuscle.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Diseases of Eye
2. Cardiac cycle
3. Composition of blood
4. Pulmonary circulation
5. Hypertension
6. Action potential
7. Types of Joints
8. Functions of Skin
9. Presbyopia
10. Christmas factor.

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Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMIL NADU.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2003**
(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER I
PAPER II – PHARMACEUTICAL ANALYSIS - I
Q.P. Code: 562003

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Explain in detail about the following
   a) Sources of Impurities in Medicinal agents.
   b) Estimation of Sodium chloride by Mohr's method.
2. What is Gravimetry? Explain the steps involved in Gravimetry.
3. Write the principle of Complexometric titration. How will you estimate Magnesium sulphate and Calcium gluconate by Complexometry?

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Define Acids and Bases. Explain Neutralization curves in Acid-base titration.
2. How will you estimate Barium sulphate?
3. What are the various applications of Polarography?
4. Discuss in detail about Modified Volhard's method.
5. What are Non aqueous solvents? Explain the principle and procedure involved in the estimation of Sodium benzoate by Non aqueous titration.
6. Write briefly about Diazotisation titration.
7. Write a detailed note on the preparation and standardisation of Ceric ammonium sulphate.
8. Describe the principle, reaction and procedure involved in the Limit test for Chloride.
9. Explain the construction and working of Glass Electrode.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Define Accuracy.
2. Write any two applications of Potentiometry.
3. Explain the principle of Redox titration.
4. Define Half wave potential.
5. What do you mean by Co-precipitation?
6. Define Primary standard. Give example.
7. Define Normality.
8. What is Ilkovic equation?
9. Define Indicators.
10. What are Chelating agents?

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2005**
(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER I
PAPER III – PHARMACEUTICS - I
Q.P. Code: 562005

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Define Pharmacopoeia. Explain about its significance. Give a brief review on the development of Indian Pharmacopoeia and British Pharmacopoeia.
2. Define Posology. Enumerate the factors affecting posology. How paediatric dose is calculated on the basis of age, bodyweight and body surface area.
3. Define Incompatibility. Describe about various types of incompatibility with examples and provide its remedies.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Explain about different parts of Prescription.
2. a. How much ml of 30% dextrose in water and 60% dextrose in water are needed to make 750 ml of 45% dextrose in water?
   b. What % strength corresponds to 40^0 O/P and 60^0 U/P
3. Discuss about Powders used for external use with examples
4. Write about method of preparation of Throat Paint and its application.
5. Differentiate Flocculated and Deflocculated suspension.
6. Explain different methods of preparation of Emulsion.
7. Describe the properties of Ideal suppository base.
8. What are pastes? Give its salient features .Comment on preparation of paste.
9. Classify gels and enlist components used in preparation of gels.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Mention two stability problems associated with Emulsion.
2. Difference between Simple and Compound powder. Give example
3. If the adult dose is 60 mg and the age of child is 6 years what will be the dose for the child according to Dilling's rule.
4. Convert 90% v/v alcohol into its proof strength.
5. Explain Synergistic effect.
6. What is mean by Counter irritant? Give example.
7. Write about Diffusible and Indiffusible solids.
8. Define the term Displacement value.
9. Define emulsion.
10. Mention about types of Ointment bases.

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[KV 803] SEPTEMBER 2009 Sub. Code: 3803

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008-2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER III – MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Time: Three Hours **Maximum: 70 marks**

Answer ALL questions

I. Elaborate on: **(2 x 20 = 40)**

1. a) Define and classify enzymes. Discuss the various factors affectingenzyme activity.

   b) Explain Glycolysis with its energetics.

2. a) What are ketone bodies. Write in detail about Ketogenesis.

   b) Discuss in detail about radioimmuno assay & enzyme linked immunosorbent assay.

II. Write notes on: **(6 x 5 = 30)**

1. Oxidative phosphorylation.
2. Urea – cycle.
3. Replication.
4. Vanden – Berg reaction.
5. Lipoproteins.
6. Urine concentration tests.

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Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

JKK Munirajah Medical Research Foundation, T.N. India
Annai JKK Sampoorani Ammal College of Pharmacy
Komarapalayam 638183

[KV 805] SEPTEMBER 2009 Sub. Code: 3805

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008-2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER V – PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 383805

Time: Three Hours **Maximum: 70 marks**

Answer ALL questions

I. Elaborate on: **(2 x 20 = 40)**

1. a) Describe the various sources of impurities in pharmaceutical substances.
   b) What is ceriometry? Explain its advantage over other oxidizing agents.
   c) List out various volumetric methods and explain back titration with example.

2. a) What is complexometric titrations. Explain its principle with suitable examples.
   b) Explain the various theories of indicators.
   c) Describe the principle and procedure involved in the limit test for Iron.

II. Write notes on: **(6 x 5 = 30)**

1. What are antacid?
   Classify them with examples.
   Give the method of preparation of any one of them.
2. Explain the role of fluorides as anti caries agent.
3. Define the following terms:
   a) Cathartics.
   b) Disinfectant.
   c) Aantiseptic.
   d) Astringent.
   e) Dentritrices.
4. Write the composition of Ringer's solution. Explain its importance.
5. Describe the principle involved in modified volhard's method with example.
6. Write short notes on pharmaceutical aid.

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JKK Munirajah Medical Research Foundation, TN, India
Annai JKK Sampoorani Ammal College of Pharmacy
Komarapalayam 638183

Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LL 933] **NOVEMBER 2017** Sub. Code: 2933

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICS – MPH
PAPER III – MODERN PHARMACEUTICS

Q.P. Code : 262933

Time : Three hours **Maximum : 75 Marks**

I. Elaborate on: **(2 x 20 = 40)**

1. Define pharmaceutical validation and write its scope and merits. Discuss the general guidelines for the validation and calibration of pharma equipments.

2. Discuss the objectives and policies of CGMP. Write the GMP requirements and layout of buildings, services, equipments, and their maintenance for solid dosage form products.

II. Write notes on: **(7 x 5 = 35)**

1. Higuchi and Peppas plot and its applications.
2. Evaluation of large volume parentrals.
3. Pharmacokinetic parameters.
4. Material and inventory management in pharma industry.
5. Distribution of forces during compression of tablets.
6. Total quality management.
7. Protocols of stability studies.

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Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

JKK Munirajah Medical Research Foundation, TN, India
Annai JKK Sampoorani Ammal College of Pharmacy
Komarapalayam 638183

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[LL 931] **NOVEMBER 2017** Sub. Code: 2931

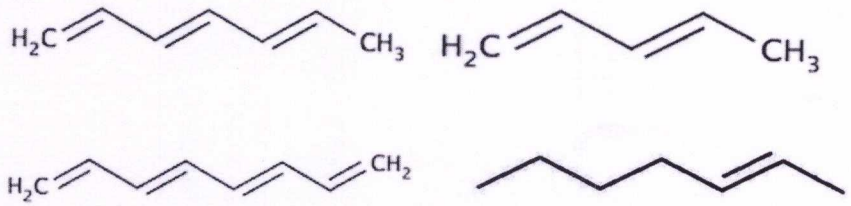
M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICS – MPH
PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Q.P. Code : 262931

Time : Three hours **Maximum : 75 Marks**

I. Elaborate on: **(2 x 20 = 40)**

1. a) Describe the theory and factors affecting the measurement of fluorescence.
   b) With a neat diagram describe the instrumentation and applications of Spectrofluorimeter.
2. a) i) Which of the following molecules would absorb the longest wavelength and why?



   ii) How many number of vibrational modes possible for carbon dioxide molecule?
   b) Discuss Bragg's law, types of crystals and applications of X-ray diffraction.

II. Write notes on: **(7 x 5 = 35)**

1. State and explain Beer-Lambert Law. Write briefly about the deviations of the absorption laws.
2. Write short notes on chemical shift.
3. With a neat diagram explain the construction and working of Hollow cathode lamp and Photomultiplier tube.
4. Explain the fundamental vibrations of the molecules in IR spectrophotometry.
5. Discuss McLafferty rearrangement and its significance in structural diagnosis.
6. Write a note on detectors used in HPLC.
7. Discuss the principle and applications of Bioluminescence assays.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LL 942] **NOVEMBER 2017** Sub. Code: 2942

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL CHEMISTRY – MPC
PAPER II – ADVANCED ORGANIC CHEMISTRY – I

Q.P. Code : 262942

Time : Three hours **Maximum : 75 Marks**

I. Elaborate on: **(2 x 20 = 40)**

1. Explain with suitable examples the utility of following in synthesis of medicinal agents:
   a) Carbanions.
   b) Carbocations.
   c) Nitrenes.

2. Explain the detailed mechanism of the following reactions, giving each two synthetic applications:
   a) Sandmeyer reaction.
   b) Michael addition reaction.
   c) Baeyer-Villiger oxidation.

II. Write notes on: **(7 x 5 = 35)**

1. Explain the synthetic applications of Witting reagent and Osmium tetroxide.
2. Discuss about the role of protection in organic synthesis.
3. Outline the synthesis and medicinal uses of Chlorpromazine and Antipyrin.
4. Write about the basic principles and advantages of Retrosynthesis in organic chemistry.
5. Outline with the detailed explanation of Combes Quinoline synthesis and Traube Purine synthesis.
6. Explain in detail about the various strategies for synthesis of heterocycles in Synthon approach.
7. Outline the synthesis and medicinal uses of Alprazolam and Metronidazole.

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JKK Munirajah Medical Research Foundation, TN, India
Annai JKK Sampoorani Ammal College of Pharmacy
Komarapalayam 638183

Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2005**
(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER I
PAPER III – PHARMACEUTICS - I
Q.P. Code: 562005

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Define Pharmacopoeia. Explain about its significance. Give a brief review on the development of Indian Pharmacopoeia and British Pharmacopoeia.
2. Define Posology. Enumerate the factors affecting posology. How paediatric dose is calculated on the basis of age, bodyweight and body surface area.
3. Define Incompatibility. Describe about various types of incompatibility with examples and provide its remedies.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Explain about different parts of Prescription.
2. a. How much ml of 30% dextrose in water and 60% dextrose in water are needed to make 750 ml of 45% dextrose in water?
   b. What % strength corresponds to 40^0 O/P and 60^0 U/P
3. Discuss about Powders used for external use with examples
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6. Explain different methods of preparation of Emulsion.
7. Describe the properties of Ideal suppository base.
8. What are pastes? Give its salient features .Comment on preparation of paste.
9. Classify gels and enlist components used in preparation of gels.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Mention two stability problems associated with Emulsion.
2. Difference between Simple and Compound powder. Give example
3. If the adult dose is 60 mg and the age of child is 6 years what will be the dose for the child according to Dilling's rule.
4. Convert 90% v/v alcohol into its proof strength.
5. Explain Synergistic effect.
6. What is mean by Counter irritant? Give example.
7. Write about Diffusible and Indiffusible solids.
8. Define the term Displacement value.
9. Define emulsion.
10. Mention about types of Ointment bases.

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JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI ANIMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

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[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2003**

(SEPTEMBER 2020 EXAM SESSION)

B.PHARM. DEGREE EXAMINATION

PCI Regulation 2017 – SEMESTER I

PAPER II – PHARMACEUTICAL ANALYSIS - I

Q.P. Code: 562003

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Explain in detail about the following
   a) Sources of Impurities in Medicinal agents.
   b) Estimation of Sodium chloride by Mohr's method.
2. What is Gravimetry? Explain the steps involved in Gravimetry.
3. Write the principle of Complexometric titration. How will you estimate Magnesium sulphate and Calcium gluconate by Complexometry?

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Define Acids and Bases. Explain Neutralization curves in Acid-base titration.
2. How will you estimate Barium sulphate?
3. What are the various applications of Polarography?
4. Discuss in detail about Modified Volhard's method.
5. What are Non aqueous solvents? Explain the principle and procedure involved in the estimation of Sodium benzoate by Non aqueous titration.
6. Write briefly about Diazotisation titration.
7. Write a detailed note on the preparation and standardisation of Ceric ammonium sulphate.
8. Describe the principle, reaction and procedure involved in the Limit test for Chloride.
9. Explain the construction and working of Glass Electrode.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Define Accuracy.
2. Write any two applications of Potentiometry.
3. Explain the principle of Redox titration.
4. Define Half wave potential.
5. What do you mean by Co-precipitation?
6. Define Primary standard. Give example.
7. Define Normality.
8. What is Ilkovic equation?
9. Define Indicators.
10. What are Chelating agents?

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Dr. N. SENTHILKUMAR,
PRINCIPAL,
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,
ETHIRMEDU, KOMARAPALAYAM - 638 183.
NAMAKKAL DISTRICT, TAMILNADU.

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Annai J.K.K. Sampoorani Ammal College of Pharmacy
Komarapalayam 638 183.