MAY 2011

[KY 354] **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION

(Regulations 2010)
(Candidates admitted from 2010-2011 onwards)

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(6 x 10 = 60)**

1. Describe the concept of analytical method development while using HPLC.
2. Explain the methods for the estimation of ester and amino groups.
3. Give the official methods for the determination of any three sulpha drugs.
4. Explain the usage of TPTZ as an analytical reagent.
5. Give the principle and procedures involved in BABE.
6. Describe the biological assay of tetanus antitoxin.

II. Write Short Notes : **(8 x 5 = 40)**

1. Give the methods for the validation and calibration of UV-visible spectrophotometer.
2. Add a detailed note for the determination of penicillin's.
3. Explain the official methods for the determination of ascorbic acid.
4. How the elements of iodine and bromine are determined?
5. Give the applications of NED reagent as an analytical tool.
6. Describe any two methods to determine the particle size of solid excipients.
7. Explain the procedure for the microbiological assay of neomycin sulphate.
8. Describe the principle and procedure whereas performing LAL'S test.

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October 2011

[KZ 354] **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. (a) Write the significance of the analysis of elemental ions and explain the official analytical method for sodium and potassium. (b) Explain elaborately about analytical method development with necessary parameters.	17	40	20
2. (a) Describe the principle and procedure in the determination of the following functional groups. (i) Hydroxyl. (ii) Aldehyde. (b) Write the vital role of particle size analysis in pharmaceutical dosage forms and explain briefly. (c) Write the official analytical method for opium alkaloids.	17	40	20
II. Write notes on :			
1. Give a brief account on therapeutic drug monitoring.	4	10	6
2. Write the standard calibration procedure for IR spectrophotometer.	4	10	6
3. Write the principle and procedure involved in the biological assay of oxytocin.	4	10	6
4. Suggest the various methods involved in the determination of cinchona alkaloids.	4	10	6
5. How will you determine the xanthine derivatives present in pharmaceutical preparations.	4	10	6
6. Write the reactions and applications of para-di methyl amino benzaldehyde.	4	10	6
7. Write the test for effectiveness of antimicrobial preservatives.	4	10	6
8. Write the various methods for determination of amine group.	4	10	6
9. Describe the typical method for analysis of reserpine.	4	10	6
10. Write the principle and procedure involved in the fluorimeric estimation of thiamine.	4	10	6

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[LA 354] **MAY 2012** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code: 262915

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. (a) Describe the concept of analytical method development while using UV- Visible spectrophotometer. (b) Explain the methods for the estimation of hydroxyl and aldehyde groups.	17	40	20
2. Give the official methods with principle for the determination of (a) Phenobarbitone (b) Progesterone (c) Tocopherol (d) Digoxin.	17	40	20
II. Write notes on:			
1. Give the methods for the validation and calibration of HPLC.	4	10	6
2. Add a detailed note for the determination of streptomycin.	4	10	6
3. Explain the official methods for the determination of thiamine.	4	10	6
4. How the elements of phosphorous and bromine are determined.	4	10	6
5. Give the applications of PDAB reagent as an analytical tool.	4	10	6
6. Describe any two methods to determine the particle size of solid excipients.	4	10	6
7. Explain the procedure for the microbiological assay of cyanocobalamine.	4	10	6
8. Give the principle and procedures involved in BABE.	4	10	6
9. Describe the biological assay of adsorbed diphtheria antitoxin.	4	10	6
10. Explain the applications of MBTH as an analytical reagent.	4	10	6

[LB 354] **NOVEMBER 2012** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMS

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Explain the colorimetric reactions and procedures involved in the following analytical reagents in pharmaceutical analysis: (a) 2, 6 – Dichloro Quinone chlorimide. (b) N, 1-naphthyl ethylene diamine.	17	40	20
2. Explain the various official methods for the following microbiological assays. (a) Cyanocobalamin. (b) Neomycin sulphate. (c) Tetanus Anti-toxin. (d) Rabies vaccine.	17	40	20

II. Write Notes on :

1. Write the general methods for the analysis of beta lactam anti-biotic and explain any one official compound.	4	10	6
2. How do you calibrate the high pressure liquid chromatography?	4	10	6
3. Explain the colorimetric methods and applications of ninhydrin reagent.	4	10	6
4. Write in detailed about bio-availability and bio-equivalence.	4	10	6
5. Write the method of analysis of digitoxin and its applications.	4	10	6
6. Write the reactions and applications of folin-ciocalteau reagent.	4	10	6
7. Explain briefly about the elemental analysis of bromine and iodine.	4	10	6
8. Give comprehensive methods for the estimation of progesterone in formulations.	4	10	6
9. Write the principle and procedure involved in the analysis of vitamin C and E.	4	10	6
10. Write the comparative analysis of adsorbed diphtheria vaccine and adsorbed diphtheria anti-toxin.	4	10	6

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[LC 354] **APRIL 2013** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMS

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : 3 hours **Maximum : 100 marks**

I. Elaborate on : **(2x20=40)**

1. (a) Describe the concept of analytical method development while using HPLC.

   (b) Explain the methods for the estimation of ester and aldehyde groups.

2. Give the official methods with principle for the determination of

   (a) Theophylline (b) Testosterone (c) Ascorbic acid (d) Strophanthin

II. Write notes on : **(10x6=60)**

1. Give the methods for the validation and calibration of UV-visible spectrophotometer.
2. Add a detailed note for the determination of Chloramphenicol.
3. Explain the official methods for the determination of sulfamethoxazole and quinine
4. How the elements of phosphorous and sodium are determined?
5. Give the applications of N-1-Naphthyl Ethylene Di-amine as an analytical tool.
6. Describe the determination of particle size by X-ray powder diffraction.
7. Explain the procedure for the microbiological assay of neomycin sulphate.
8. Give the principle and procedures involved in BABE analysis.
9. Describe the biological assay of adsorbed diphtheria vaccine as per I.P.
10. Explain the usage of PDAC reagent with principle.

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[LD 354] **OCTOBER 2013** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATIONS

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions in the same order.

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

1. (a) Describe the concept of analytical method development while using UV-visible spectrophotometer.

   (b) Explain the methods for the estimation of ester and hydroxyl groups.

2. Give the official methods with principle for the determination of
   (a) Theobromine
   (b) Testosterone
   (c) Retinol
   (d) Digitoxin

II. Write notes on : **(10 x 6 = 60)**

1. Give the methods for the validation and calibration of FTIR.
2. Add a detailed note for the determination of penicillin-G.
3. Explain the official methods for the determination of sulfamethoxazole and morphine.
4. How the elements of calcium and sodium are determined?
5. Give the applications of N-1-Naphthyl Ethylene Di-amine as an analytical tool.
6. Describe any two methods for the determination of particle size.
7. Explain the procedure for the microbiological assay of neomycin sulphate.
8. Give the principle and procedures involved in TDM.
9. Describe the biological assay of tetanus antitoxin as per I.P.
10. Explain the usage of 1,2-Naphthoquinone 4-sulphonate reagent with principle.

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[LE 354] **APRIL 2014** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMS
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : 3 hours **Maximum : 100 marks**

I. Elaborate on : **(2x20=40)**

1. a) Write detail on validation and calibration of Spectroflourimeter.
   b) Explain the principles and procedure involved in quantitative determination of
      a) Amine b) Ketone groups.

2. Discuss the principle and procedure involved in the analysis of the following including official methods.
   a) Adrenocortical steroids b) Vitamin E
   c) Cinchona d) Chloramphenicol

II. Write notes on : **(10x6=60)**

1. Analytical application of 2, 4-dinitro phenyl hydrazine.
2. How the elements of calcium and sulphur are determined?
3. Explain the official methods for the determination of Vitamin A.
4. Explain the principle and procedure involved in LAL'S test.
5. Explain the concept of X-ray powder diffraction technique.
6. Add a detailed note for the determination of Erythromycin.
7. Give the methods for the validation and calibration Gas Chromatography.
8. Explain the procedure for the Microbiological assay of Adsorbed diphtheria vaccine.
9. Explain the principle and procedure involved in the analysis of Ergot alkaloids.
10. Explain the method of determination of Strophanthin.

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[LF 354] **OCTOBER 2014** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. Explain the principles and procedures for the following reagents in pharmaceutical analysis:
   a) 1, 2 naphthoquinone 4-sulphate b) 3-Methyl 2-benzothaiazoline hydrazone
   c) Para – dimethyl amino Benzaldehyde d) 2, 3, 5- triphenyl tetrazolium salt

2. a) Write the importance of particles size analysis and discuss the methods in detail.
   b) What is x-ray powder diffractions? Discuss its applications in pharmacy.

II. Write notes on: **(10 x 6 = 60)**

1. Give the principle and procedures involved in *Therapeutic Drug Monitoring.*
2. Write about the analytical method for evaluation of ergot alkaloids.
3. Elucidate about validation and calibration of a HPLC instrument.
4. Give complete methods for the estimation of progesterone in formulations.
5. Give the applications for Folin-ciocalteau reagent in pharmaceutical analysis.
6. How will you determine the hormone androgens in pharmaceutical dosage form?
7. Write in detail about the analysis of antibiotic Penicillin.
8. Write short note on analysis of opium alkaloids.
9. Suggest the various methods involved in the determination of cinchona alkaloids.
10. Elucidate the physicochemical and instrumental analysis of adrenocortico steroids.

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[LG 354] **APRIL 2015** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions

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

1. a) Discuss various validation parameters as per ICH guidelines for method development using UV-Spectrophotometer.

   b) Discuss the analytical application of following reagents. Paradimethyl amino benzaldehyde and ninhydrin.

2. a) Explain various methods used for estimation of sulphonamides.

   b) Explain the principle and procedure for estimation of hydroxyl and amino group.

II. Write notes on : **(10 x 6 = 60)**

1. Explain the procedure for determination of calcium.
2. Enumerate various methods available for determination of particle size and explain any one in detail.
3. Describe microbiological assay procedure for rabies antiserum.
4. Explain BABE.
5. Discuss the calibration procedure for UV.
6. Write in detail various techniques for estimation of Vitamin A.
7. Explain the application of MBTH reagent.
8. Give the test for effectiveness for adsorbed diphtheria vaccine.
9. Write a note on analytical method development for HPTLC.
10. How will you estimate androgens?

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[LH 354] **OCTOBER 2015** **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. a) Discuss various validation parameters as per ICH guidelines for method development using GC.
   b) Discuss the analytical application of 2, 6-dichloroquinone chlorimide and Folin Ciocalteau reagent.

2. a) Explain various methods used for estimation of barbituric acid derivatives.
   b) Explain the principle and procedure for estimation of aldehyde and ketone group.

II. Write notes on: **(10 x 6 = 60)**

1. Explain the procedure for determination of chlorine.
2. Particle size analysis.
3. Describe microbiological assay procedure for cyanacobalamine.
4. Explain LAL test.
5. Discuss the calibration procedure for spectroflurimeter.
6. Write in detail various techniques for estimation of Vitamin E.
7. Explain the application of ninhydrin reagent.
8. Give the assay of ergot alkaloids.
9. Write a note on analytical method development for HPLC.
10. How will you estimate progesterone?

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[LI 354] APRIL 2016 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. Describe the official methods with principle for the determination of :
   a) Sulfamethoxazole b) Retinol c) Digoxin d) Erythromycin

2. a) Write the principle and procedures involved in the Biological assay of:
   i) Tetanus antitoxin ii) Oxytocin

   b) How do you test the effectiveness of antimicrobial preservatives as per I.P?

II. Write notes on: **(10 x 6 = 60)**

1. Give the applications of 2, 4-dinitrophenyl hydrazine as an analytical tool.
2. How the elements of sodium and bromine are determined?
3. Describe the methods for the validation and calibration of HPLC.
4. Write in detail about the qualitative and quantitative analysis of caffeine.
5. Explain the methods for the estimation of hydroxyl group.
6. Describe the concept of analytical method development while using GC.
7. Describe any one method for the determination of particle size.
8. Describe the usage of 2, 6-dichloroquinone chlorimide reagent with principle.
9. Suggest the methods for the estimation of ester group with chemical equations.
10. Give the principle and procedures involved in LAL's test.

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[LJ 354] OCTOBER 2016 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. Describe the official methods with principle for the determination of :
   a) Thiamine b) Progesterone c) Digitoxin d) Chloramphenicol

2. a) Write the principle and procedures involved in the biological assay of
   i) Adsorbed diphtheria vaccine ii) Rabies antiserum

   b) Describe the procedure for the microbiological assay of neomycin sulphate.

II. Write notes on: **(10 x 6 = 60)**

1. Give the applications of N-(1-Naphthyl) ethylenediamine as an analytical tool.
2. How the elements of chlorine and calcium are determined?
3. Describe the methods for the validation and calibration of FTIR.
4. Write in detail about the qualitative and quantitative analysis of cinchona.
5. Explain the methods for the estimation of amino group.
6. Describe the concept of analytical method development while using HPLC.
7. Describe the principle involved in the assay of sulphonamides and barbiturates.
8. Describe the usage of 2, 4-Dinitrophenyl hydrazine reagent with principle.
9. Suggest the methods for the estimation of aldehyde group with chemical equations.
10. Give the principle and procedures involved in BABE analysis.

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[LK 354] MAY 2017 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. a) Write the significance of the analysis of elemental ions and explain the official method for phosphorous and sulphur.

   b) Explain the analytical method development with necessary parameters.

2. Explain the methods for the estimation of the following functional groups.
   a) Amine b) Ketone.

II. Write notes on: **(10 x 6 = 60)**

1. Write the reactions and applications of Ninhydrin.
2. Write the test for effectiveness of antimicrobial preservatives.
3. Write the principle and procedure involved in the determination of opium.
4. Write the principle and procedure involved in the biological assay of Oxytocin.
5. Write the standard calibration procedure for IR spectrophotometer.
6. Suggest the various methods involved in the determination of Thiamine.
7. Explain the analysis of drugs and excipients in solid state.
8. How will you determine the Xanthine derivatives present in pharmaceutical preparations?
9. Give the applications of Folin–Ciocalteau reagent in pharmaceutical analysis.
10. Give the principle and procedure involved in TDM.

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[LL 354] OCTOBER 2017 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. a) Describe the concept of analytical method development while using UV-Visible spectrophotometer.
   b) Explain the methods for the estimation of hydroxyl and aldehyde groups.

2. Give the principle and procedure involved in the determination of
   a) Cholestrol b) Digoxin c) Phenobarbitone d) Tocopherol

II. Write notes on: **(10 x 6 = 60)**

1. Write the methods for the validation and calibration of HPLC.
2. Give the applications of para dimethyl amino benzaldehyde (PDAB) reagent as analytical tool.
3. Explain the procedure for the microbiological assay of cyanocobalamine.
4. Give the principle and procedure involved in TDM.
5. Describe the biological assay of adsorbed diphtheria antitoxin.
6. Explain any two methods to determine the particle size of solid excipients.
7. Explain the applications of 3-methyl – 2-benzothiazolinone hydrazone (MBTH) as an analytical reagent.
8. How are the elements of potassium and iodine are determined?
9. Explain the official methods for the determination of ascorbic acid.
10. Add a detailed note for the determination of Streptomycin.

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

[LM 354] MAY 2018 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. Give the official methods with principle for the determination of:
   a) Androgens b) Vitamin E c) Ergot d) Sulphonamides

2. Explain the procedure and principle involved in the application of following analytical reagents:
   a) 2, 4 – Dinitro phenyl hydrazine b) 1, 2-Naphthoquinone 4-sulphonate

II. Write notes on: **(10 x 6 = 60)**

1. Detail about the validation and calibration procedure applied for Infra red spectrophotometer.
2. Write about the various analytical procedure applied for the estimation of Vit-A.
3. Explain the methods and principle involved in the estimation of ester function.
4. Write about the analytical procedure applied for the estimation of opium alkaloids.
5. Write detailed note on determination of potassium and calcium.
6. Describe the principle and procedure involved in the LAL'S test.
7. Write the principle and procedure involved in the fluorimeric estimation of quinine sulphate.
8. Describe the biological assay method for the determination of Rabies vaccine.
9. Write in detailed about bio-availability and bio-equivalence.
10. Add a detailed note for the determination of Penicillin.

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

[LN 354] OCTOBER 2018 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. Give the determination of physicochemical methods of analysis of:
   a) Barbituric acid b) Rauwolfia c) Riboflavin d) Strophanthin

2. a) Describe the concept of analytical method development while using GC.
   b) Explain the methods for the estimation of ester and Ketone.

II. Write notes on: **(10 x 6 = 60)**

1. Give the methods for the validation and calibration of HPTLC.
2. Add a detailed note for the determination of Cinchona.
3. Explain the official methods for the determination of Vitamin A.
4. Give the applications of 1, 2 – Naphthoquinone 4- Sulphonate.
5. Give the principle and procedures involved in bio-availability.
6. Explain the procedure for the microbiological assay of tetanus antitoxin.
7. Describe the methods to determine the X-ray powder diffraction.
8. How are the elements of sodium and bromine are determined?
9. Describe the methods to determine the steroids.
10. Give the methods for the validation and calibration of IR spectrophotometer.

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

[LO 354] MAY 2019 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. a) Detail about the concept of validation and calibration of UV-Visible spectrophotometer.
   b) Explain the principle, applications of X-ray fluorescence spectrometry.

2. a) Write the principle and procedures involved in the assay of :
      i) Rabies vaccine ii) Oxytocin
   b) Write the procedure and principle involved in the estimation of ascorbic acid by various analytical methods.

II. Write notes on: **(10 x 6 = 60)**

1. Describe the methods for validation of Spectrofluorimeter.
2. Explain the detailed note for the determination of Sulphonamider.
3. Explain the methods and principle involved in the estimation of Hydroxyl group.
4. Write about the analytical procedure applied for the estimation of sodium and Iodine.
5. Explain the methods for the estimation of Erythroamycin.
6. Give the applications and principle involved in the utilization of 2, 6, Dichloro quinone chlorimide.
7. Write the principle and procedure involved in the biological assay of Cyanocobalamine.
8. Describe any two methods for the determination of rauwolfia alkaloids.
9. Write a note on effectiveness of antimicrobial preservatives.
10. Write detailed note on *Therapeutic Drug Monitoring.*

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

[LP 354] OCTOBER 2019 **Sub. Code: 2915**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Maximum : 100 Marks**

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

1. a) Describe the concept of analytical method development while using Spectrofluorimeter.
   b) Explain the methods for the estimation of Ketone and Hydroxyl groups.

2. Give the official methods with principle and procedure for the determination of
   a) Theophylline b) Progesterone c) Riboflavin d) Sulfamethoxazole.

II. Write notes on: **(10 x 6 = 60)**

1. Describe the methods for the validation and calibration of IR Spectrophotometer.
2. Write the various methods for the determination of Penicillin – G.
3. Enlighten the official methods for the determination of Ascorbic acid.
4. How the elements of Phosphorous and Chlorine are determined?
5. Write the applications of N-1-Naphthyl ethylene diamine as an analytical tool.
6. How will you determine the particle size by X-ray powder diffraction?
7. Explain the principle and procedure for the microbiological assay of Neomycin sulphate.
8. Give the principle and procedure involved in LAL'S test.
9. Describe the biological assay of Rabies vaccine as per I.P.
10. Explain the usage of MBTH reagent in pharmaceutical analysis.

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

[LQ 0121] JANUARY 2021 Sub. Code: 2915

(APRIL 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION

FIRST YEAR

BRANCH V – PHARMACEUTICAL ANALYSIS

PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS

Q.P. Code : 262915

Time : Three hours **Answer ALL Questions** **Maximum : 100 Marks**

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

1. a) Describe the concept of analytical method development while using HPLC.
   b) Explain the methods for the estimation of Amine and Aldehyde groups.

2. Give the official methods with principle and procedure for the determination of:
   a) Cholesterol b) Chloramphenicol c) Morphine d) Strophanthin

II. Write notes on: **(10 x 6 = 60)**

1. Describe the methods for the validation and calibration of Gas chromatography.
2. Write in detail about for the determination of Vitamin – A.
3. Explain the official methods for the analysis of Digitoxin.
4. How the elements of Iodine and Sodium are determined?
5. Give the various applications of Ninhydrin as an analytical tool.
6. Elaborate about X-ray powder diffraction studies.
7. Explain the procedure for the microbiological assay of Cyanocobalamine.
8. Enumerate principle and procedure involved in BABE analysis.
9. Describe the biological assay of Adsorbed Diphtheria antitoxin as per I.P.
10. Explain the usage of 2, 6-Dichloro quinone chlorimide reagent with principle.

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

[MPHARM 0921] SEPTEMBER 2021 Sub. Code: 2915
(OCTOBER 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION
FIRST YEAR
BRANCH V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS
Q.P. Code : 262915

Time : Three hours **Answer ALL Questions** **Maximum : 100 Marks**

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

1. What are suphonamides? Explain the detailed procedure and principle involved in the estimation of any four suphonamides.

2. Write a detailed note on product characterization for drug and product development.

II. Write notes on: **(10 x 6 = 60)**

1. Write in detail about the analysis of Chloramphenicol.
2. Give the applications of PDAB reagent as an analytical tool.
3. Write about the calibration procedure for HPTLC.
4. Give methods for the estimation of progesterone in formulations.
5. Describe biological assay procedure for tetanus antitoxin.
6. Explain the official methods for the determination of Vitamin E.
7. Explain the methods for the estimation of carbonyl group.
8. Explain the procedure for the determination of bromine and sulphur.
9. Describe the analytical method for analysis of reserpine.
10. Explain the principle and procedure involved in the qualitative and quantitative estimation of drugs using FC reagent.

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

[MPHARM 0422] APRIL 2022 Sub. Code: 2915
(OCTOBER 2021 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION
FIRST YEAR – Branch V – PHARMACEUTICAL ANALYSIS
PAPER III – ADVANCED PHARMACEUTICAL ANALYSIS
Q.P. Code : 262915

Time : Three hours **Answer ALL Questions** **Maximum : 100 Marks**

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

1. a) Describe the concept of analytical method development while using HPTLC.
   b) Explain the methods for the determination of Ester and Ketone groups.

2. Explain the official methods with principle and procedure for the determination of
   a) Phenobarbitone b) Testosterone c) Thiamine d) Streptomycin

II. Write notes on: **(10 x 6 = 60)**

1. Describe the methods for the validation and calibration of UV-Visible Spectrophotometer.
2. Detailed note on the estimation of Erythromycin.
3. Explain the official method for the determination of Vitamin E.
4. How the elements of Sulphur and Potassium are determined?
5. Give the application of 2, 4-Dinitro Phenyl hydrazine as an analytical tool.
6. Describe any three methods for particle size determination.
7. Explain the procedure and techniques for the assay of Rabies antiserum.
8. Discuss in detail about the principle and procedure involved in TDM.
9. Describe the tests for the effectiveness of Antimicrobial preservatives.
10. Explain the principle and various Pharmaceutical applications of Folin – Ciocalteu reagent.

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