

April-2001

[KD 021]

Sub. Code : 135]

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch IX — Rheumatology

(Revised Regulations)

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. List the characteristics of the Th 1 and Th 2 responses. How do they contribute to the understanding of the rheumatic diseases. (25)
2. Describe the role of laboratory investigations in the assessment of the severity and outcome in progressive systemic sclerosis. (25)
3. Briefly discuss
  - (a) The laboratory and clinical diagnosis of AIDS (Acquired Immune Deficiency Syndrome)
  - (b) Extractable nuclear antigens.
  - (c) The rationale behind "pulse" immunosuppressive treatment of connective tissue diseases.
  - (d) The differential diagnosis of an X-ray of the hands showing the classical features of rheumatoid arthritis.
  - (e) Silicone as an instigator of rheumatic diseases. (5 × 10 = 50)

November-2001

[KE 021]

Sub. Code : 1351

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions

Marks for each question are given in brackets.

1. Discuss the pathogenesis of the clinical features of Hypertrophic Osteoarthropathy. (30)
  2. Describe the Lupus Anticoagulant Test. Discuss its implications. (30)
  3. Write short notes on :
    - (a) Imaging in Early Rheumatoid Arthritis (10)
    - (b) T cells as targets of therapy (10)
    - (c) Matrix metalloproteinases (10)
    - (d) Apoptosis and Rheumatological Diseases. (10)
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March-2002

[KG 021]

Sub. Code : 1351

**D.M. DEGREE EXAMINATION.**

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

**Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Marks for each question are given in brackets.

1. Describe the clinical significance of various patterns seen on ANA testing on Hep II Cells by immunofluorescence. (30)
2. Discuss the autoantibodies associated with Dermato-polymyositis and their relationship with disease presentation. (30)
3. Write short notes on :
  - (a) Standardized radiological examination of the hand for clinical drug trials in Rheumatoid Arthritis. (10)
  - (b) Nutritional supply to articular cartilage. (10)
  - (c) Hypothalamic pituitary gonadal axis and rheumatological diseases. (10)
  - (d) Osteonecrosis. (10)

[KK 021]

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D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Theory : Two hours and  
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

A. Essay : (2 × 15 = 30)

(1) Discuss various techniques, limitation and utilization of assays used in diagnosis of Anti-phospholipid antibody syndrome.

(2) Discuss purine metabolic pathway and the defects in aetiopathogenesis of gout.

B. Short notes. (10 × 5 = 50)

- (1) ENA (Extractable Nuclear Antigen)
- (2) HLA and rheumatoid arthritis.
- (3) Stromolysis. (MMPZ).
- (4) Rheumatoid factor.
- (5) Rheumatoid nodule.
- (6) Ultrasound in rheumatology.
- (7) Synovial biopsy.
- (8) Endothelial cell.
- (9) Adhesion molecules.
- (10) C-ANCA.

February-2005

[KM 021]

Sub. Code : 1351

II. Short notes :

(10 × 5 = 50)

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours                      Maximum : 100 marks

Theory : Two hours and                      Theory : 80 marks  
forty minutes

M.C.Q. : Twenty minutes                      M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :    (2 × 15 = 30)

(1) Describe the biological actions of Vitamin D on bone and joints. Briefly mention the therapeutic applications and toxicities of hypervitaminosis D.

(2) 'Clinical applications of ultrasonography in Rheumatology' – Highlight this evolving area with specific examples.

- (a) 'HONDA SIGN'
- (b) Beta-2 Glycoprotein - 1
- (c) Cyclooxygenase 2
- (d) Ro - 52
- (e) Immunoglobulin G subclasses
- (f) Keratin sulphate
- (g) Evaluation of soft tissue of heumatism
- (h) Bone markers
- (i) Acute Phase Reactants
- (j) Thermography.

[KP 021]

Sub. Code : 1351

D.M. DEGREE EXAMINATION.

Branch IX — Rheumatology

(Higher Speciality)

(Revised Regulations)

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours                      Maximum : 100 marks

Theory : Two hours and                      Theory : 80 marks  
forty minutes

M.C.Q. : Twenty minutes                      M.C.Q. : 20 marks

Answer ALL the questions.

Draw suitable diagrams wherever necessary.

I. Essays :

(1) Discuss the roles and limitations of thermography, CT scan, MRI scan and radionuclide scan in Rheumatology practice. (20)

(2) Describe the pathways of compliment activation. Briefly mention the assay techniques. Elaborate the diagnostic and therapeutic uses of compliments and its inhibitors in Rheumatology. (15)

(3) Discuss in detail about the genetic basis, immunochemical properties, methods of measurements, and pathophysiological role (in autoimmune diseases) of Rheumatoid factor. (15)

II. Write short notes on : (6 × 5 = 30)

(a) Anti cyclic citrulinated peptide (Anti CCP).

(b) Anti centromere antibody.

(c) DEXA scan.

(d) Ultra structure of myofibril.

(e) Pattern of pulmonary function abnormalities in Rheumatic diseases.

(f) Myositis specific antigens and the special syndromes associated with them.

[KR 021]

Sub. Code : 1351

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — RHEUMATOLOGY

Paper I — BASIC SCIENCES AND DIAGNOSTIC  
PROCEDURES IN RHEUMATOLOGY AND  
CLINICAL IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Theory : Two hours and  
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL the questions.

Draw suitable diagrams wherever necessary.

I. Essay :

1. Discuss innate immunity. (20)
2. Discuss different methods of detecting antinuclear antibody and their impact in clinical application. (15)
3. Discuss biology of normal joint. (15)

II. Write short notes on :

(6 × 5 = 30)

- (a) Bone markers
  - (b) ANCA
  - (c) Elastin
  - (d) Dendritic cells
  - (e) HLA-B27
  - (f) Muscle Biopsy in polymyositis.
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August 2008

[KT 021]

Sub. Code: 1351

**D.M. DEGREE EXAMINATION**

**(Higher Specialities)**

**(Revised Regulations)**

**Branch IX – Rheumatology**

**Paper I – BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN  
RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P. Code: 161351*

**Time: Three hours**

**Maximum: 100 Marks**

**ANSWER ALL QUESTIONS**

**Draw suitable diagrams wherever necessary.**

**I. Essays:**

**2 x 20 = 40 Marks**

1. Discuss genes that are important in lupus pathogenesis. Briefly describe the important epigenetic factors and various methodologies employed in the study of lupus genetics.
2. Discuss the role of peptidylarginine deiminase (PAD) in the immunobiology of Rheumatoid Arthritis.

**II. Write short notes on:**

**10 x 6 = 60 Marks**

1. B Lymphocytes.
  2. Th 17 cells
  3. Jumping genes.
  4. TGF beta signalling in systemic sclerosis.
  5. Minor salivary gland biopsy.
  6. Myositic specific antibodies.
  7. Antinucleosome antibodies.
  8. Endothelial dysfunction.
  9. Cartilage engineering.
  10. Chronobiology and rheumatic diseases.
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August 2009

[KV 021]

Sub. Code: 1351

**D.M. DEGREE EXAMINATION**

**(Higher Specialities)**

**Branch IX – RHEUMATOLOGY**

**(Revised Regulations)**

**Paper I – BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN  
RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P. Code: 161351*

**Time: Three hours**

**Maximum: 100 Marks**

**Answer ALL questions**

**Draw suitable diagrams wherever necessary.**

**I. Essays:**

**2 x 20 = 40**

1. Discuss in detail about the various human major histocompatibility complexes and human leucocyte antigens, their association and clinical relevance in individual rheumatic diseases.
2. Describe in detail about the genetic basis, structure, immunological properties, methods of measurements and pathophysiological role of anti ds – DNA in autoimmune diseases.

**II. Write short notes on:**

**10 x 6 = 60**

1. Genomic effects of glucocorticoids.
2. Diagnostic arthroscopy.
3. Structure and functions of fibroblast.
4. Rheumatoid factor – uses and fallacies.
5. Bone markers in rheumatology.
6. Ultra structure of myofibril.
7. Role of leucotrienes in chronic inflammation.
8. Elastin.
9. Methods of measurements of bone mineral density.
10. Uses of ultrasonography in rheumatology.

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AUGUST 2010

[KX 021]

Sub. Code: 1351

**D.M. DEGREE EXAMINATION**

**(Higher Specialities)  
(Revised Regulations)**

**Branch IX – RHEUMATOLOGY**

**Paper I – BASIC SCIENCES AND DIAGNOSIC PROCEDURES  
IN RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P. Code: 161351*

**Time: Three hours**

**Maximum: 100 Marks**

**ANSWER ALL QUESTIONS**

**Draw suitable diagrams wherever necessary.**

**I. Essays:**

**2 x 20 = 40 Marks**

1. Describe the mechanism of tolerance, add a brief note on mechanism responsible in break down of tolerance.
2. What are biomarkers used in rheumatic diseases. Discuss them with reference to Osteoarthritis.

**II. Write short notes on:**

**10 X 6 = 60 Marks**

1. Monocytes.
2. Interleukin 17.
3. Anti-nucleosome antibody.
4. Immunoglobulin.
5. Arterial biopsy.
6. PCR in rheumatology.
7. Chondrocalcinosis.
8. Osteoclasts.
9. Complement system.
10. Antigen presenting cell.

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August 2011

[KZ 021]

Sub. Code: 1351

**DOCTORATE OF MEDICINE (D.M.) DEGREE EXAMINATION  
(SUPER SPECIALITIES)**

**BRANCH IX – RHEUMATOLOGY**

**BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN  
RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P. Code: 161351*

**Time : 3 hours  
(180 Min)**

**Maximum : 100 marks**

**Answer ALL questions in the same order.**

**I. Elaborate on :**

	<b>Pages (Max.)</b>	<b>Time (Max.)</b>	<b>Marks (Max.)</b>
1. Describe the cell recruitment in the pathogenesis of arthritis and add a note on angiogenesis.	11	35	15
2. Write essay on the Neurologic regulation of inflammation.	11	35	15

**II. Write notes on :**

1. A Disintegrin and metalloproteinase (ADAM) family.	4	10	7
2. Immunoblotting.	4	10	7
3. Anti-streptococcal antibodies.	4	10	7
4. Role of Nitric oxide in rheumatic diseases.	4	10	7
5. Quantitative ultrasound.	4	10	7
6. T-cell vaccination.	4	10	7
7. IL-1 trap.	4	10	7
8. Capture enzyme immunoassay.	4	10	7
9. Arthrocentesis.	4	10	7
10. Chromatin associated antigens.	4	10	7

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[LB 021]

AUGUST 2012

Sub. Code: 1351

**D.M – RHEUMATOLOGY**

**Paper – I BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN  
RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P. Code: 161351*

**Time: 3 hours  
(180 Min)**

**Maximum: 100 marks**

**Answer ALL questions in the same order.**

**I. Elaborate on:**

	<b>Pages (Max.)</b>	<b>Time (Max.)</b>	<b>Marks (Max.)</b>
1. Describe in detail about the B cell development B cell functions and immunoglobulin.	16	35	15
2. Discuss the morphology, classification and normal function of chondrocytes.	16	35	15

**II. Write notes on:**

1. What is spotted DNA microarrays?	4	10	7
2. What are regulatory T cells?	4	10	7
3. What are the products of neutrophils?	4	10	7
4. What are the main phases of the gait cycle?	4	10	7
5. How is the joint innervated?	4	10	7
6. How does bone resorption occur in rheumatoid arthritis?	4	10	7
7. What are integrins? Add a note on their functions.	4	10	7
8. What are the negative regulators of B cell activation?	4	10	7
9. What is the role of apoptosis in relation to rheumatic diseases?	4	10	7
10. What are the collagen markers? Discuss them in brief.	4	10	7

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(LD 021)

AUGUST 2013

Sub. Code:1351

**D.M. – RHEUMATOLOGY**  
**Paper – I BASIC SCIENCES AND DIAGNOSTIC PROCEDURES IN**  
**RHEUMATOLOGY AND CLINICAL IMMUNOLOGY**

*Q.P.Code: 161351*

**Time: Three Hours**

**Maximum: 100 marks**

**I. Elaborate on:**

**(2X15=30)**

1. Classification of joints. Developmental biology of diarthrodial joints.
2. Role of T cells in innate immune response. Describe Th17 cells and their role in normal and pathological situation in Rheumatology.

**II. Write notes on:**

**(10X7=70)**

1. IL-6.
2. Bone Markers.
3. Insulin like growth factors.
4. Osteoclasts.
5. Dendritic cells.
6. Neutrophil Granules.
7. Genome wide association studies.
8. Angiogenesis in Autoimmunity.
9. Death Ligands, Receptors and signals.
10. Neurogenic regulation of inflammation.

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