

April-2001

[KD 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION.

(Higher Specialities)

Branch IX — Rheumatology

(Revised Regulations)

Paper IV — RECENT ADVANCES IN
RHEUMATOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the basis of cyclooxygenase enzymes in the development of toxicity to NSAIDs. (Nonsteroidal antiinflammatory drugs) (25)
 2. IL. 6 (Interleukin 6) as a mediator in rheumatic diseases. (25)
 3. Briefly discuss
 - (a) Pathway of HLA class II molecule assembly
 - (b) COPCORD programme
 - (c) Clinical manifestations and treatment of Relapsing Polychondrites.
 - (d) Aggrecan epitopes
 - (e) Articular manifestations of diabetes mellitus.(5 × 10 = 50)
-

[KE 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper IV — RECENT ADVANCES IN
RHEUMATOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Marks for each question are given in brackets.

1. Discuss the new management strategies for Systemic Sclerosis. (30)
 2. Write short notes on :
 - (a) Early arthritis clinics (10)
 - (b) Soluble TNF receptor (10)
 - (c) Bone and Joint decade (10)
 - (d) DHEA (10)
 - (e) Gene therapy in Rheumatology (10)
 - (f) IL 1 and Joint Damage (10)
 - (g) Stage 4 sleep deficiency. (10)
-

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper IV — RECENT ADVANCES IN
RHEUMATOLOGY AND IMMUNOLOGY

Time : Three hours -Maximum : 100 marks

Answer ALL questions.

Marks for each question are given in brackets.

1. Discuss IV Ig therapy. (30)
 2. Write short notes on :
 - (a) Prognostic markers in RA. (10)
 - (b) Leflunomide clinical trials. (10)
 - (c) DALY's. (10)
 - (d) DHEA in Lupus. (10)
 - (e) Human Genome project. (10)
 - (f) Central sensitivity syndromes. (10)
 - (g) Bone marrow transplant for rheumatological diseases. (10)
-

[KK 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

**Paper IV — RECENT ADVANCES IN
RHEUMATOLOGY AND 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 Questions.

(2 × 15 = 30)

(1) Discuss the implication of early Vs late introduction of DMARD in RA. Discuss in brief various strategies and limitation.

(2) Discuss about role of Anti TNF therapy in various rheumatological disease.

B. Short notes on :

(10 × 5 = 50)

- (1) Tacrolimus
- (2) Stemcell transplant in Rheumatic disease
- (3) Chondroprotector
- (4) Auto-immune vaccines
- (5) PCR in rheumatology
- (6) COX-2 selective inhibitors
- (7) Scleroderma crisis
- (8) Von Hyadi's score
- (9) Endothelin
- (10) Nitric oxide in rheumatic disease.

[KM 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch IX—Rheumatology

Paper IV — RECENT ADVANCES IN RHEUMATOLOGY AND 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.

I Essay:

$(2 \times 15 = 30)$

- (1) Classify autoimmune periodic febrile disorders and their differential diagnosis. Briefly describe.

TRAPS (Tumour Necrosis Factor receptor associated Periodic Syndrome) in relation to clinical presentation, diagnosis and management.

- (2) Describe in detail about 'Cyclic Citrullinated Peptide' (CCP) antibody. Give evidence to justify its clinical application.

II. Short Notes :

(10 × 5 = 50)

- (a) Adalimumab
- (b) Zoledronic acid
- (c) Celecoxib Long Term Arthritis Safety Study and Vioxx Gastrointestinal outcomes Research Study trial
- (d) Osteoprotegerin
- (e) American College Rheumatology – 70 (ACR – 70) response rate
- (f) Catastrophic Antiphospholipid Antibody Syndrome
- (g) Leflunomide in Psoriatic arthritis
- (h) Role of MRI in Ankylosing Spondylitis
- (i) Gene Therapy in Rheumatology and clinical immunology
- (j) Newer Immunosuppressants.

[KP 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch IX — Rheumatology

Paper IV — RECENT ADVANCES IN RHEUMATOLOGY AND 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.

Draw suitable diagrams wherever necessary.

L Essay :

(1) Discuss in detail about the cytokine abnormalities in rheumatoid arthritis. Describe the pharmacology, indications, side effects and major clinical trials of Anakinra in rheumatoid arthritis. (20)

(2) Discuss the recent advances in the pathophysiology of Fibromyalgia syndrome. Briefly describe the newer modalities of therapy in resistant Fibromyalgia syndrome (15)

(3) Discuss the current status of 'BIOLOGICALS' (Biological Response Modifiers) in Rheumatology practice. (15)

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

- (a) "Humanisation" of monoclonal antibodies
- (b) Pathway of HCA Class I molecule assembly
- (c) ILAR associations and organs
- (d) Amyloidosis in rheumatic diseases
- (e) Cartilage transplantation
- (f) B Lymphocyte depletion therapy in active rheumatoid arthritis.

[KR 024]

Sub. Code : 1354

D.M. DEGREE EXAMINATION.

Branch IX — Rheumatology

Paper IV — RECENT ADVANCES IN
RHEUMATOLOGY AND 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.

I. Essay :

1. Discuss applications of MRI in various joint disorders. (20)
2. Discuss biological markers in rheumatic diseases. (15)
3. Discuss concepts of early rheumatoid arthritis. (15)

II. Write short notes on :

(6 × 5 = 30)

- (a) Insulin resistance in rheumatoid arthritis.
 - (b) Activated "T" cells in SLE (Systemic Lupus Erythematosus).
 - (c) Anti B-cell therapy in autoimmune diseases.
 - (d) Tocilizumab.
 - (e) Non-urate crystal arthropathy.
 - (f) Atherosclerosis in vasculitis.
-

August 2008

[KT 024]

Sub. Code: 1354

D.M. DEGREE EXAMINATION

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

Branch IX – Rheumatology

**Paper IV– RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time: Three hours

Maximum: 100 Marks

ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary.

I. Essays:

2 x 20 = 40 Marks

1. Discuss the Wnt/catenin pathway and its role in bone biology.
2. Discuss the current concepts relating to atherosclerosis in autoimmune rheumatic diseases.

II. Write short notes on:

10 X 6 = 60 Marks

1. FRAX tool.
 2. Golimumab.
 3. Stem cell treatment of rheumatic diseases.
 4. Febuxostat.
 5. Nitric oxide donating NSAIDs.
 6. Interventional Rheumatology.
 7. Magnetic Resonance spectroscopy in rheumatic diseases.
 8. Interferon gamma assays for Tuberculosis.
 9. STAT4 and disease susceptibility.
 10. Caspase inhibitors.
-

August 2009

[KV 024]

Sub. Code: 1354

D.M. DEGREE EXAMINATION

**(Super Specialities)
(Revised Regulations)**

Branch IX – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays:

2 x 20 = 40

1. Mesenchymal stem cells: Potential role in treatment of rheumatic diseases.
2. Role of TGF-beta in pathogenesis of systemic sclerosis and as a potential therapeutic target.

II. Write short notes on:

10 x 6 = 60

1. Micro-RNA and rheumatic diseases.
2. Use of Cyclophosphamide in SSc interstitial lung disease.
3. IL-18: Role in Still's diseases.
4. Regulatory role of heat shock proteins in chronic arthritis.
5. Auto-inflammatory syndromes.
6. MAPK and SyK inhibitors.
7. Epigenetic factors in pathogenesis of autoimmune disease.
8. Use of statins in rheumatic diseases.
9. ¹⁸F- Fluorodeoxyglucose positron emission tomography scanning.
10. Advances in detection of antibodies to citrullinated proteins.

AUGUST 2010

[KX 024]

Sub. Code: 1354

D.M. DEGREE EXAMINATION

**(Super Specialities)
(Revised Regulations)**

Branch IX – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

Time: Three hours

Maximum: 100 Marks

ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary.

I. Essays:

2 X 20 = 40 Marks

1. Discuss in details. Pros and Cons of cytokine targeted therapy.
2. The recent classification criteria of Stogren's syndrome. Discuss advantage and disadvantage.

II. Write short notes on:

10 X 6 = 60 Marks

1. B cell therapy.
2. Micro-array in rheumatology.
3. Febuxostat.
4. HIV associated joint disease.
5. Nitro steroids.
6. Newer therapies in Gout.
7. Hepatitis B related autoimmune disease.
8. Paediatric Fibromyalgia.
9. MAP kinase inhibitors.
10. Stem cell therapy in rheumatic disease.

August 2011

[KZ 024]

Sub. Code: 1354

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

BRANCH IX – RHEUMATOLOGY

RECENT ADVANCES IN RHEUMATOLOGY AND IMMUNOLOGY

Q.P. Code: 161354

**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. Discuss the significant advances in the pathogenesis of Human inflammatory myopathies. | 11 | 35 | 15 |
| 2. Discuss the current nosology of diffuse connective tissue diseases and the correlations between autoantibodies and clinical features of each of them. | 11 | 35 | 15 |

II. Write notes on :

- | | | | |
|--|---|----|---|
| 1. Denosumab. | 4 | 10 | 7 |
| 2. Recommended monitoring of cytotoxic drug therapy in SLE. | 4 | 10 | 7 |
| 3. Non criteria manifestations of antiphospholipid syndrome. | 4 | 10 | 7 |
| 4. Lupus erythematosus panniculitis. | 4 | 10 | 7 |
| 5. CNS sarcoid vasculitis. | 4 | 10 | 7 |
| 6. Classification of hypertrophic osteoarthropathy. | 4 | 10 | 7 |
| 7. Staging systems for osteonecrosis. | 4 | 10 | 7 |
| 8. Muckle – Wells syndrome. | 4 | 10 | 7 |
| 9. Genetic factors in Psoriatic Arthritis. | 4 | 10 | 7 |
| 10. Approach to the management of pregnancy in SLE. | 4 | 10 | 7 |

[LB 024]

AUGUST 2012

Sub. Code: 1354

D.M – RHEUMATOLOGY

**Paper –IV- RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

**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. Discuss in detail about Cell – Targeted Biologics and the emerging targets in Rheumatology.	16	35	15
2. Write essay on Criteria, Etiology, Pathophysiology, Clinical features, Assessment, Diagnosis and Management of Fibromyalgia.	16	35	15

II. Write notes on:

1. What is the future of Nonsteroidal Anti-Inflammatory Drugs?	4	10	7
2. What is Methotrexate flu? Give a brief account.	4	10	7
3. What are the definitions related to Pain?	4	10	7
4. What is Trigger Point therapy? Give a brief account.	4	10	7
5. What are the new molecular targets for treatment of Systemic Lupus Erythematosus?	4	10	7
6. What are the Overlap syndromes? Discuss them in brief.	4	10	7
7. What are the diagnostic tests for Antiphospholipid syndrome? Discuss them in brief.	4	10	7
8. What is the role of genetics in Ankylosing spondylitis? Discuss in brief.	4	10	7
9. What is the relationship between Arthritis and Gut Inflammation?	4	10	7
10. What are the rheumatologic complications of Kidney Diseases?	4	10	7

D.M. – RHEUMATOLOGY
Paper – IV RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY
Q.P.Code: 161354

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Discuss elaborately about the biomarkers in Systemic Lupus Erythematosus and add a note on their limitations.
2. Discuss the 2012 provisional classification criteria for polymyalgia rheumatica.

II. Write notes on:

(10X7=70)

1. What is glenohumeral instability? Add a note on it.
2. What are the osteoarticular manifestations of Treponema pallidum?
3. What are the common adverse effects of glucocorticoids?
4. What are the proposed consensus criteria for the classification of childhood Takayasu's arteritis?
5. What are the major therapeutic trials in antineutrophil cytoplasmic antibody (ANCA) associated vasculitis?
6. What are the bone manifestations of Type I Gaucher's disease?
7. What is Sillence classification (modified) of osteogenesis imperfecta syndromes? And add a note on the genetics of each type.
8. What are the newer markers in Paget's disease?
9. What are cathepsin-k inhibitors?
10. What are the clinical manifestations of rickets?

[LF 024]

AUGUST 2014

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q. P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions in the same order.

I. Elaborate on:

(2 x 15 = 30)

1. Discuss in detail about the 2012 Chapel Hill Consensus Criteria for Vasculitides and the management of Polyarteritis Nodosa.
2. Discuss in detail about the Newer Biomarkers for Osteo arthritis.

II. Write notes on:

(10 x 7 = 70)

1. Newer Cytokine targets in Rheumatoid Arthritis.
2. Immunoglobulin G4 diseases (Ig G4).
3. Statin induced myopathies.
4. Luminex Assays.
5. Preclinical auto antibodies.
6. Promiscuous gene expression.
7. SLICC 2012 criteria for Systemic Lupus Erythematosus.
8. Drug trials in Scleroderma.
9. Radiography versus MRI in Spondylo arthropathy.
10. Ocrelizumab.

[LH 024]

AUGUST 2015

Sub. Code: 1354

D.M. – RHEUMATOLOGY

PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY AND IMMUNOLOGY

Q.P. Code: 161354

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Write an essay on Newer B cell targeted therapies.
2. Update on Etiopathogenesis, genetics, imaging, biomarkers and management of Osteoarthritis.

II. Write notes on :

(10 x 7 = 70)

1. NETosis in rheumatic diseases.
2. Genome wide association studies (GWAS) in rheumatic diseases.
3. Non radiographic axial spondyloarthritis - imaging and relevant trials.
4. NLRP3 inflammasome.
5. ACR 2012 criteria for Sjogrens syndrome.
6. Microbiome and rheumatic diseases.
7. Dendritic cell as therapeutic in rheumatic diseases.
8. 2012 American College of Rheumatology Guidelines for the Management of Gout.
9. Necrotising myositis.
10. Update on pathogenesis of scleroderma and targeted therapy.

[LI 024]

FEBRUARY 2016

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. The updated ASAS/EULAR Recommendations for the Management of Ankylosing Spondylitis. Write in detail about MRI in management of seronegative spondyloarthritis.
2. Write an essay on genetics and epigenetics of systemic lupus erythematosus.

II. Write notes on :

(10 x 7 = 70)

1. Dual energy CT.
2. Long non coding RNA.
3. Treat to target in psoriatic arthritis.
4. FDG-PET CT studies in large vessel vasculitis.
5. Interstitial lung diseases associated with connective tissue diseases.
6. Biosimilars.
7. Newer mendelian disorders.
8. Newer agents in management of osteoporosis.
9. Sjogrens syndrome activity assessment.
10. Endoplasmic reticulum aminopeptidases.

(LJ 024)

AUGUST 2016

Sub. Code:1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P.Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Write an Essay on European League Against Rheumatism (EULAR) 2013 Guidelines for Rheumatoid Arthritis.
2. Discuss about newer aspects in association with disease activity, damage and Quality of life in Systemic Lupus Erythematosus.

II. Write notes on: **(10 x 7 = 70)**

1. HLA G in Rheumatoid Arthritis.
2. Diet in Gout.
3. Tofacitinib.
4. Juvenile Disease Activity Score (JADAS) in Juvenile Idiopathic Arthritis.
5. 2013 Classification Criteria of Scleroderma.
6. Novel Therapies for Antiphospholipid Syndrome.
7. Type I Interferons in SLE.
8. Immunogenicity of TNF Blockers.
9. Golimumab.
10. IMPROVED STUDY.

(LL 024)

AUGUST 2017

Sub. Code:1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P.Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss 'Treat to target' approach in SLE.
2. Discuss about new Biomarkers in Vasculitis.

II. Write notes on:

(10 x 7 = 70)

1. T cell aging.
2. Emerging therapies for osteoarthritis.
3. Biologics in Takayasu's Arteritis.
4. Posterior Reversible Encephalopathy Syndrome in SLE.
5. Newer biomarkers in systemic sclerosis.
6. Future of treatment of Psoriatic Arthritis.
7. Osteopenia-latest concepts.
8. Safety profile of anti Gout agents.
9. Chronic Non bacterial osteomyelitis.
10. Curcuminoids in rheumatology.

(LM 024)

FEBRUARY 2018

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P.Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Etiopathogenesis, clinical features, pathology and management of Immunoglobulin 4 (IgG4) diseases.
2. Update on etiopathogenesis of psoriatic arthritis, drugs and important trials.

II. Write notes on: **(10 x 7 = 70)**

1. Extremity magnetic resonance imaging (e-MRI) in rheumatology.
2. Targeted therapy in antiphospholipid antibody syndrome.
3. Small molecular therapeutics for Rheumatoid arthritis.
4. Autophagy in lupus.
5. American College of Rheumatology 2010 criteria for Fibromyalgia.
6. Origin of disease in Rheumatoid arthritis.
7. DCVAS study and future direction of vasculitis and classification.
8. ASPIRE studies.
9. Podocytopathies.
10. Follicular helper T cells.

(LN 024)

AUGUST 2018

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P.Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Newer imaging modalities in management of a patient with peripheral inflammatory arthritis. Discuss the relevant studies in brief.
2. Update on autoantibodies in inflammatory myositis and overlap syndromes. Write a note on recent advances in the management of inflammatory myositis.

II. Write notes on: **(10 x 7 = 70)**

1. DETECT guidelines for management of pulmonary hypertension.
2. m-TOR pathway in rheumatic/ systemic autoimmune connective tissue diseases.
3. Refractory ANCA associated vasculitis.
4. Tofacitnib.
5. New criteria for polymyalgia Rheumatica.
6. Next Generation sequencing.
7. Stimulator of interferon genes (STING) associated vasculopathy.
8. Biologics treatment in a patient with latent TB.
9. Genetics of Takayasu Arteritis.
10. Deficiency of Interleukin receptor antagonist.

(LP 024)

AUGUST 2019

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Recent advances in management of Rheumatoid Arthritis.
2. Assessment of disease in ankylosing spondylitis – mention newer instruments for evaluation.

II. Write notes on:

(10 x 7 = 70)

1. Canakinumab.
2. Biologics for lupus.
3. Interferon signature.
4. IgG 4 related disease.
5. PRECEPT study.
6. e-MRI in Rheumatology.
7. PEGLOTICASE.
8. “Atherosclerosis is an autoinflammatory disease” – Discuss.
9. IL23R.
10. Circadian rhythm and rheumatic illness.

(LR 024)

**NOVEMBER 2020
(AUGUST 2020 SESSION)**

Sub. Code: 1354

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: (2 x 15 = 30)

1. Recent advances in the classification, diagnosis, management and prognosis of Takayasu's arteries. Outline outcome measures for Takayasu's arteritis.
2. IgG4 related disease. Various presentation and management

II. Write notes on: (10 x 7 = 70)

1. Anti-Carbamylated peptide antibodies.
2. Immune response in covid19 infection in various rheumatological disorders.
3. POEMs neuropathy.
4. HEAF Study in chronic widespread pain.
5. Digital artery volume index in systemic sclerosis.
6. Serological testing in small vessel vasculitis.
7. Low density granulocytes and monocytes.
8. New serum biomarkers for systemic lupus erythematosus.
9. Anti- Apo lipoprotein A1 arthritis
10. Mimics of myositis

D.M. – RHEUMATOLOGY

**Paper IV – RECENT ADVANCES IN RHEUMATOLOGY AND
IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: (2 x 15 = 30)

1. Write on kawasaki like illness and multisystem inflammatory syndrome in children associated with COVID 19.
2. Write in detail about the latest classification criteria of IgG4 related disease. Explain IgG4 related disease responder index?

II. Write notes on: (10 x 7 = 70)

1. Various rituximab dosing and regimes in maintenance of remission in ANCA associated vasculitis.
2. Mechanism, signalling and relevance of type -1 interferon axis in systemic lupus erythematosus. Mention different drugs targeting this axis. What is the evidence of its clinical use in treatment of systemic lupus erythematosus?
3. Systemic sclerosis related ILD - Write a note on predictors of progression, mechanisms of fibrosis and newer therapeutic options.
4. Write down the risk assessment of antiphospholipid antibody syndrome (APS). Name the newer auto-antibodies in APS, their prevalence and significance.
5. What is the current understanding on the role of microbiome in spondyloarthritis? Discuss about the possible role of fecal transplantation in spondyloarthritis.
6. What is neutrophil extra cellular traps (NETS)? What is the role of NETs in lupus, ANCA associated vasculitis and rheumatoid arthritis.
7. 'PICO' statement of PALACE trials.
8. Measurement of spinal disease progression by imaging in axial spondyloarthritis.
9. Evolution of arthralgia to undifferentiated arthritis to preclinical RA to Early rheumatoid arthritis (RA) to RA - Define each term, discuss risk stratification and preventive trials in rheumatoid arthritis.
10. What is immune check point inhibition and the drugs targeting these? What are the rheumatological manifestations associated with immune check point inhibition? How do you manage these manifestations?

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

[DM 0223]

FEBRUARY 2023

Sub. Code :1354

D.M. - CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

**PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Write briefly on fibrotic pathways in systemic sclerosis. Evidence of stem cell therapy in management of systemic sclerosis. Discuss Nintedanib and Pirfenidone in management of systemic sclerosis related ILD.
2. Write about Apremilast under the following:
 - a) Mechanism of action.
 - b) Pharmacodynamics and side effect profile.
 - c) Trials in Psoriatic Arthritis and results.
 - d) Uses of Apremilast other than in PsA with trials.

II. Write notes on: **(10 x 7 = 70)**

1. Minor salivary gland histology in relation to Sjogren's syndrome with diagram.
2. Explain the evidence for IL-17 blockade in Ankylosing Spondylitis.
3. Evidence for Biological therapy in Large vessel vasculitis.
4. Treat to target in Juvenile Idiopathic Arthritis – current understanding.
5. Newer medications for treatment of Gout.
6. Newer understanding on pathogenesis of Behcet's disease.
7. Mechanism, signalling and relevance of type -1 interferon axis in systemic lupus erythematosus. Mention different drugs targeting this axis. What is the evidence of its clinical use in treatment of systemic lupus erythematosus?
8. Write about aetiology, clinical presentation, diagnosis and management of DADA2.
9. Discuss about CAR-T cells and their application in autoimmune diseases.
10. Explain the concepts of Artificial intelligence, machine learning and deep learning and their role in Rheumatology.

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

[DM 0823]

AUGUST 2023

Sub. Code :1354

D.M. – CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

**PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss evidence for various steroid sparing strategies in the treatment of Autoimmune Rheumatic diseases.
2. Pulmonary artery hypertension in systemic sclerosis: Screening, diagnosis and recent trends in treatment.

II. Write notes on:

(10 x 7 = 70)

1. Lupus podocytopathy.
2. Interferon as a target of treatment in lupus: Discuss evidence.
3. Interstitial Pneumonitis with autoimmune features: Diagnostic approach, treatment and outcome.
4. Single cell studies in autoimmune diseases.
5. Principal component analysis.
6. Chimeric antigen receptor cells for autoimmunity.
7. Role of diet in autoimmunity.
8. Multisystem inflammatory syndrome in children (MIS-C).
9. Use of telemedicine for continuity of Rheumatology care, discuss the Pros and Cons.
10. Role of artificial intelligence in Rheumatology.

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

[DM 0124]

JANUARY 2024

Sub. Code :1354

D.M. – CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

**PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss evolution of Novel biomarkers in Rheumatoid arthritis.
2. Strategies for prevention of infections before initiating biologic therapy in Autoimmune inflammatory rheumatic diseases

II. Write notes on:

(10 x 7 = 70)

1. PUFA supplementation in Inflammatory rheumatic diseases.
2. Newer drugs in the management of Psoriatic arthritis.
3. Daratumumab.
4. Chikungunya virus vaccine.
5. Strategies in tissue engineering used for cartilage regeneration.
6. Nanobodies in Rheumatology.
7. Discuss the 2019 ACR/EULAR classification criteria for Ig G4 related disease.
8. Senotherapeutics.
9. Complement therapeutics in Rheumatology.
10. Management of enthesitis.

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

[DM 0824]

AUGUST 2024

Sub. Code :1354

D.M. – CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY AND IMMUNOLOGY

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Write in detail about Inflammatory Bowel disease associated Arthritis and other Enteropathic Arthropathies.
2. Explain in detail about the pathogenesis and treatment of Inflammasome Mediated diseases.

II. Write notes on:

(10 x 7 = 70)

1. PHAROS Registry.
2. B-Cell depletion in SLE.
3. Upadacitinib.
4. ERAP-1 and Aminopeptidases in Ankylosing Spondylitis.
5. Myositis ossificans.
6. RF positivity in ANCA associated vasculitis.
7. The four classic hereditary auto inflammatory syndromes.
8. Experimental Osteoarthritis therapies.
9. Markers of bone turnover.
10. Takotsubo Syndrome and Rheumatic disease.

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

[DM 0225]

FEBRUARY 2025

Sub. Code :1354

D.M. – CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

**PAPER IV – RECENT ADVANCES IN RHEUMATOLOGY
AND IMMUNOLOGY**

Q.P. Code: 161354

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 15 = 30)**

1. Describe the role of IL17/ IL23 axis in psoriatic arthritis. Expand on the therapies targeting IL17/IL23 with evidence from trials for rheumatological indications.
2. Classification criteria, diagnosis and Management of IgG4 Related Disease. Describe the Histopathological, changes.

II. Write notes on: **(10 x 7 = 70)**

1. Role of Ultrasound and DECT in crystal arthritis.
2. CAR T cell therapy.
3. Disease activity assessment tools in Idiopathic Inflammatory Myositis.
4. Recent understanding of the pathogenesis of Systemic Sclerosis.
5. What are Artificial Intelligence, Machine Learning and Deep Learning? What are its implications in Rheumatology?
6. Complications and its management in Primary Sjogren's Syndrome.
7. Stem Cell Therapy in Rheumatic Diseases.
8. Autoimmune inner ear disease.
9. Antigen based therapies in SLE.
10. Genetics of axial Spondyloarthritis.
