Faculty of Medicine

Nootan Medical College & Research Centre

Teaching & Evaluation Scheme for Faculty of Medicine

Semester/Year: Second Year M.B.B.S.

Program Name: Bachelor of Medicine and Bachelor of Surgery

Effective from Academic Year: 2020-2021

Program Code: MB01

Course Code	Subject Name	Hrs/Week			UA		IA		Total	
		L	P	Total	Max	Min	Max	Min	Max	Min
1PA201	Pathology-I	5	-	5	100	40	-	-	200	100
1PA202	Pathology-II		-		100	40	-	-		
1PA203	Pathology Practical	-	4	4	100	50	-	-	100	50
1PA204	Pathology IA Theory	-	-	-	-	-	100	40	200	100
1PA205	Pathology IA Practical	-	-	-	-	-	100	40		

Note:

1. Minimum to pass in Internal Assessment:50% combined in theory and practical, and must secure at least 40% separately in Theory and Practical of Internal Assessment to be eligible for appearing for University Examinations

2. Pass Criteria =

i) Mandatory 50% marks separately in Theory and practical (Practical = Practical/Clinical + Viva)

ii) Subjects with two papers, the student must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both paper together) to pass

3. Mandatory to pass separately in 1) Theory 2) Practical and 3) Internal Assessment

UA = University Assessment, IA = Internal Assessment

Department of Pathology

Teaching approach and assessment Format for Submission to university

- **General rules and Teaching approach**
- **Goal, objectives of MBBS programme**
- **Goal, objectives of Pathology**

(i) GOAL:

The broad goal of teaching of undergraduate student in Pathology is to provide the students with a comprehensive knowledge of the mechanisms and causes of disease, in order to enable him/her to achieve complete understanding of the natural history and clinical manifestations of disease, and to prepare him to be a teacher of Pathology.

(ii) OBJECTIVES:

(a) KNOWLEDGE:

At the end of the course, the student shall be able to:

1. Describe the structure and ultra structure of a sick cell, mechanisms of cell degeneration, cell death and repair and be able to correlate structure and functional alterations.
2. Explain the patho physiological process which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestations associated with it;
3. Describe the mechanisms and patterns to tissue response to injury such that he/she can appreciate the pathophysiology of disease processes and their clinical manifestations;
4. Correlate normal and altered morphology (Gross and Microscopic) of different organ systems in common disease to the extent needed for understanding of disease processes and their clinical significance.

(b) SKILLS:

At the end of the course, the student shall be able to:

1. Describe the rationale and principles of technical procedures of the diagnostic laboratory tests and interpretation of the results;
2. Perform the simple bed-side tests on blood, urine and other biological fluid samples;
3. Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders;

(c) INTEGRATION:

At the end of training he/she shall be able to integrate the causes of disease and relationship of different etiological factors (social, economic and environmental) that contribute to the natural history of diseases most prevalent in India.

(d) CURRICULUM: As per MCI norms and recommendation.

- **Syllabus – theory and practicals Pathology**

1. TEACHING PROGRAMME

Comprises of theory, Practicals and Tutorials. This includes lectures, practicals, small group learning/ self directed learning on:

I. General Pathology
II. Systemic Pathology
III. Clinical Pathology

Theory topics are divided into core areas that are essential for students to enable them to function as a contact doctor and the essential areas which include hi-tech investigation belonging to specialist. All throughout the course, emphasis will be laid on diagnosis, prognosis and therapeutic aspects.

No.	Topic
1	Describe the role of a pathologist in diagnosis and management of disease
2	Describe the history and evolution of Pathology , common definitions and terms used in Pathology
Cell Injury and Adaptation	
3	Describe the causes, mechanisms, types, morphology and Distinguish between reversible-irreversible injury effects of cell injury and their clinical significance.
4	Describe and discuss cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia
5	Retrogressive cell injury- cloudy change,hyaline change,mucoid change,Fatty change, Intracellular accumulation of fats, proteins, carbohydrates, pigments.
6	Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis
7	Describe and discuss pathologic calcifications, gangrene.
8	Describe and discuss the mechanisms free radical injury and apoptosis.
Amyloidosis	
9	Describe the pathogenesis and pathology of amyloidosis
Inflammation	
10	Define and describe the general features of acute and chronic inflammation.
11	Describe the causes ,mediators vascular and cellular events of acute inflammation.
12	Define chronic inflammation - types of non-specific and granulomatous inflammations; enumerate examples of each.
Healing and repair	
13	Define and describe the process of repair and regeneration including wound healing and its types.
Hemodynamic disorders	
14	describe edema, hyperemia, congestion, hemorrhage, pathogenesis and clinical correlations

15	Define and describe shock, its pathogenesis and its stages
16	Define and describe normal haemostasis and the etiopathogenesis ,types and consequences of thrombosis and embolism
17	Define and describe Ischaemia/infarction its types, etiology, morphologic changes and clinical effects
Neoplastic disorders	
18	Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, biologic, behaviour and spread. Differentiate between benign from maignant neoplams
19	Enumerate carcinogens and describe the process of carcinogenesis &molecular basis of cancer
20	Describe the effects of tumor on the host including paraneoplastic syndrome
21	Describe immunology and the immune response to cancer
Basic diagnostic cytology	
22	Basic diagnostic cytology
23	Describe the basis of exfoliative cytology including the technique & stains used
Immunopathology and AIDS	
24	Describe the principles and mechanisms involved in immunity, hypersensitivity reactions
25	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection
26	Define autoimmunity. Enumerate autoimmune disorders, describe the pathogenesis of systemic Lupus Erythematosus
27	Define and describe the pathogenesis and pathology of HIV and AIDS
28	Define and describe the pathogenesis of other common autoimmune diseases
29	Define and describe the pathogenesis and pathology of malaria
30	Define and describe the pathogenesis and pathology of cysticercosis
Infections and Infestations	
31	Define and describe the pathogenesis and pathology of leprosy
32	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases
Genetic and paediatric diseases	
33	Describe the pathogenesis and features of common cytogenetic abnormalities and mutations in childhood
34	Describe the pathogenesis and pathology of tumor and tumourlike conditions in infancy and childhood
35	Describe the pathogenesis of common storage disorders in infancy and childhood
Environmental and nutritional diseases	
36	Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco and alcohol
37	Describe the pathogenesis of disorders caused by protein calorie malnutrition and starvation
38	Describe the pathogenesis of obesity and its consequences
Introduction to haematology	

39	Describe hematopoiesis and extramedullary hematopoiesis
40	Describe the role of anticoagulants in hematology
41	Define and classify anemia, Enumerate the investigation of anemia
Microcytic anemia	
42	Describe iron metabolism, Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia
Macrocytic anemia	
43	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency, Describe laboratory investigations of macrocytic anemia
44	Enumerate the differences and describe the etiology and Enumerate the differences and describe the etiology and K KH N Lecture Small group Written/ Viva voce General Medicine distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia
Hemolytic anemia	
45	Define and classify hemolytic anemia, Describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia
46	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia
47	Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia
48	Describe the peripheral blood picture in different hemolytic anaemias
49	Discribe the correct technique to perform a cross match
Aplastic anemia	
50	Enumerate the etiology, pathogenesis and LAB.findings in aplastic anemia
51	Enumerate the indications and describe the findings in bone marrow aspiration and biopsy
Leukocyte disorders	
52	Enumerate and describe the causes of leucocytosis leucopenia lymphocytosis and leukemoid reactions
53	Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukemia
Lymph node and spleen	
54	Enumerate the causes and describe the differentiating features of lymphadenopathy, and pathology of tuberculous lymphadenitis
55	Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma
56	Enumerate and differentiate the causes of splenomegaly
Hemorrhagic disorders	
57	Describe normal hemostasis
58	Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and haemophilia's
59	Differentiate platelet from clotting disorders based on the clinical and hematologic features
60	Define and describe disseminated intravascular coagulation, its laboratory findings and

	diagnosis of disseminated intravascular coagulation
61	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of Vitamin K deficiency
Blood banking and transfusion	
62	Classify and describe blood group systems (ABO and RH)
63	Enumerate the indications, describe the principles, enumerate and demonstrate the steps of compatibility testing
64	Enumerate blood components and describe their clinical uses
65	Enumerate and describe infections transmitted by blood transfusion
66	Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction
67	Enumerate the indications and describe the principles and procedure of autologous transfusion
Clinical Pathology	
68	Describe abnormal findings in body fluids in various disease states
Gastrointestinal tract	
69	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers
70	Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease
71	Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach
72	Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine
73	Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease
74	Describe the etiology, pathogenesis, pathology and distinguishing features of carcinoma of the colon
Hepatobiliary system	
75	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia
76	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clincial manifestations, complications and consequences
77	Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis
78	Describe the pathophysiology pathology and progression of alcoholic liver disease including cirrhosis
79	Describe the etiology, pathogenesis and complications of portal hypertension
Respiratory system	
80	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia
81	Describe the etiology, gross and microscopic appearance and complications of lung abscess
82	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis

83	Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis
84	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease
85	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance,metastases and complications of tumors of the lung and pleura
86	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma
Cardiovascular system	
87	Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis
88	Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms
89	Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure
90	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever
91	Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease
92	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis
93	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion
94	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies
95	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system
Urinary Tract	
96	Describe the normal histology of the kidney
97	Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure
98	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure
99	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure
100	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis
101	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy
102	Enumerate and describe the findings in glomerular manifestations of systemic disease
103	Enumerate and classify diseases affecting the tubular interstitium

104	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis
105	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy
106	Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the kidney
107	Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney
108	Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy
109	Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors
110	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies
111	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors
Male Genital Tract	
112	Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors
113	Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis
114	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia
115	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate
116	Describe the etiology, pathogenesis, pathology and progression of prostatitis
Female Genital Tract	
117	Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix
118	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium
119	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas
120	Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors
121	Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms
122	Describe the etiology and morphologic features of cervicitis
123	Describe the etiology, hormonal dependence, features and morphology of endometriosis
124	Describe the etiology and morphologic features of adenomyosis

125	Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia
Breast	
126	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease
127	Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast
128	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia
Endocrine system	
129	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings
130	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis
131	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism
132	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus
133	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism
134	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer
135	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency
136	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome
137	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms
Bone and soft tissue	
138	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis
139	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors
140	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors
141	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone
142	Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis
Skin	
143	Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin
144	Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin
145	Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma

Central nervous system	
146	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis
147	Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors
Eye	
148	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma

DOAP	
1	Identify and describe various forms of cell injuries, their manifestations and consequences in gross and microscopic specimens
2	Identify and describe amyloidosis in a pathology specimen
3	Identify and describe acute and chronic inflammation in gross and microscopic specimens
4	Identify and describe the gross and microscopic features of infarction in a pathologic specimen
5	Observe a diagnostic cytology and its staining and interpret the specimen
6	Perform, Identify and describe the peripheral blood picture in anemia
7	Identify and describe the peripheral smear in microcytic anemia
8	Identify and describe the peripheral blood picture of macrocytic anemia
9	Prepare a peripheral blood smear and identify hemolytic anaemia from it
10	identify and describe the features of tuberculous lymphadenitis in a gross and microscopic specimen
11	Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen
12	Identify and describe the gross specimen of an enlarged spleen
13	Describe the features of plasma cell myeloma
14	Describe abnormal urinary findings in disease states and identify and describe common urinary abnormalities in a clinical specimen
15	Describe and interpret the abnormalities in a panel containing semen analysis, thyroid function tests, renal function tests or liver function tests
16	Interpret liver function and viral hepatitis serology panel. Distinguish obstructive from non-obstructive jaundice based on clinical features and liver function tests
17	Interpret abnormalities in cardiac function testing in acute coronary syndromes
18	Describe and identify the morphologic and microscopic features of carcinoma of the breast
19	Identify, distinguish and describe common tumors of the skin
20	Identify the etiology of meningitis based on given CSF parameters
Practical	
1	Describe the ultrastructure of connective tissue
2	Identify exocrine gland under the microscope & distinguish between serous, mucous and mixed acini
3	Identify the lymphoid tissue under the microscope & describe microanatomy of lymph

	node, spleen, thymus, tonsil and correlate the structure with function
4	Identify bone under the microscope, Classify various types and describe the structure-function correlation of the same
5	Identify cartilage under the microscope & describe various types and structure-function correlation of the same describe various types and structure-function correlation of the same
6	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT
7	Describe test for ESR, Osmotic fragility, Hematocrit. Note the findings and interpret the test results etc
8	Describe steps for reticulocyte and platelet count
9	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC

- **Academic calendar for internal examination**
- **Internal assessment-** 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations
- 1st Internal assesment- January 2021,
- 2nd internal assesment- June 2021,
- Preliminary Exam- one month before university exam(exact date of internal examination will be in consultation with other department of 2nd MBBS.)
- **University Examination -**Mandatory 50% marks separately in theory and practical (practical = practical/ clinical + viva)

General rules for internal examination and university examination (As per college council recommendation)

At least one question in each paper of the clinical specialties should test knowledge - competencies acquired during the professional development programme (AETCOM module); Skills competencies acquired during the Professional Development programme (AETCOM module) must be tested during clinical, practical and viva.

- In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass in the said subject.
- Criteria for passing in a subject: A candidate shall obtain 50% marks in University conducted examination separately in Theory and Practical (practical includes: practical/ clinical and viva voice) in order to be declared as passed in that subject.

- Course of 1st internal (100 marks theory and 50 marks practical), 2nd internal will be as per theory and practical topics covered during the period.
- Prelim examination will be of two papers covering whole syllabus, and paper style will be as per university examination.

- **Marks scheme for <u>internal examination</u> (theory and practical)**

1st and 2nd internal exam- Theory 100 marks (1 paper), Practical 50 marks

Prelim Exam- Theory Paper 1 and 2 (100 marks each) , Practical 100 marks

- **<u>University examination</u> regulations (as per college council recommendation)**
- **Second MBBS subject wise mark scheme- theory and practical**
- Pathology - 2 papers each of 3 hours - 100 marks each.

Practical - 100 marks

- **Division of topics for paper I and II**
- **<u>Topics to be covered in First paper:</u>**
  - Cell injury and adaptation
  - Amyloidosis
  - Inflammation
  - Healing and repair
  - Hemodynamic disorders

- Neoplastic disorders
- Basic diagnostic cytology
- immunopathology and AIDS
- Infections and infestations
- Genetic and paediatric diseases
- Environmental and nutritional diseases
- Introduction to haematology
- Microcytic anaemia
- Macrocytic anaemia
- Hemolytic anaemia
- Aplastic anaemia
- Leukocyte disorders
- Lymphnode and spleen
- Hemorrhagic disorders
- Blood banking and transfusion
- Clinical Pathology

- **Topics to be covered in Second paper:**
  - Gastrointestinal tract
  - Hepatobiliary system
  - Respiratory system
  - Cardiovascular system
  - Urinary tract
  - Male genital tract
  - Female genital tract
  - Breast
  - Endocrine system

- Bone and soft tissue
- Skin
- Central nervous system
- Eye

- **Structure of paper**

Model Theory Paper Pathology

	Paper I & II	Marks
Q. 1 LAQ	Any 1 out of 2	20 marks
Q. 2 SAQ	Any 3 out of 4	3 X 10 = 30 marks
Q. 3 Objective type questions	Any 10 out of 12	3 X 10 = 30 marks
Q. 4 MCQ (Ten)	Any 10 out of 12	10 X 2 = 20 marks
Total		**100 marks**

- **Structure for practical examination including division of marks for pair of examiners**

Exercise (clinical pathology(06) hematology(08) histopathology(06))	20 marks
Table viva – two each 15 marks	30 marks
Total	**50 marks**

Sponsorship letter

- **Prepare MCQ- Topic wise to score MCQ bank as per our students (Each topic minimum 50)**