

PATHOLOGY

A. Theory:

(a) General Pathology

1. Cell Injury and cellular adaptation
2. Inflammation and repair (Healing)
3. Immunity.
4. Degeneration
5. Thrombosis and embolism
6. Oedema
7. Disorders of metabolism
8. Hyperplasia and hypertrophy
9. Anaplasia
10. Metaplasia
11. Ischaemia
12. Haemorrhage
13. Shock
14. Atrophy
15. Regeneration
16. Hyperemia
17. Infection
18. Pyrexia
19. Necrosis
20. Gangrene
21. Infarction
22. Amyloidosis
23. Hyperlipidaemia and lipidosis
24. Disorders of pigmentation
25. Neoplasia (Definition, variation in cell growth, nomenclature and taxonomy, characteristics of neoplastic cells, aetiology and pathogenesis, grading and staging, diagnostic approaches, interrelationship of tumor and host, course and management).
26. Calcification
27. Effects of radiation
28. Hospital infection

(b) Systemic pathology

In each system, the important and common diseases should be taught, keeping in view their evolution, aetio-pathogenesis, mode of presentation, progress and prognosis, namely: -

1. Mal-nutrition and deficiency diseases.
2. Diseases of Cardiovascular system
3. Diseases of blood vessels and lymphatics
4. Diseases of kidney and lower urinary tract
5. Diseases of male reproductive system and prostate
6. Diseases of the female genitalia and breast.
7. Diseases of eye, ENT and neck
8. Diseases of the respiratory system.
9. Diseases of the oral cavity and salivary glands.
10. Diseases of the G.I. system
11. Diseases of liver, gall bladder, and biliary ducts
12. Diseases of the pancreas (including diabetes mellitus)
13. Diseases of the haemopoetic system, bone marrow and blood
14. Diseases of glands-thymus, pituitary, thyroid, and parathyroid, adrenals, parotid.
15. Diseases of the skin and soft tissue.
16. Diseases of the musculo-skeletal system.
17. Diseases of the nervous system.
18. Leprosy.

(c) Microbiology

(I) General Topics:

1. Introduction
2. History and scope of medical microbiology
3. Normal bacterial flora
4. Pathogenicity of micro-organisms
5. Diagnostic microbiology

(II) Immunology:

1. Development of immune system
2. The innate immune system
3. Non-specific defense of the host
4. Acquired immunity
5. Cells of immune system; T cells and Cell mediated immunity; B cells and Humoral immunity
6. The compliment system

7. Antigen; Antibody; Antigen – Antibody reactions (Anaphylactic and Atopic); Drug Allergies
8. Hypersensitivity
9. Immuno-deficiency
10. Auto-immunity
11. Transplantation
12. Blood group antigens
13. Clinical aspect of immune-pathology.

(III) Bacteriology:

1. Bacterial structure, growth and metabolism
2. Bacterial genetics and bacteriophage
3. Identification and cultivation of bacteria
4. Gram positive aerobic and facultative anaerobic cocci, eg. Streptococci, Pneumococci.
5. Gram positive anaerobic cocci, e.g. peptostreptococci
6. Gram negative aerobic cocci, eg. Neisseria, moraxella, kingella.
7. Gram positive aerobic bacilli, eg. Corynebacterium, bacillus anthracis, cereus subtilis, mycobacterium tuberculosis, M. leprae, actinomycetes; nocardia, organism of enterobacteriac group.
8. Gram positive anaerobic bacilli, eg. Genus clostridium, lactobacillus.
9. Gram negative anaerobic bacilli, eg. Bacteroides, fragilis, fusobacterium.
10. Other like- cholera vibrio, spirochaetes, leptospirae, mycoplasma, chlamydiae, rickettsiae, yersinia and pasteuria.

(IV) Fungi and Parasites:

1. Fungi – (1) True pathogens (cutaneous, sub-cutaneous and systemic infective agents), (2) Opportunistic pathogens.
2. Protozoa – (1) Intestinal (Entamoeba histolytica, Giardia lamblia, Cryptosporidium parvum), (2) Urogenital (Trichomonas vaginalis) (3) Blood and Tissues (Plasmodium-species, Toxoplasma gondii, Trypanosoma species, Leishmania species).
3. Helminths –(1) Cestodes (tapeworms)- Echinococcus granulosus, Taenia solium, Taenia saginata, (2) Trematodes (Flukes): Paragonimus westermani, Schistosoma mansoni, Schistosoma haematobium (3) Nematodes- Ancylostoma duodenale, Ascaris lumbricoides, Enterobius vermicularis, Strongyloides, Stercoralis, Trichuris trichiura, Brugia malayi, Dracunculus medinensis, Loa loa, Onchocerca volvulus, Wuchereria bancroftii).

(V) Virology:

1. Introduction
 2. Nature and classification of viruses
 3. Morphology and replication of viruses
 4. DNA viruses:
 - (i) parvo virus
 - (ii) herpes virus, varicella virus, CMV, EBV.
 - (iii) hepadna virus (hepatitis virus)
 - (iv) papova virus
 - (v) adeno virus
 - (vi) pox virus- variola virus, vaccinia virus, molluscum contagiosum etc.
 5. RNA viruses:
 - (a) orthomyxo virus:
 - (i) entero virus
 - (ii) rhino virus
 - (iii) hepato virus
 - (b) paramyxo virus-rubeola virus, mumps virus, Influenza virus etc.
 - (c) phabdo virus
 - (d) rubella virus (german measles)
 - (e) corona virus
 - (f) retro virus
 - (g) yellow fever virus
 - (h) dengue, Chikungunya virus
 - (i) Miscellaneous virus:
 - (i) arena virus
 - (ii) corona virus
 - (iii) rota virus
 - (iv) bacteriophages
- (VI) Clinical microbiology: (1) Clinically important micro organisms
(2) Immunoprophylaxis, (3) Antibiotic Sensitivity Test (ABST)
- (VII) Diagnostic procedures in microbiology: (1) Examination of blood and stool (2) Immunological examinations (3) Culture methods (4) Animal inoculation.
- (VIII) Infection and Disease: (1) Pathogenicity, mechanism and control (2) Disinfection and sterilization (3) Antimicrobial chemotherapy (4) Microbial pathogenicity
- (d) Histopathology:
1. Teaching of histopathological features with the help of slides of common

pathological conditions from each system.

1. Teaching of gross pathological specimens for each system.
2. Histopathological techniques, e.g. fixation, embedding, sectioning and staining by common dyes and stains.
3. Frozen sections and its importance.
4. Electron microscopy; phase contrast microscopy.

B. Practical or clinical:

- (1) Clinical and Chemical Pathology: estimation of haemoglobin (by acidometer) count of Red Blood Cells and White Blood Cells, bleeding time, clotting time, blood grouping, staining of thin and thick films, differential counts, blood examination for parasites, erythrocyte sedimentation rate.
- (2) Urine examination, physical, chemical microscopical, quantity of albumin and sugar.
- (3) Examination of Faeces: physical, chemical (occult blood) and microscopical for ova and protozoa.
- (4) Methods of sterilization, preparation of a media, use of microscope, gram and acid fast stains, motility preparation, gram positive and negative cocci and bacilli, special stains for corynebacterium gram and acid fast stains of pus and sputum.
- (5) Preparation of common culture medias, e.g. nutrient agar, blood agar, Robertson's Cooked Meal media (RCM) and Mac conkey's media.
- (6) Widal test demonstration.
- (7) Exposure to latest equipment, viz. auto-analyzer, cell counter, glucometer.
- (8) Histopathology
 - (a) Demonstration of common slides from each system.
 - (b) Demonstration of gross pathological specimens.
 - (c) Practical or clinical demonstration of histopathological techniques, i.e. fixation, embedding.
 - (d) Sectioning, staining by common dyes and stain, frozen section and its importance.
 - (e) Electron microscopy, phase contrast microscopy.

C. Examination:

1. Theory:

- 1.1 Number of papers- 02
- 1.2 Marks: Paper I- 100; Paper II- 100
- 1.3 Contents:

1.3.1 Paper-I: Section A- General Pathology

- 50 marks

Section B- Systemic Pathology - 50 marks
1.3.2. Paper- II: Section A-
● Bacteriology - 25 marks

● Fungi and Parasites -
25 marks

Section B-

● Virology - 20 marks

● Clinical Microbiology
and Diagnostic procedures - 10 marks

● Microbiological control
and mechanism of pathogenicity - 10 marks

● General Topics
Immuno-pathology - 10 marks

2. Practical including viva voce or oral:

2.1. Marks: 100

2.2. Distribution of marks; Marks

2.2.1. Practicals - 15

2.2.2. Spotting - 20

2.2.3. Histopathological slides - 10

2.2.4. Journal or practical record - 05

2.2.5. Viva voce (oral) - 50

(Including 5 marks for interpretation of routine pathological reports)

Total marks 100

FORENSIC MEDICINE AND TOXICOLOGY

I. Forensic Medicine

A. Theory:

1. Introduction

- (a) Definition of forensic medicine.
- (b) History of forensic medicine in India.
- (c) Medical ethics and etiquette.
- (d) Duties of registered medical practitioner in medico-legal cases.

2. Legal procedure

- (a) Inquests, courts of India, legal procedure.
- (b) Medical evidences in courts, dying declaration, dying deposition, including medical certificates, and medico-legal reports.

3. Personal identification

- (a) Determination of age and sex in living and dead; race, religion.
- (b) Dactylography, DNA finger printing, foot print.
- (c) Medico-legal importance of bones, scars and teeth, tattoo marks, handwriting, anthropometry.
- (d) Examination of biological stains and hair.

4. Death and its medico-legal importance

- (a) Death and its types, their medico-legal importance
- (b) Signs of death (1) immediate, (2) early, (3) late and their medico-legal importance
- (c) Asphyxial death (mechanical asphyxia and drowning).
- (d) Deaths from starvation, cold and heat etc.

5. Injury and its medico-legal importance

Mechanical, thermal, firearm, regional, transportation and traffic injuries; injuries from radiation, electrocution and lightning.

6. Forensic psychiatry

- (a) Definition; delusion, delirium, illusion, hallucinations; impulse and mania; classification of Insanity.
- (b) Development of insanity, diagnosis, admission to mental asylum.

7. Post-mortem examination (autopsy)

- (a) Purpose, procedure, legal bindings; difference between pathological and medico-legal autopsies.
- (b) External examination, internal examination of adult, foetus and skeletal remains.

8. Impotence and sterility

Impotence; Sterility; Sterilization; Artificial Insemination; Test Tube Baby; Surrogate mother.

9. Virginity, defloration; pregnancy and delivery.

10. Abortion and infanticide

- (a) Abortion: different methods, complications, accidents following criminal abortion, MTP.
- (b) Infant death, legal definition, battered baby syndrome, cot death, legitimacy.

11. Sexual Offences

Rape, incest, sodomy, sadism, masochism, tribadism, bestiality, buccal coitus and other sexual perversions.

II. Toxicology

1. General Toxicology

- (a) Forensic Toxicology and Poisons
- (b) Diagnosis of poisoning in living and dead,
- (c) General principles of management of poisoning,
- (d) Medico –legal aspects of poisons,
- (e) Antidotes and types.

2. Clinical toxicology

- (a) Types of Poisons:
 - (i) Corrosive poisons (Mineral acids, Caustic alkalis, Organic acids, Vegetable acids)
 - (ii) Irritant poisons (organic poisons – Vegetable and animal; Inorganic poisons – metallic and non-metallic; Mechanical poisons)
 - (iii) Asphyxiant poisons (Carbon monoxide; Carbon dioxide; Hydrogen sulphide and some war gases)
 - (iv) Neurotic poisons (Opium, Nux vomica, Alcohol, Fuels like kerosene and petroleum products, Cannabis indica, Dhatura, Anaesthetics Sedatives and Hypnotics, Agrochemical compounds, Belladonna, Hyoscyamus, Curare, Conium)
 - (v) Cardiac poisons (Digitalis purpurea, Oleander, Aconite, Nicotine)

- (vi) Miscellaneous poisons (Analgesics and Antipyretics, Antihistaminics, Tranquillisers, antidepressants, Stimulants, Hallucinogens, Street drugs etc.)

III. Legislations relating to medical profession

- (a) the Homoeopathy Central Council Act, 1973 (59 of 1973);
- (b) the Consumer Protection Act, 1986 (68 of 1986);
- (c) the Workmen's compensation Act, 1923 (8 of 1923);
- (d) the Employees State Insurance Act, 1948 (34 of 1948);
- (e) the Medical Termination of Pregnancy Act, 1971 (34 of 1971);
- (f) the Mental Health Act, 1987 (14 of 1987);
- (g) the Indian Evidence Act, 1872 (1 of 1872);
- (h) the Prohibition of Child Marriage Act, 2006 (6 of 2007);
- (i) the Personal Injuries Act, 1963 (37 of 1963)
- (j) the Drugs and Cosmetics Act, 1940 (23 of 1940) and the rules made therein;
- (k) the Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954);
- (l) the Transplantation of Human Organs Act, 1994 (42 of 1994);
- (m) the Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 (57 of 1994);
- (n) the Homoeopathic Practitioners (Professional Conduct, Etiquette and Code of Ethics) Regulations, 1982;
- (o) the Drugs Control Act, 1950 (26 of 1950);
- (p) the Medicine and Toiletary Preparations (Excise Duties) Act, 1955 (16 of 1955);
- (q) the Indian Penal Code (45 of 1860) and the Criminal Procedure Code (2 of 1974) {relevant provisions}
- (r) the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (1 of 1996);
- (s) the Clinical Establishment (Registration and Regulation) Act, 2010 ((23 of 2010).

B. Practical:

1. Demonstration:

- (a) Weapons
- (b) Organic and inorganic poisons
- (c) Poisonous plants
- (d) Charts, diagrams, photographs, models, x-ray films of medico-legal importance
- (e) Record of incidences reported in newspapers or magazines and their explanation of medico-legal importance.

(f) Attending demonstration of ten medico-legal autopsies.

2. Certificate Writing:

Various certificates like sickness certificate, physical fitness certificate, birth certificate, death certificate, injury certificate, rape certificate, chemical analyzer (Regional Forensic Laboratory), certificate for alcohol consumption, writing post-mortem examination report.

C. Examination:

1. Theory:

1.1. Number of papers-01

1.2. Marks: 100

Forensic Medicine: 50 marks

Toxicology: 50 marks

2. Practical including viva voce or oral:

2.1. Marks: 100

2.2. Distribution of marks:

2.2.1. Spotting

Marks

40

2.2.3. Journal or practical records

10

2.2.4. Viva voce (oral)

50

Total

100

ORGANON OF MEDICINE WITH HOMOEOPATHIC PHILOSOPHY

A. Theory:

1. **Aphorisms 29-104** including foot notes of Organon of Medicine (5th & 6th Editions translated by R.E. Dudgeon and W. Boericke).
2. **Homoeopathic philosophy:**
 - 2.1. Chapters of Philosophy books of J.T. Kent (Chapter 1 to 17, 23 to 27, 31 to 33), Stuart Close (Chapters- 8, 9, 11, 12) and H.A. Roberts (Chapters 3, 4, 5, 6, 8, 9, 11, 17, 18, 19, 20), related to Aphorisms 29-104 of Organon of Medicine.
 - 2.2. Symptomatology:
Details regarding Symptomatology are to be comprehended by referring to the relevant aphorisms of Organon of medicine and chapters of the books on homoeopathic philosophy.
 - 2.3. Causations:
Thorough comprehension of the evolution of disease, taking into account pre-disposing, fundamental, exciting and maintaining causes.
 - 2.4. Case taking:
The purpose of homoeopathic case taking is not merely collection of the disease symptoms from the patient, but comprehending the patient as a whole with the correct appreciation of the factors responsible for the genesis and maintenance of illness. Hahnemann's concept and method of case taking, as stated in his Organon of Medicine is to be stressed upon.
 - 2.5. Case processing: This includes,
 - (i) Analysis of Symptoms,
 - (ii) Evaluation of Symptoms,
 - (iii) Miasmatic diagnosis,
 - (iv) Totality of symptoms

B. Practical or clinical:

1. Clinical posting of students shall be started from Second B.H.M.S. onwards.
2. Each student shall maintain case records of at least ten acute cases.

C. Examination:

1. Theory
 - 1.1. No. of papers- 01
 - 1.2. Marks: 100
 - 1.3. Distribution of marks:

- 1.3.1. Logic – 15 marks
- 1.3.2. Psychology – 15 marks
- 1.3.3. Fundamentals of homoeopathy and aphorisms 1 to 104 – 50 marks
- 1.3.4. Homoeopathic philosophy – 20 marks

2. **Practical including viva voce or oral:**

2.1. Marks: 100

2.2. Distribution of marks. Marks

2.2.1 Case taking and Case processing with communication skills 40

2.2.2 Journal 10

2.2.3 Viva voce 50

Total **100**

HOMOEOPATHIC MATERIA MEDICA

A. Theory:

(a) In addition to syllabus of First B.H.M.S. Course, following shall be taught, namely: -

- (i) Science and philosophy of homoeopathic material media.
- (ii) Different ways of studying homoeopathic material medica (e.g. psycho-clinical, pathological, physiological, synthetic, comparative, analytical, remedy relationships, group study, portrait study etc.)
- (iii) Scope and limitations of homoeopathic material medica.
- (iv) Concordance or remedy relationships.
- (v) Comparative homoeopathic material medica, namely: -

Comparative study of symptoms, drug pictures, drug relationships.
- (vi) Theory of biochemic system of medicine, its history, concepts and principles according to Dr. Wilhelm Heinrich Schuessler. Study of 12 biochemic medicines. (tissue remedies).

(b) Homoeopathic Medicines to be taught in Second B.H.M.S. as per Appendix-I.

APPENDIX – I

1. Aconitum napellus
2. Aethusa cynapium
3. Allium cepa
4. Aloe socotrina
5. Antimonium crudum
6. Antimonium tartaricum
7. Apis mellifica
8. Argentum nitricum
9. Arnica Montana
10. Arsenicum album
11. Arum triphyllum
12. Baptisia tinctoria
13. Bellis perenis
14. Bryonia alba
15. Calcarea carbonica
16. Calcarea fluorica

17. Calcarea phosphoric
18. Calcarea sulphurica
19. Calendula officinalis
20. Chamomilla
21. Cina
22. Cinchona officinalis
23. Colchicum autumnale
24. Colocynthis
25. Drosera
26. Dulcamara
27. Euphrasia
28. Ferrum phosphoricum
29. Gelsemium
30. Hepar sulph
31. Hypericum perforatum
32. Ipecacuanha
33. Kali muriaticum
34. Kali phosphoricum
35. Kali sulphuricum
36. Ledum palustre
37. Lycopodium clavatum
38. Magnesium phosphoricum
39. Natrum muriaticum
40. Natrum phosphoricum
41. Natrum sulphuricum
42. Nux vomica
43. Pulsatilla
44. Rhus toxicodendron
45. Ruta graveolens
46. Silicea
47. Spongia tosta
48. Sulphur
49. Symphytum officinale
50. Thuja occidentalis

B. Practical or clinical:

This will cover,-

- (i) case taking of acute and chronic patients

- (ii) case processing including totality of symptoms, selection of medicine, potency and repetition schedule

Each student shall maintain practical record or journal with record of five cases.

C. Examination:

The syllabus covered in First BHMS and Second BHMS course are as the following, namely: -

1. Theory:

- 1.1. Number of papers-01
1.2. Marks: 100
1.3. Distribution of marks:
1.3.1. Topics of I BHMS- 50 Marks
1.3.2. Topics of II BHMS- 50 Marks

2. Practical including viva voce or oral:

2.1.	Marks: 100	
2.2.	Distribution of marks;	<u>Marks</u>
2.2.1.	Case taking and case processing of one long case	30
2.2.2.	Case taking of one short case	10
2.2.2.	Maintenance of practical record or journal	10
2.2.4.	Viva voce (oral)	<u>50</u>
	Total	<u>100</u>

GYNAECOLOGY AND OBSTETRICS

Second B.H.M.S

A. Theory:

1. Gynaecology

- (a) A review of the applied anatomy of female reproductive systems-development and malformations.
- (b) A review of the applied physiology of female systems-puberty, menstruation and menopause.
- (c) Gynaecological examination and diagnosis.
- (d) Development anomalies
- (e) Uterine displacements.
- (f) Sex and intersexuality.
- (g) General Management and therapeutics of the above listed topics in Gynaecology.

2. Obstetrics

- (a) Fundamentals of reproduction.
- (b) Development of the intrauterine pregnancy-placenta and foetus.
- (c) Diagnosis or pregnancy-investigations and examination.
- (d) Antenatal care.
- (e) Vomiting in pregnancy.
- (f) Preterm labour and post maturity.
- (g) Normal labour and puerperium
- (h) Induction of labour
- (i) Postnatal and puerperal care.
- (j) Care of the new born.
- (k) Management and therapeutics of the above listed topics in obstetrics.

B. Practical or clinical:

Practical or clinical classes shall be taken on the following topics in Second B.H.M.S

- (a) Gynaecological case taking
- (b) Obstetrical case taking
- (c) Adequate grasp over Homoeopathic principles and management

There shall be no examination of this subject in 2nd year

SURGERY

A. Theory:

(a) General Surgery:-

1. Introduction to surgery and basic surgical principles.
2. Fluid, electrolytes and acid-base balance.
3. Haemorrhage, haemostasis and blood transfusion.
4. Boil, abscess, carbuncle, cellulitis and erysipelas.
5. Acute and chronic infections, tumors, cysts, ulcers, sinus and fistula.
6. Injuries of various types; preliminary management of head injury
7. Wounds, tissue repair, scars and wound infections.
8. Special infections (Tuberculosis, Syphilis, Acquired Immuno Deficiency Syndrome, Actinomycosis, Leprosy).
9. Burn
10. Shock
11. Nutrition
12. Pre-operative and post-operative care.
13. General management, surgical management and homoeopathic therapeutics of the above topics will be covered.

Examination: There will be no examination in the subject in Second B.H.M.S.