



Mission Statement

To nurture a vibrant academic platform with a scientific temper, thereby creating leaders in surgical education with a spirit of innovation and inquiry, with provision of comprehensive, cost-effective, patient-centred, quality health care

Motto

Educate, Innovate, Heal



Course Outcomes

At the end of training in Surgery the undergraduate student shall be able to:

Number	Description
CO1	Diagnose common surgical conditions and institute appropriate treatment protocols
CO2	Identify the conditions requiring emergency intervention and urgent referrals
CO3	Effectively communicate with patients and their relatives and counsel regarding the need of surgery in a given condition, with empathy and a humane approach
CO4	Institute pre-operative and post-operative care of surgical patients with appropriate follow-up strategy
CO5	Deliver emergency care and institute resuscitative measures in life-saving situations
CO6	Justify and administer appropriate intravenous fluids and blood / blood products
CO7	Implement the principles of asepsis, advocate rational use of antibiotics and adopt universal safety precautions in practice
CO8	Perform common diagnostic and simple surgical procedures
CO9	Advise and interpret relevant diagnostic tests based on scientific validity and cost-effectiveness
CO10	Conduct relief operations during mass casualties
CO11	Apply medico-legal and ethical principles related to healthcare
CO12	Participate in National Health Programs and demonstrate knowledge regarding National Health Policy
CO13	Demonstrate a spirit of inquiry and constructive criticism, with basic research acumen
CO14	Perform an objective self-assessment periodically and nurture a quality of life-long learning
CO15	Work as an effective member of a healthcare team with the highest professional standards



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Syllabus:

General Surgery

1. History of Surgery
2. Wound healing
3. Shock
4. Burns
5. Fluid Electrolyte balance / imbalance
6. Acid Base balance / disorders
7. Blood and Blood transfusion
8. Tetanus
9. Gas Gangrene
10. Sterilization and Disinfection, OT techniques
11. General aspects of Neoplasia
12. Acute infections
13. Chronic infections
14. Pre and Post-operative care
15. Informed Consent
16. Nosocomial Infections
17. Diseases of Arteries
18. Diseases of Veins
19. Diseases of Lymphatics
20. Diseases of Nerves
21. Surgical Nutrition
22. Hand Infections
23. Skin grafting
24. Skin and subcutaneous tissue
25. Diabetic Foot
26. Necrotizing Fasciitis
27. Principles of Minimal Access Surgery, Robotic Surgery
28. Principles of Organ Transplantation
29. Surgical Ethics
30. Surgical Audit, Informed Consent
31. Polytrauma
32. Day Care Surgery
33. Universal Safety Precautions
34. Principles of Chemotherapy, Principles of Radiotherapy



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ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NAGPUR
Department of General Surgery
Undergraduate Curriculum



Head, Face Neck

35. Head injury
36. Hydrocephalus, Spina Bifida
37. Salivary Gland diseases
38. Cleft Lip, Cleft Palate
39. Diseases of Oral Cavity
40. Neck swellings
41. Diseases of Thyroid
42. Diseases of Parathyroid
43. Thoracic Outlet Syndrome
44. Maxillo-facial injuries
45. Jaw Tumors

Breast

46. Benign Breast Diseases
47. Carcinoma Breast

Endocrine

48. Adrenal Gland disorders

Gastro-intestinal Tract

49. Oesophagus
50. Stomach and Duodenum
51. Small Intestine
52. Large Intestine
53. Appendix
54. Rectum and Anal Canal
55. Abdominal Wall
56. Umbilicus
57. Peritoneum
58. Upper GI Bleeding
59. Lower GI Bleeding

Hepato-biliary and Spleen

60. Extra-hepatic Biliary Apparatus
61. Liver
62. Pancreas
63. Spleen
64. Portal Hypertension
65. Obstructive Jaundice
66. Abdominal Tuberculosis



Genito-urinary Tract

67. Kidney
68. Ureter
69. Urinary Bladder
70. Urethra
71. Scrotum
72. Penis
73. Genito-urinary Tuberculosis
74. Hernia
75. Haematuria
76. Acute Urinary Retention

CVTS

77. Chest Injuries
78. Cardiac Arrest
79. Myocardial revascularization
80. Pulmonary Embolism, Empyema Thoracis

Paediatric Surgery

81. Congenital Diaphragmatic Hernia, Tracheo-Oesophageal Fistula
82. Anorectal Malformations
83. Hypospadias, Epispadias, Ectopia Vesicae
84. Hirschsprung's Disease
85. Congenital Hypertrophic Pyloric Stenosis, Meconium Ileus, Choledochal Cyst
86. Exomphalos, Gastroschisis

Skills:

- Art of history taking
- Arriving at a logical working diagnosis
- Formulation of relevant investigation protocol for common surgical conditions and emergencies
- Preparation of treatment algorithm for common surgical conditions and emergencies
- Writing a case record
- Infection Control practices and use of Personal Protective Equipment



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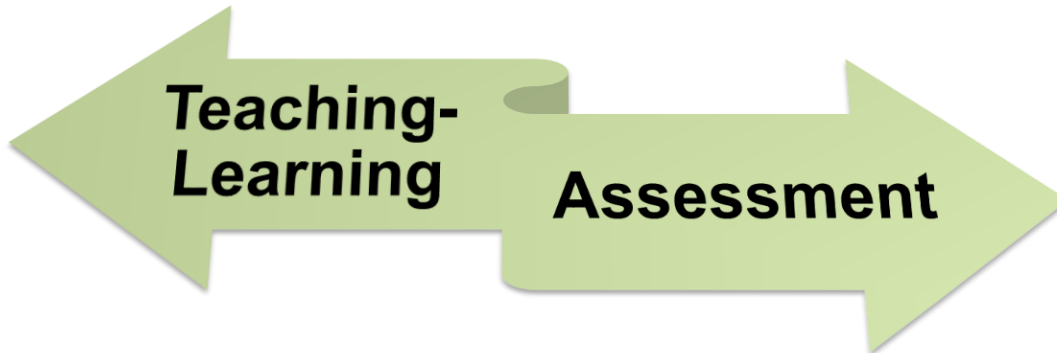
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- Informed Consent for a procedure
- Techniques of asepsis
- Principles of First Aid
- IV access and monitoring
- Start and monitor blood transfusion
- Venesection
- Cardiopulmonary Resuscitation
- Evaluation and stabilization of a patient with acute volume loss and GI bleed
- Nasogastric tube insertion
- Urinary catheterization
- Digital rectal examination
- Proctoscopy
- Endotracheal intubation
- Palpation of breast lesions
- Basic suturing
- Wound debridement
- Wound dressings
- Controlling external haemorrhage
- Bandages
- Biopsies of surface lesions
- Incision and drainage of Abscesses
- Removal of small subcutaneous swellings
- Peritoneal and pleural tapping
- Tracheostomy
- Cricothyroidotomy
- Intercostal drainage
- Identification of indications for surgical referral
- Assessment of burn injury with preliminary management
- Counseling for organ donation
- Basic Life Support
- Principles of pre-hospital care and triage
- Demonstration of Advanced Trauma Life Support
- Principles and steps for common nerve blocks used in Surgery



Curriculum:



Teaching-Learning:

- Didactic Lectures
- Tutorials
- Seminars
- Integrated Teaching
- Self-directed Learning
- Clinical postings



Didactic Lectures:

Semester	Professional Year	Number of Lectures
3rd	2 nd	13
4th		12
6th	3 rd (I)	13
7th		12
8th	3 rd (II)	35
9th		35
Total		120

Tutorials / Seminars / Integrated Teaching:

Semester	Professional Year	Number of Sessions	Total Hours
6 th	3 rd (I)	1 session / week of 2 hours	40
7 th		-----	-----
8 th	3 rd (II)	1 session / week of 2 hours, Seminar once in 15 days	60
9 th		1 session / week of 2 hours, Seminar once in 15 days	60
Total		160	

Self-Directed Learning:

Semester	Professional Year	Number of hours
6 th	3 rd (I)	5
8 th	3 rd (II)	7
9 th		8
Total		20



Clinical Postings:

Semester	Professional Year	Number of weeks
3 rd	2 nd	4*
4 th		4
6 th	3 rd (I)	4
7 th		4
8 th	3 rd (II)	4
9 th		4
Total		24

**Orientation Program for 5 days*

Allied postings:

Subject	Semester	Number of weeks
Orthopaedics	3 rd	2
	6 th	4
	8 th	2
Radio-diagnosis	8 th	2
Emergency Medicine	8 th	2
Dentistry	6 th	1
Anaesthesia	8 th	1



Undergraduate Lecture Program

3rd Semester (13)

1. History of Surgery
2. Wound healing
3. Shock-I
4. Shock-II
5. Burns-I
6. Burns-II
7. Fluid Electrolyte balance / imbalance
8. Acid Base balance / disorders
9. Blood and Blood transfusion
10. Tetanus
11. Gas Gangrene
12. Sterilization and Disinfection, OT techniques
13. General aspects of Neoplasia

4th Semester (12)

14. Acute infections
15. Chronic infections
16. Hand Infections
17. Nosocomial Infections
18. Diseases of Arteries-I
19. Diseases of Arteries-II
20. Diseases of Veins-I
21. Diseases of Veins-II
22. Diseases of Lymphatics-I
23. Diseases of Lymphatics-II
24. Diseases of Nerves
25. Surgical Nutrition

6th Semester (13)

26. Skin grafting
27. Skin and subcutaneous tissue
28. Diabetic Foot
29. Principles of Organ Transplantation
30. Principles of Minimal Access Surgery, Robotic Surgery



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31. Surgical Ethics
32. Universal Safety Precautions
33. Salivary Gland diseases-I
34. Salivary Gland diseases-II
35. Diseases of Oral Cavity-I
36. Diseases of Oral Cavity-II
37. Diseases of Oral Cavity-III
38. Thoracic Outlet Syndrome

7th Semester (12)

39. Neck swellings-I
40. Neck swellings-II
41. Diseases of Thyroid-I
42. Diseases of Thyroid-II
43. Diseases of Thyroid-III
44. Diseases of Parathyroid
45. Benign Breast Diseases-I
46. Benign Breast Diseases-II
47. Carcinoma Breast-I
48. Carcinoma Breast-II
49. Adrenal Gland disorders-I
50. Adrenal Gland disorders-II

8th Semester (35)

51. Oesophagus-I
52. Oesophagus-II
53. Oesophagus-III
54. Stomach and Duodenum-I
55. Stomach and Duodenum-II
56. Stomach and Duodenum-III
57. Stomach and Duodenum-IV
58. Small Intestine
59. Large Intestine-I
60. Large Intestine-II
61. Appendix
62. Rectum and Anal Canal-I



63. Rectum and Anal Canal-II
64. Rectum and Anal Canal-III
65. Abdominal Wall
66. Umbilicus
67. Peritoneum
68. Upper GI Bleeding
69. Lower GI Bleeding
70. Extra-hepatic Biliary Apparatus-I
71. Extra-hepatic Biliary Apparatus-II
72. Extra-hepatic Biliary Apparatus-III
73. Liver-I
74. Liver-II
75. Liver-III
76. Pancreas-I
77. Pancreas-II
78. Pancreas-III
79. Spleen-I
80. Spleen-II
81. Portal Hypertension-I
82. Portal Hypertension-II
83. Obstructive Jaundice-I
84. Obstructive Jaundice-II
85. Abdominal Tuberculosis

9th Semester (35)

86. Kidney-I
87. Kidney-II
88. Ureter
89. Urinary Bladder-I
90. Urinary Bladder-II
91. Urethra
92. Scrotum-I
93. Scrotum-II
94. Penis
95. Haematuria
96. Acute Urinary Retention
97. Hernia-I
98. Hernia-II
99. Genito-urinary Tuberculosis
100. Head injury








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101. Hydrocephalus, Spina Bifida
102. Cleft Lip, Cleft Palate
103. Maxillo-facial injuries
104. Jaw Tumors
105. Chest Injuries
106. Cardiac Arrest
107. Myocardial revascularization
108. Pulmonary Embolism, Empyema Thoracis
109. Congenital Diaphragmatic Hernia, Tracheo-Oesophageal Fistula
110. Anorectal Malformations
111. Hypospadias, Epispadias, Ectopia Vesicae
112. Hirschsprung's Disease
113. Congenital Hypertrophic Pyloric Stenosis, Meconium Ileus, Choledochal Cyst
114. Exomphalos, Gastroschisis
115. Necrotizing Fasciitis
116. Pre and Post-operative care
117. Surgical Audit, Informed Consent
118. Polytrauma
119. Principles of Chemotherapy, Radiotherapy
120. Day Care Surgery

Tutorials:

-  **Surgical Pathology**
-  **Instruments**
-  **Tubes - Catheters**
-  **Short Procedures**
-  **Radiology**



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Surgical pathology:

- Goitre
- Cholelithiasis
- Appendicitis
- Carcinoma Penis
- Carcinoma Breast
- Carcinoma head of Pancreas
- Renal Tumors
- Amputated Foot
- Trichobezoar
- Hemicolectomy
- Urolithiasis
- Lipoma
- Oral Malignancy
- Hydatid Cyst
- Splenomegaly
- Testicular Malignancy
- Testicular torsion
- Carcinoma Stomach
- Intestinal perforation
- Meckel's Diverticulum

Instruments:

- Allis forceps
- Babcock forceps
- Kocher forceps
- Lanes forceps
- Sinus forceps
- Straight artery forceps
- Curved artery forceps
- Small artery forceps
- Right angled forceps
- Needle Holder
- Needles (round-bodied, cutting)
- Cheatle forceps
- Randall's Pyelolithotomy forceps
- Des Jardin's Choledocholithotomy forceps
- BP handle
- Surgical blades



- Humby's knife
- Suture cutting scissors
- Dissecting scissors
- Langenbach's retractor
- Doyen's retractor
- Deaver's retractor
- Zerny's retractor
- Balfour's retractor
- Sponge holding forceps
- Towel clips
- Proctoscope
- Fistula probe
- Anal dilators
- Urethral dilator
- Intestinal clamps
- Tongue depressor

Tubes-Catheters:

- Foley's catheter
- Ryles tube
- Urobag
- Scalp vein set
- IV set
- Blood transfusion set
- Nelaton's catheter
- Tracheostomy tube
- Endotracheal tube
- Turpentine oil
- Gel foam
- IV fluids (5% D, RL, NS, DNS, Dextran 40)
- Sutures (Vicryl, Silk, Ethilon, Prolene, Catgut, Linen)
- Betadine
- Betascrub
- Savlon
- Hydrogen Peroxide
- Inj. Sodabcarb
- Inj. Avil
- Inj. Calcium Gluconate
- Cotton



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- Gauze
- Gamgee
- Crepe bandage
- Glass slides
- Syringes (2 cc, 5 cc, 10 cc, 20 cc)
- IM needles
- Aseptosyringe
- Romovac suction drain
- Tube drain
- Corrugated Rubber drain
- ICD bag
- DJ-stent
- Pig tail catheter
- SPC
- Dressing Trolley
- Lignocaine Jelly

Short Procedures:

- Appendicectomy
- Nasogastric tube insertion
- Urinary catheterization
- Venesection
- Intercostal Drainage
- Tracheostomy
- CLW suturing
- Incision and Drainage of Abscess
- Circumcision
- Suprapubic Cystostomy
- Lymph Node Biopsy
- Surgeries for Hernia
- Surgeries for Hydrocoele

Radiology:

- Gas under diaphragm
- Air-fluid levels
- Foreign Body in GIT
- Renal Calculus
- Ureteric Calculus



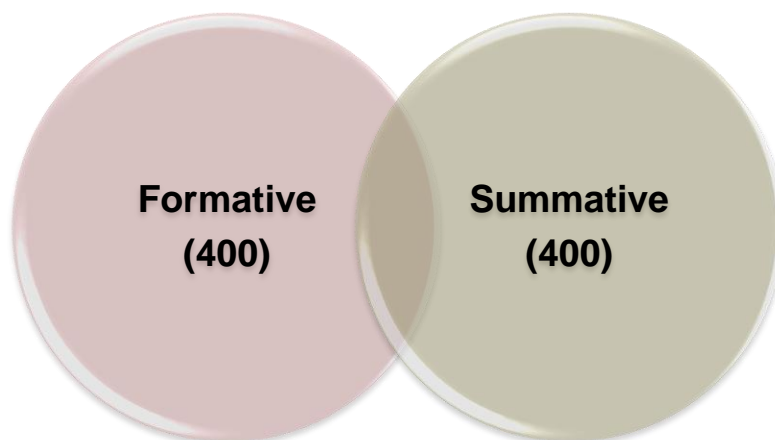
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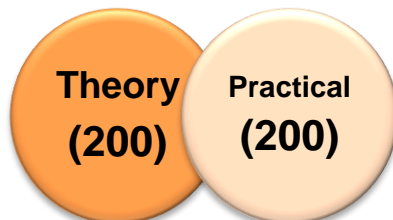
- Vesico-Ureteric Junction Calculus
- Vesical Calculus
- Chest X-Ray: Cannon Ball Metastases
- Chest X-Ray: Pneumothorax
- Chest X-Ray: Fracture Ribs
- Chest X-Ray: Miliary Tuberculosis
- Chest X-Ray: Pleural Effusion
- Chest X-Ray: ICD in situ
- Barium Swallow
- Barium Meal
- Barium Follow-through
- Barium Enema
- Intravenous Pyelography
- Micturating Cystourethrography / RGU
- Mammogram
- Orthopantomogram
- X-Ray Skull
- X-Ray Neck (AP and lateral views)
- Invertogram
- T-tube Cholangiogram / PTC

Assessment





**Formative
(400 marks)**



Theory:

Semester	Marks	Components
6 th	100	Surgery (50) + ENT (15) + Orthopaedics (15) + Ophthalmology (20)
8 th	100	Surgery (50) + ENT (15) + Orthopaedics (15) + Ophthalmology (20)
9 th (Prelims)	200	Paper I (100) + Paper II (100)
Total		400 (to be converted out of 200)

6th and 8th Semester Theory Exam:

Total Marks: 100
Duration: 3 hours

Section A (50 Marks)
Surgery

1. Multiple Choice Questions (12 items X 0.5 marks) (6 marks)
2. Structured Long Answer Question (1 question X 10 marks) (10 marks)
3. Short Answer Questions (7 questions X 2 marks) (14 marks)
4. Short Notes (4 questions X 5 marks each) (20 marks)



Section B (50 Marks)

Ophthalmology (20 marks)

5. Structured Long Answer Question (1 question X 10 marks) (10 marks)
6. Short Answer Questions (5 questions X 2 marks) (10 marks)

Otorhinolaryngology (15 marks)

7. Short Answer Questions (5 questions X 3 marks) (15 marks)

Orthopaedics (15 marks)

8. Short Answer Questions (5 questions X 3 marks) (15 marks)

Note: The Prelim Examination will be conducted in accordance with the pattern of the final examination for theory.

Final Examination Pattern:

Component	Marks
Paper - I	100
Paper - II	100
Total	200 marks

Each paper will have a duration of three hours.

Paper I (100 marks) Surgery

(General Surgery, Head Face Neck, Breast, Endocrine, Trauma, Gastro-intestinal Tract, Hepato-biliary, Spleen, Genito-Urinary Tract)

Section A (50 marks)

1. Structured Long Answer Question (2 questions X 10 marks) (20 marks)
2. Short Answer Questions (5 questions x 2 marks each) (10 marks)
3. Short Notes (4 questions X 5 marks each) (20 marks)



Section B (50 marks)

4. Structured Long Answer Question (2 questions X 10 marks) (20 marks)
5. Short Answer Questions (5 questions x 2 marks each) (10 marks)
6. Short Notes (4 questions X 5 marks each) (20 marks)

Paper II (100 marks)
Surgery

(Surgery and Allied: Paediatric Surgery, Neurosurgery, CVTS, Plastic Surgery, Radio-diagnosis, Dentistry, Anesthesia; Orthopaedics, Ophthalmology, Otorhinolaryngology)

Section A (50 marks)

Part 1: ***Surgery and Allied*** (30 marks)

1. Short Answer Questions (10 questions X 2 marks) (20 marks)
2. Short Notes (2 questions X 5 marks each) (10 marks)

Part 2: ***Orthopaedics*** (20 marks)

3. Structured Long Answer Question (1 question X 10 marks) (10 marks)
4. Short Answer Questions (5 questions X 2 marks) (10 marks)

Section B (50 marks)

Part 1: ***Ophthalmology*** (30 marks)

5. Structured Long Answer Question (1 question X 10 marks) (10 marks)
6. Short Answer Questions (5 questions X 2 marks) (10 marks)
7. Short Notes (2 questions X 5 marks each) (10 marks)

Part 2: ***Otorhinolaryngology***(20 marks)

1. Structured Long Answer Question (1 question X 10 marks) (10 marks)
2. Short Answer Questions (5 questions X 2 marks) (10 marks)



Practical:

Semester	Marks	Components
3 rd	15	Surgery
4 th	15	Surgery
6 th	35	Surgery
7 th	35	Surgery
8 th	90	Surgery (30) + Ophthalmology (20) + ENT (20) + Orthopaedics (20)
	10	Anaesthesia (5) + Dentistry (5)
9 th (Prelims)	200	As per Final Exam pattern
Total		400 (to be converted out of 200)

Note: The Prelim Examination will be conducted in accordance with the pattern of the final examination for practicals.



Final Examination Pattern:

Subject	Component	Marks	Section
Surgery	1 Long Case	50	Clinical
	1 Short Case	25	
Ophthalmology	1 Short Case	25	
Otorhinolaryngology	1 Short Case	15	
Orthopaedics	1 Short Case	15	
Total	130 marks		
Surgery	40(Surgical Pathology (10) + Radiology (10) + Instruments & Tubes Catheters (10) and Operative Surgery(10))		Viva
Ophthalmology	10		
Otorhinolaryngology	10		
Orthopaedics	10		
Total	70 marks		
Grand Total	130 + 70 = 200 marks		

Note: Student should obtain a minimum of 50% marks in Formative Assessment (Theory and Practical), in order to be eligible for the University Examination.

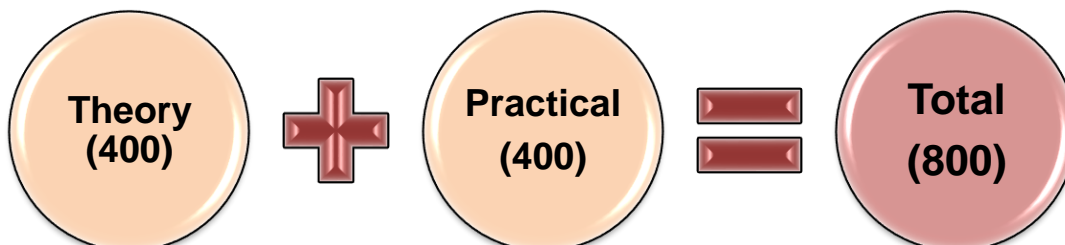
Final Result:

Theory			Practical			Grand Total (800)
Internal Assessment (200)	Final Exam (200)	Total (400)	Internal Assessment (200)	Final Exam (200)	Total (400)	



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Recommended Books:

Textbooks:

1. Love and Bailey's Textbook of Surgery
2. Textbook of Surgery by S.Das
3. Clinical Methods in Surgery by S. Das
4. SR Bhat's Clinical Surgery
5. Hamilton Bailey's Clinical Signs

Reference Books:

1. Schwartz' Textbook of Surgery
2. Sabiston's Textbook of Surgery
3. Smith's Textbook of Urology

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