Residency Program: Pharmacology

Objectives of the Course

At the end of the MD Course, the student will be able to:

1. obtain knowledge and skills required to conduct teaching at the undergraduate medical education on Medical Pharmacology

2. obtain knowledge so that can provide adequate information to the future physicians to prescribe rationally

3. obtain skill to evaluate the performance of the MBBS students both in-course and the Professional (end-course) examination

4. develop the spirit of working together in a team either as leader or as member of the multidisciplinary team

5. acquire knowledge and skill required to conduct independent research

6. participate appropriately in the medicine management system of the hospital

7. develop skill required to comment on the regulatory status of different drugs considering national perspectives

8. pursue Medical Ethics to the future physicians
রেসিডেন্সী কোর্সের সাধারণ বিবিধতা
কোর্সে অন্তর্ভুক্ত নিয়মাবলী:

অফিস পরিচালনার সমস্ত প্রতি বছর সেতুর মাঝে পরবর্তী শিক্ষা বছরের জন্য পর্যবেক্ষণ মাধ্যমে অবশ্যই অনুমতি দেয়া হবে। অফিসের মাঝে লিখিত পরীক্ষা অনুমতি দেয়া হবে।

আবেদনকারীর একটি ইমেইলের মাধ্যমে ছোটো পাপাশা এবং ছোটো পাপাশা পরিচালনার জন্য উপযোগী তথ্য প্রদান এবং ইমেইলিতে নির্দেশনার অনুসারে গ্রেড প্রদান করা হবে।

আবেদনকারীর বিষয়বস্তু ইন্টারনেটের জন্য ৪৫ বছর।

আবেদনপত্র: আবেদনকারীকে বিবিধতা উন্নয়নের www.bsmmu.edu হতে সাধারণ করা হয়। পরবর্তী শিক্ষা বছরের জন্য নির্দেশিত হয়।

অন্তর্ভুক্ত পোশাক প্রতিদিন অন্তর্ভুক্ত সকল ভূমিকা পাত্রে নিজের ভূমিকা সম্পর্কে আলোচনা করণ পরিচালনা যথেষ্ট হয়।

বিষয়বস্তুর পরিচালনার জন্য নিজের ভূমিকা সম্পর্কে আলোচনা করণ পরিচালনা যথেষ্ট হয়।

কোর্সের বিবরণ:

সমস্ত পর্যায়: নিবন্ধন পর্যায়, পূর্বের সমস্ত প্রতিষ্ঠা কর্তৃক স্থানীয় পর্যায় (Phase A) এবং ফিল্ড পর্যায় (Phase B)। ফিল্ড পর্যায় (Foundation Phase) এবং ফিল্ড পর্যায় (Research Phase) দ্বিতীয় পর্যায় হর্মের মধ্যে মিলিত করা হয়। একটি ফিল্ডের সমস্ত প্রতিষ্ঠা পর্যায় ১৮ মাস।

কোর্সের প্রজনন: একটি রুক্ষ বিক্ষেপন। রুক্ষ পরিমাণ তথ্য ও প্রতিশোধ পর্যায় (Research Phase) দ্বিতীয় পর্যায় হর্মের মধ্যে মিলিত করা হয়। একটি ফিল্ডের সমস্ত প্রতিষ্ঠা পর্যায় ১৮ মাস।

ফিল্ড পর্যায়ের ফিল্ডের সমস্ত প্রতিষ্ঠা পর্যায় ১৮ মাস।

কোর্সের ফাইলিং: একটি রুক্ষ বিক্ষেপন। রুক্ষ পরিমাণ তথ্য ও প্রতিশোধ পর্যায় (Research Phase) দ্বিতীয় পর্যায় হর্মের মধ্যে মিলিত করা হয়।
বিভাগীয় একাডেমিক কমিটি

আমাদের বিশ্ববিদ্যালয়ের মহাকাশী বিভাগের সকল শিক্ষক

বিভিন্ন শিক্ষকদের কার্যকরী পরীক্ষা অনুষ্ঠিত, কলেজ প্রকাশ এবং তথ্য সংগ্রহের মাধ্যমে বিভিন্ন বিভাগের শিক্ষকদের মধ্যে পরীক্ষার পদ্ধতি প্রণয়ন করা হয়। একাডেমিক কমিটি পরীক্ষার পদ্ধতি সংগঠনের অংশ হয় এবং নির্দেশনার মাধ্যমে সামগ্রিক শিক্ষকদের মধ্যে পরীক্ষা পদ্ধতি প্রণয়ন করা হয়।

বিভিন্ন শিক্ষকদের কার্যকরী পরীক্ষা অনুষ্ঠিত, কলেজ প্রকাশ এবং তথ্য সংগ্রহের মাধ্যমে বিভিন্ন বিভাগের শিক্ষকদের মধ্যে পরীক্ষার পদ্ধতি প্রণয়ন করা হয়। একাডেমিক কমিটি পরীক্ষার পদ্ধতি সংগঠনের অংশ হয় এবং নির্দেশনার মাধ্যমে সামগ্রিক শিক্ষকদের মধ্যে পরীক্ষা পদ্ধতি প্রণয়ন করা হয়।

কার্যকরী পরীক্ষা একাডেমিক কমিটি পরীক্ষার পদ্ধতি সংগঠনের অংশ হয় এবং নির্দেশনার মাধ্যমে সামগ্রিক শিক্ষকদের মধ্যে পরীক্ষা পদ্ধতি প্রণয়ন করা হয়।
Residency Program

Pharmacology

1.8.3. Pharmacokinetic interactions
1.8.4. Pharmacodynamic interactions
1.8.5. Lists of clinically important drug-drug interactions
1.9. Special aspects of drug therapy
1.10. Pharmacogenomics
1.11. Pharmacogenetics

Module 2
Biostatistics

Module 3
Research Methodology

Module 4
Information Technology

Module 5
Medical Education

Module 6
Practical

Module 7
Autonomic Nervous System

7.1. General principles of chemical transmission
7.2. Basic steps in neurohumoral transmission
7.3. Sites of drug action
7.4. Cholinergic transmission
7.5. Cholinergic agonists
7.6. Anticholinesterases (emphasis on mechanism of action, pharmacological effects, clinical uses and adverse effects of Physostigmine, Neostigmine)
7.7. Drugs used in poisoning of organophosphorous compounds (emphasis on Pralidoxime)

Pharmacology

7.8. Cholinergic antagonists
7.9. Antimuscarinic drugs (emphasis on mechanism of action, pharmacological effects, clinical uses and adverse effects of Atropine and its substitutes)
7.10. Antinicotinic drugs (emphasis on mechanism of action, pharmacological effects, clinical uses and adverse effects of d-tubocurarine, Trimethaphan)
7.11. Adrenergic transmission
7.12. Synthesis and metabolism of adrenaline
7.13. Direct and indirect agonists of adrenergic receptors (emphasis on mechanism of action, pharmacological effects, clinical uses and adverse effects of Adrenaline, Isoproterenol, Dopamine, Dobutamine)
7.14. Adrenergic receptor antagonists (emphasis on mechanism of action, pharmacological effects, clinical uses and adverse effects of α and β blockers like Prazocin, Propranolol, Atenolol)

Module 8
Drugs Acting on Cardiovascular System

8.1.1. Antihypertensives
8.1.2. Mechanisms of action, adverse effects of drugs used in hypertension (diuretics, β-adrenoceptor antagonists, α₁-adrenoceptor antagonists, α₂ and β₁ adrenoceptor antagonists, α₂-adrenoceptor agonists, calcium antagonists, direct acting vasodilators, renin-angiotensin cascade modulators, angiotensin II receptor antagonists)
8.1.3. Clinical status of antihypertensive drugs
8.1.4. Hypertensive emergencies
8.1.5. Hypertension and pregnancy
8.1.6. Monitoring therapy in hypertension
8.1.7. Compliance in hypertension
8.1.8. Antianginal drugs
Residency Program

8.1.9. Mechanism of action of drugs used to relieve or prevent angina pectoris (organic nitrates, β-adrenoceptor antagonists, calcium antagonists, platelet function modulators, thrombin modulators, opioid analgeses)

8.1.10. Drugs used to treat cardiac failure

8.1.11. Mechanism of action of drugs used to treat cardiac failure (emphasis on cardiac glycosides, phosphodiesterase inhibitors, β1-adrenoceptor agonists, ACE inhibitors)

8.1.12. Antiarrhythmic drugs

8.1.13. Classification, principles underlying antiarrhythmic drug therapy

8.1.14. Mechanism of action of drugs used to treat arrhythmia (Na-channel blockers, β-adrenoceptor antagonists, drugs that prolong refractory period, Ca-channel blockers, others)

8.1.15. Principles underlying antiarrhythmic drug therapy

8.1.16. Pharmacotherapy of cardiac arrhythmia

Module 9

Drugs Acting on Renal System

9.1.1. Diuretics

9.1.2. Mechanism of action of diuretics in relation to disease

9.1.3. Clinical importance of differences in action between diuretics (emphasis on Thiazides, Frasemide, Spironolactone)

9.1.4. Resistance to diuretics

9.1.5. Adverse effects of diuretics

9.1.6. Drug interactions with diuretics

9.1.7. Drugs used in management of renal insufficiency

Module 10

Drugs Acting on Hemopoetic System

10.1. Hematinics

10.1.1. Different formulations, absorption, mechanism of action, adverse effects (emphasis on Iron, Vitamin B12, Folic acid)

Module 11

Subsidiary

Minor (surrogate) subject (Biochemistry, Physiology, Microbiology, Internal Medicine and Dermatology) as recommended by the supervisor

Module 12

Drugs Acting on Respiratory System

12.1. Drugs used in cough

12.1.1. Cough suppressant

12.1.2. Expectorants
12.2. Drug therapy of pneumonias
12.2.1. Antimicrobial therapy
12.2.2. Drug therapy besides antimicrobial
12.2.3. Pneumonia acquired in hospital
12.2.4. Inhalation pneumonia
12.3. Chronic obstructive lung disease
12.3.1. Drugs used in bronchial asthma (Mechanism of action, adverse effects (emphasis on β₂ adrenoceptor agonists, anticholinergic drugs, Xanthene derivatives, Cromones, Corticosteroids, Leukotriene receptor antagonists)
12.3.2. Pharmacological factors in the production of asthma
12.3.3. Inhalation of drugs in asthma
12.3.4. Monitoring drug therapy in asthma

Module 13
Drugs Acting on Endocrine System
13.1. Drugs used to manage diabetes mellitus
13.1.1. Mechanisms of action, adverse effects of drugs used in treatment of diabetes mellitus (emphasis on Insulin, Glibenclamide, Metformin, Acarbose, Rosiglitazone, Repaglinide)
13.1.2. Monitoring therapy
13.1.3. Formulations of Insulin
13.2. Drugs used in thyroid diseases
13.2.1. Hypothyroidism and Hyperthyroidism
13.2.2. Mechanisms of action, adverse effects of anti-thyroid drugs (emphasis on Iodide, Carbimazole)
13.3. Glucocorticoids
13.3.1. Classification, mechanism of action, indications, contraindications, adverse effects, precautions of glucocorticoids (emphasis on Hydrocortisone, Prednisolone, Dexamethasone)

13.4. Drugs used to treat hyperlipidemia
13.4.1. Mechanism of action, pharmacological effects, adverse effects (emphasis on Atorvastatin, Gemfibrozil, Nicotinic acid, Omega-3 marine triglycerides)
13.5. Drugs used to manage obesity
13.5.1. Mechanism of action, pharmacological effects, adverse effects (emphasis on Orlistat)

Module 14
Drugs Acting on Gastrointestinal System
14.1. Drugs used in peptic ulcer diseases
14.1.1. Approaches of peptic ulcer management
14.1.2. Mechanisms of action, adverse effects (emphasis on Antacid, Ranitidine, Omeprazole)
14.1.3. Regimen to eradicate H pylori
14.2. Drugs used in gastroesophageal reflux disorder
14.3. Drugs used in diarrhea and constipation
14.3.1. Assessment of dehydration
14.3.2. Rehydration therapy (Oral Rehydration Salts, pereneteral fluids)
14.3.3. Role of antidiarrheal, antimicrobials (emphasis on Loperamide)
14.3.4. Laxatives, purgatives (emphasis on Ispaghula husk, Bisacodyl, Lactulose)
14.4. Drugs causing liver damage
14.4.1. Drugs that cause hepatocellular damage (emphasis on Paracetamol, Isoniazid, Ibuprofen, Methyldopa, Phenytin, Sulfonamides, Alcohol, Methotrexate)
14.4.2. Drugs that cause intrahepatic cholestasis (emphasis on Fluconazole, Carbimazole, Glibenclamide, Phenylbutazone, Tricyclic antidepressant)
14.4.3. Drugs that cause granulomatous hepatitis (emphasis on Dinilazem, Sulphasalazine, Co-amoxiclav)
Residency Program

14.4.4. Drugs that cause gallstones (emphasis on Oral contraceptives, Clofibrate, Octreotide)

14.5. Effects of impaired liver function on drug elimination and action
14.5.1. Pharmacokinetics altered
14.5.2. Hepatic clearance reduced
14.5.3. Biliary clearance reduced
14.5.4. Reduced binding to plasma albumin
14.5.5. Pharmacodynamics altered
14.5.6. Drugs that contribute to pathology of liver disease
14.5.7. Drugs that precipitate hepatic encephalopathy

14.6. Drugs used in inflammatory bowel diseases
14.6.1. Drug used in acute severe, mild to moderate, chronic ulcerative colitis and Crohn's disease
14.6.2. Mechanisms of action, adverse effects (emphasis on Sulfasalazine, Mesalazine, Balsalazine, Azathioprine, Infliximab)

14.7. Drug treatment of gallstone (emphasis on Chenodeoxycholic acid and Ursodeoxycholic acid)

Module 15
Anticancer drugs

Module 16
Antimicrobials
16.1. Basic principles of chemotherapy
16.2. Resistance to antimicrobials
   Development, emergence and transfer of resistance
16.3. Selecting antimicrobial therapy
16.4. Drugs and bacteria
16.4.1. Classification according to mechanism of action

Pharmacology

16.4.2. Antibiotics that inhibit cell wall synthesis (emphasis on Penicillins, Cephalosporins, Vancomycin, Imipenem)
16.4.3. Antibiotics that inhibit bacterial protein synthesis (emphasis on Gentamicin, Erythromycin, Clindamycin, Linezolid)
16.4.4. Antibiotics that inhibit bacterial DNA synthesis (emphasis on Ciprofloxacin, Metronidazole)
16.4.5. Antibiotics that inhibit bacterial RNA synthesis (emphasis on Rifampicin)
16.4.6. Antifolates (emphasis on Cotrimoxazole)
16.4.7. Anti-Tubercular drugs (emphasis on Isoniazid, Rifampicin, Pyrazinamide, Ethambutol)

16.5. Drugs and protozoa
16.5.1. Antimalarial drugs (emphasis on Chloroquine, Quinine, Artemether)
16.5.2. Antiamoebic drugs (emphasis on Tinidazole)

16.6. Drugs and helminthes
   Mechanisms of action, adverse effects (emphasis on Piperazine, Albenza, Ivermectin, Diethylcarbamazine)

16.7. Drugs and fungus
   Mechanisms of action, adverse effects (emphasis on Griseofulvin, Nystatin, Ketoconazole)

16.8. Drugs and virus

Module 17
Drugs Acting on Central Nervous System
17.1. Anxiolytics and sedative-hypnotics
17.1.1. Mechanism of action, pharmacological effects, adverse effects of (emphasis on Benzodiazepines (BDZ), non-Benzodiazepines)

17.2. Antidepressant Drugs
17.2.1. Mechanism of action, pharmacological effects, adverse effects of (emphasis on amine pump inhibitors, newer generations)
17.3. Antiemetic drugs
17.3.1. Mechanism of action, pharmacological effects, indications, contraindications, adverse effects of (emphasis on Metoclopramide, Domperidone)

17.4. General anesthetics (GA)
17.4.1. Criteria of an ideal General Anesthetic
17.4.2. Mechanism of action, classification (emphasis on Halothane, Nitrous oxide, Isoflurane, Midazolam, Ketamine, Propofol, Thiopental)
17.4.3. Pre-anesthetic medication
17.4.4. Balanced anesthesia
17.4.5. Induction of anesthesia
17.4.6. Postoperative medication

17.5. Local anesthetics
Mechanism of action, adverse effects, formulations of (emphasis on Lidocaine, Procaine, Bupivacaine)

17.6. Antiemetic drugs
17.6.1. Mechanism of action, pharmacological effects, indications, contraindications, adverse effects of (emphasis on Hyoscine, Metoclopramide, Domperidone)

17.7. Relief of pain
17.7.1. Mechanism of action of analgesics
17.7.2. Clinical status of analgesics

17.8. Opioid analgesics
Mechanism of action, pharmacological effects, indications, contraindications, adverse effects of (emphasis on Morphine, Pethidine)

17.9. Non-steroidal anti-inflammatory drugs (NSAIDs)
Mechanism of action, pharmacological effects, indications, contraindications, adverse effects of (emphasis on Paracetamol, Diclofenac, Naproxen, Ibuprofen)

Antihistaminics
17.9.1. Mechanism of action, adverse effects (emphasis on Promethazine, Diphenhydramine, Cetirizine, Loratadine)
### Modules taught in different Blocks

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<tr>
<th>BLOCK I</th>
<th>BLOCK II</th>
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### Mark distribution of End-Block Exam

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<td>A. Written Exam (100 marks)</td>
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<td>SEQ (1 question x 10 marks)</td>
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<td>SAQ (10 questions x 3 marks)</td>
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<tr>
<td>MCQ (8 questions x 1.25 marks= 10)</td>
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<td>True/False (10 questions x 1 mark= 10)</td>
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<tr>
<td>MCQ (3 questions x 5 marks)</td>
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<td>B. Skill (Presentation on a topic)</td>
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<td>C. Skill (Laboratory work)</td>
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<td>D. Grades and Marks from</td>
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<td></td>
</tr>
<tr>
<td>Within-Block Assessments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Attitude (attendance at the department (10 marks); Class attended (10 marks); Seminar presented (10 marks); Seminar attended (10 marks); Assignment (10 marks)</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Total marks</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>
### Mark Distribution of Summative Exam (for paper 1 to paper 4)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Total Marks</th>
<th>Pass Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Written Exam (100 marks)</td>
<td>10</td>
<td>60%</td>
</tr>
<tr>
<td>SEQ (1 question x 10 marks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAQ (10 questions x 3 marks)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Objective type questions</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>For example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCQ (8 questions x 1.25 marks = 10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True/False (10 questions x 1 mark = 10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fill in the blank (5 questions x 1 mark = 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross matching (2 questions x 2.5 marks = 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student will prepare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAQ (3 questions x 5 marks)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>MCQ (3 questions x 5 marks)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>F. Skill (Presentation on a topic)</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>G. Skill (Laboratory work)</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>H. Marks from all End-Block Exams except subsidiary</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td><strong>Total marks</strong></td>
<td><strong>300</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Grading of competencies

বিভিন্ন হিসেবে এর কারো ব্যাখ্যা করা হয়েছে যে প্রতিটি grade কে আকার marks एর আকারেও প্রকাশ করা হবে। প্রতিটি grade এর একটি করে বাণিজ্য দেয়া হবে যাতে একটি grade নির্দেশনা এর ক্ষেত্রে assessors একথা অন্তর্ভুক্ত করতে পারেন।

<table>
<thead>
<tr>
<th>Grade</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsatisfactory (E)</td>
<td>&lt;60%</td>
</tr>
<tr>
<td>Satisfactory (D)</td>
<td>60-69%</td>
</tr>
<tr>
<td>Good (C)</td>
<td>70-79%</td>
</tr>
<tr>
<td>Excellent (B)</td>
<td>80-90%</td>
</tr>
<tr>
<td>Outstanding (A)</td>
<td>&gt;90%</td>
</tr>
</tbody>
</table>

খেলায় উল্লেখ যে Formative Assessment এর ক্ষেত্রে attitudinal assessmentের প্রভাব এবং Module-এ Grading System এর অংশটি হবে এবং এই grade সকল কর্মচারীকে জানানো হবে ও প্রতিযোগিতায় improve করার সুযোগ দেওয়া হবে।

Written Exams-এর Answer script হলুদ জন Examiner (টি Group এর জন্য একজন) evaluate করেন Group-A: Internal Examiner এবং Group-B: External Examiner। (ভাবে বিভাগের Curriculum-এ উল্লিখিত থাকবে)

কেন Group-এ কেন বিষয় প্রতিষ্ঠিত হবে।

Summative Exams-এর প্রভাব Paper-এ এবং End-block Exams-এর question paper-এর কমপক্ষে 30% marks-এর Problem-oriented questions থাকবে।

এই Questions addressing "understanding" এবং "critical thinking" প্রাপ্ত হবে।

ইতি Paper-এর Oral-practical পরীক্ষায় course content এবং skill
### Assessment formats/tools:

| 2.1 | Assessment Tools এই কর্মের পারে বিভিন্ন বিষয়ের ফিডব্যাক ও ফিডব্যাক competency-এর (কেন্দ্র একটি বিশেষ skill এর) check list ইত্যাদি প্রক্রিয়া করা সহজ হবে তাই written, oral, practical, work place situation, seminar/journal club presentation -এর assessment, teaching skills, assessment skills এবং written assignment-এর assessment এবং global rating-এর ব্যবহার এই কর্মের generic formats উপস্থাপন করবে। |
| 2.2 | এই generic format থেকে অনুমোদন পাইতে হলে প্রাথমিক course-এর কর্মে format অনুযায়ী করে সম্পূর্ণ বিষয়ের ফিডব্যাক format (কেন্দ্র- skill, specific check list) তৈরি করে ব্যবহার করা। একজন কর্মের বিভিন্ন বিষয়ে বাহুল্য ৪ সমূহের ফিডব্যাক tools (কেন্দ্র- check list)-এর সমন্বয় সরবৃহ্ত করবে। |
| 2.3 | Extra-departmental rotation-এর assessment-এর ব্যবহার faculty এবং সিকেন্ডারি সুযোগ থেকে ফিডব্যাক input পেলে এই কর্ম একটি basic format দিয়ে আমাদের পরিস্থিতি নির্ধারণ করবে। যদি ফিডব্যাক অন্তর করে parent departments তার Surrogate departments-এর সুযোগ আলোচনার মাধ্যমে rotation-এর assessment tools তৈরি এবং সরবরাহ করবে। |
### Checklist for presentation

<table>
<thead>
<tr>
<th></th>
<th>Poor</th>
<th>Adequate</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;6.0</td>
<td>6.0-7.0</td>
<td>7.1-8.0</td>
<td>8.1-10.0</td>
</tr>
</tbody>
</table>

**Enthusiasm**
- Speaks expressively or emphatically
- Moves about while lecturing
- Gestures with hands and arms
- Shows facial expressions
- Uses humor
- Uses extemporaneous delivery

**Clarity**
- Uses concrete examples of concepts
- Gives multiple examples
- Points out practical applications
- Stresses important points
- Repeats difficult ideas

**Interaction**
- Addresses students by name
- Encourages questions and comments
- Talks with students after class
- Praises students for good ideas

**Task Orientation**
- Advises students regarding exams

---

<table>
<thead>
<tr>
<th></th>
<th>Provides sample exam questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proceeds at good pace for topic</td>
</tr>
<tr>
<td></td>
<td>Stays on the theme of the lecture</td>
</tr>
<tr>
<td></td>
<td>States course objectives</td>
</tr>
</tbody>
</table>

**Rapport**
- Friendly, easy to talk to
- Shows concern for student progress
- Offers to help students with problems
- Tolerant of other viewpoints

**Organization**
- Puts outline of lecture on board
- Uses headings and subheadings
- Gives preliminary overview of lecture
- Signals transition to new topic

**Total marks-280**
## Checklist for presentation

<table>
<thead>
<tr>
<th>Content issues</th>
<th>Poor</th>
<th>Adequate</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your presentation constructed in a clear and logical way — beginning (title slide, introduction); middle (informational slides); and end (conclusion)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Objective:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the presentation convey the necessary message/information?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it suitable for the target audience?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clarity and focus:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does each point lead logically to the next?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is every slide pulling its weight or would the presentation be tighter if you ditched a slide here and there?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supporting/ancillary information:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does your presentation include hidden slides you can jump to if you need to fill time, answer questions, or amplify certain points?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Graphics/multimedia:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you included charts, tables, artwork, or audio/video clips that make your presentation more interesting and help illustrate key data?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Supplemental material:             |      |          |      |           |
| Have you prepared handouts to distribute to your audience?                  |      |          |      |           |

| Design issues                                                                 |      |          |      |           |
| **Consistent formatting:**                                                     |      |          |      |           |
| Have you used the same fonts and formats for common elements (titles, text boxes, bulleted lists, drawing objects) across all slides? |      |          |      |           |
| Are the case and punctuation consistent (e.g., no random case and capitalization or arbitrary periods after titles or phrases)? |      |          |      |           |
| Have you applied a theme or background style to all the slides (or used a template) to create a unified design for the presentation? |      |          |      |           |

| Legible text:                    |      |          |      |           |
| Have you kept the words on your slides to a minimum, letting them serve as cues for elaboration? |      |          |      |           |
| Have you used a large enough font in a readable color and there aren’t any conflicting background colors or designs? |      |          |      |           |

| Accuracy:                       |      |          |      |           |
| Have you checked spelling, verified names, and tested any links you’ve included on your slides? |      |          |      |           |

| Speaker’s notes:                 |      |          |      |           |
| Did you prepare some notes that will help you remember to say everything you want to say? |      |          |      |           |
**Residency Program**

<table>
<thead>
<tr>
<th>Pharmacology</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Transitions/animations/sounds:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you tested any transitions, animations, and sound effects to make sure they work the way you want?</td>
</tr>
<tr>
<td>Did you limit yourself to only the effects that make the information easier for your audience to grasp (as opposed to running amok with spins, fades, dissolves, and canned applause and drum rolls)?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delivery issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing:</td>
</tr>
<tr>
<td>Have you rehearsed your presentation to make sure the timing is about right—with opportunities for Q/A, if appropriate?</td>
</tr>
<tr>
<td>Are you ready to fill time or cut to the chase if things run too short or too long?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Logistics/equipment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you that you’ll verified have the necessary equipment at the presentation site (or made arrangements to bring your own)?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fonts, supporting files:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your presentation include all the components necessary to run properly if you’ll be using someone else’s system?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic navigation techniques:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you know how to launch the slideshow and go to the next or previous slide in a presentation?</td>
</tr>
</tbody>
</table>

| Can you jump to a specific slide if necessary or black out/white out the display temporarily? |
| If you follow a link away from the presentation, can you find your way back? |
| Can you navigate with both keyboard and mouse? |

<table>
<thead>
<tr>
<th>Speaking skills:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you well versed in the material you’ll be presenting?</td>
</tr>
<tr>
<td>Have you rehearsed what you plan to say and practiced coordinating your speech with your slide navigation?</td>
</tr>
</tbody>
</table>

**Total marks 270**

Of these 280 +270 marks, it will be calculated as 50 marks using the formula = marks obtained x 50/550.
Contents of different paper:

Paper I
2.1 General principles of pharmacology
2.2 Monitoring drug therapy
2.3 Autonomic pharmacology
2.4 Autacoids
2.5 Drugs used in inflammatory diseases
2.6 Pharmaceutical sciences

Paper II
3.1 Drugs acting on cardiovascular system
3.2 Drugs acting on renal system
3.3 Drugs acting on hemopoietic system
3.4 Drugs used in respiratory diseases
3.5 Drugs acting on central nervous system

Paper III
4.1 Antimicrobials
4.2 Cancer chemotherapy
4.3 Drugs used in endocrine diseases
4.4 Gastrointestinal pharmacology
4.5 Drugs used in skin diseases

Paper IV
5.1 Clinical pharmacology
5.2 Immunopharmacology
5.3 Pharmacogenomics
5.4 Pharmacoeconomics
5.5 Pharmacopidemiology
5.6 Pharmacogenetics
5.7 Toxicology

Paper V
Subsidiary: Biochemistry/physiology/microbiology/internal medicine

Subsidiary
Biochemistry
   a) Fat and carbohydrate metabolism
   b) Antioxidants: vitamins (A, C, E) and minerals (zinc, selenium)
   c) Clinical biochemistry: introduction to biochemistry, transaminases, C-reactive protein, Troponin I, serum bilirubin, alkaline phosphatase, blood urea, creatinine
   d) Some trace elements: manganese, copper, cobalt

Charter of Responsibility of Supervisors, Course Co-ordinators and Course Directors

A. Supervisor:
Eligibility: Assistant Professor and above.

Responsibility:
- maintain attendance and discipline of the Residents.
- provide orientation, guidance and feedback to resident’s learning.
- day to day signing of performance record (log book).
- authorized to sign casual leave of the resident and forward it to the chairman.
- be responsible for completing the following block program:
  a) Clinical performance
  b) Academic performance
  c) Global competence
  d) Organizing end of block assessment
  e) Leave report
- Assess residents competence outcomes.
- Send end of Block Report to the Course Coordinator.

B. Course Coordinator:
Eligibility: Associate Professor and above.

Responsibility:
- be responsible for planning, organizing and providing management support to training and academic activities of the Residents in the Department.
- supervise, guide and lead the team of Supervisors.
- circulate the Training Rotation Schedule to the Supervisors for implementation
- assist the Course Director in planning, organizing and managing the entire course
Residency Program

- maintain inter-departmental communications regarding training, end of block report and circulation of the reports.
- compile end of block report (EOBR) and prepare the Phase Completion Report (PCR).
- will compile & maintain leave records and take necessary actions as per university rules in consultation with the chairman.
- report to the Course Director.

C. Course Director:
Eligibility: Any Professor of the respective faculty.

Responsibility:
- supervise, guide and lead team of Course Coordinators.
- appoint Course Coordinators as per recommendations of the respective chairman of the Departments.
- prepare the Training Rotation Schedule (rota) and circulate it to the Course Coordinators/Chairman.
- collect and endorse Phase Completion Report.
- certify qualifications eligibility for appearing in the phase final examinations.
- will prepare training rotation schedule for Residents with incomplete or deferrals, in consultation with respective Chairman.
- manage disputes and conflicts in consultation with the Dean and refer appropriate cases to the appropriate authority through the Dean.
- submit Phase Completion Report to the Dean for onward presentation in the Academic Council.
- report to the Dean.

Pharmacology

Code of Student Rights, Responsibilities, and Conduct Student Responsibilities

Academic misconduct is defined as any activity that tends to undermine the academic integrity of the institution. The university may discipline a student for academic misconduct. Academic misconduct may involve human, hard-copy, or electronic resources. Policies of academic misconduct apply to all course, department and university-related activities, including field trips, conferences, performances and exams outside of a specific course structure (such as take-home exams, entrance exams, oral or auditory and thesis exams) and research work outside of a specific course structure (such as lab experiments, data collection, service learning, and collaborative research projects). The faculty member may take into account the seriousness of the violation in assessing a penalty for acts of academic misconduct. The faculty member must report all cases of academic misconduct to the appropriate official. Academic misconduct includes, but is not limited to, the following:

1. Cheating

Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.

a) A resident must not use external assistance on any “in-class”, “take-home” or in-hall examination, unless the involved faculty member specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.

b) A resident must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the involved faculty member to whom the work is being submitted.

c) A resident must not use materials from a commercial test paper company, files of papers prepared by other persons, or submit documents found on the Internet.
d) A resident must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student’s individual work.

e) A resident must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.

f) A resident must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.

g) A resident must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.

h) A resident must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.

2. Fabrication
A resident must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.

3. Plagiarism
Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.

a) A resident must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.

b) A resident must give credit to the originality of others and acknowledge indebtedness whenever:
   1. directly quoting another person’s actual words, whether oral or written;

4. Interference
A resident must not steal, change, destroy, or impede another student’s work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any resident grade or the evaluation of academic performance. Impeding another resident work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.

5. Violation of Course Rules
A resident must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.

6. Facilitating Academic Dishonesty
A resident must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.