

**Datta Meghe Institute of Medical Sciences  
(Deemed University)**

**School for Health Professions Education and  
Research**

**Syllabus for the PhD entrance examination**

## Teaching and Learning

<b>Sub category of Module</b>	<b>Topics to be covered</b>
<b>1.1</b> History of Medical Education	Flexnerian model Basic science versus clinical training Role of medical education unit
<b>1.2</b> <b>Concept of Teaching learning</b>	a) Teaching and Learning introduction b) Levels of learning c) Principles of learning d) Barriers of learning
<b>1.3</b> <b>Role of teacher</b>	a) Dimensions b) Different Role of teacher
<b>1.4</b> <b>Types of Learning</b>	a) Cognitive learning b) Psychomotor learning c) Affective learning d) Skill of Communication
<b>1.5</b> <b>Theories of Learning</b>	a) Conditioning theories b) Theory of connectionism (Thorndike) c) Field theory d) Learning models e) Behavioral theory of learning (Behaviorism) f) Cognitive theory of learning (Cognitivism) g) Constructive theory of learning (Constructivism)

<p><b>1.6</b> <b>Memory</b></p>	<ul style="list-style-type: none"> <li>a) Introduction to memory – Definition and process</li> <li>b) Memory system – Sensory, short and long term</li> <li>c) Models of memory</li> <li>d) Memory retrieval</li> </ul>
<p><b>1.7</b> <b>Adult learning</b></p>	<ul style="list-style-type: none"> <li>a) Definition and concept of adult learning</li> <li>b) Characteristics of adult learners</li> <li>c) Adult learning principles in planning learning experiences</li> </ul>
<p><b>1.8</b> <b>Principles of Skill learning</b></p>	<ul style="list-style-type: none"> <li>a) Concept and importance of meta cognition</li> <li>b) Principles of skill learning</li> <li>c) Understanding learners' need</li> <li>d) Developing plan of learning</li> <li>e) Implementing plan of learning</li> <li>f) Mastery learning model for skill learning</li> <li>g) Monitoring of progress of learning</li> </ul>
<p><b>1.9</b> <b>Managerial skill</b></p>	<ul style="list-style-type: none"> <li>a) Leadership</li> <li>b) Change management</li> <li>c) Conflict management</li> </ul>
<p><b>1.10</b> <b>Learning Approaches</b></p>	<ul style="list-style-type: none"> <li>a) Self directed learning</li> </ul> <p>Need and Origins</p> <p>Skills of self – directed learning</p> <p>Implementing and managing self - directed learning</p> <ul style="list-style-type: none"> <li>b) Collaborative learning</li> <li>c) Reflective learning</li> <li>d) Lifelong learning</li> <li>e) Experiential learning</li> </ul>
<p><b>1.11</b> <b>Multi faceted approach to teaching learning</b></p>	<ul style="list-style-type: none"> <li>a) Operational learning model and learning matrix</li> <li>b) Computer assisted instructions (CAI) in clinical education</li> <li>c) Clinical decision-making</li> <li>d) Clinical competence</li> <li>e) Developing research attitude</li> </ul>
<p><b>1.12</b> <b>Teaching in clinical environment</b></p>	<ul style="list-style-type: none"> <li>a) Concept of clinical teaching</li> <li>b) Challenges of clinical teaching</li> <li>c) Models of clinical teaching</li> </ul>
<p><b>1.13</b> <b>Modes of teaching</b></p>	<ul style="list-style-type: none"> <li>a) Expository</li> <li>b) Exploratory</li> <li>c) Simulation</li> <li>d) Self directed</li> </ul>

	e) Reflective
<b>1.14</b> <b>Contextual teaching and learning</b>	a) preparing and supporting high quality teachers b) concept of inquiry based learning and service based learning c) educational rationale of new teaching learning methodologies
<b>1.15</b> <b>Computer assisted learning</b>	a) Importance b) Various methods c) Advantages and limitations

### Instructional Methodology

<b>Sub category of Module</b>	<b>Topics to be covered</b>
<b>2.1.</b> <b>Teaching and Learning Methods</b>	<b>Classification of Teaching and Learning Methods</b> a) Control based b) Group size base c) Domain-wise
<b>Large group method</b> <b>Lecture</b>	a) Concept and Components of Lecture b) Advantages and Limitations c) Principles of effective Lecture Presentations d) Methods of making lecture Interactive and effective e) lesson planning
<b>Other methods</b>	f) panel discussion ,symposium, team based learning
<b>Small group methods</b>	a) Concept of small group b) Types of group c) Life Cycle of a group d) Challenges of Small group e) Advantages and disadvantages f) Role and Responsibilities of Tutor in small group
<b>Other small group methods</b>	Seminar ,Workshop, Bedside Clinics, Practical, Field works, Demonstration, Tutorials
<b>2.2</b> <b>Teaching and Learning Media</b>	a) Introduction and Classification of TL Medias b) Priority level in choosing media c) Choosing media as per domains
<b>Non-projected Visual Aids</b>	a) Chalk board

	b) Display board, cards and charts
<b>Projected Visual Aids</b>	<ul style="list-style-type: none"> <li>a) Overhead projector</li> <li>b) Slide projector</li> <li>c) Episcopes and micro projector</li> <li>d) Direct projector</li> <li>e) LCD panel</li> <li>f) Video tape system, video scope</li> </ul>
<b>Audio aids</b>	<ul style="list-style-type: none"> <li>a) Public address system</li> <li>b) Audio tape system</li> </ul>
<b>Three dimensional representations</b>	<ul style="list-style-type: none"> <li>a) Models</li> <li>b) Simulators</li> </ul>
<b>Mass communication media</b>	<ul style="list-style-type: none"> <li>a) Radio</li> <li>b) Television</li> </ul>
<b>OTHERS</b>	Patients, Real objects, Simulation and Role play
<b>Role plays</b>	<ul style="list-style-type: none"> <li>a) Advantages and applications</li> <li>b) Implementation and considerations</li> <li>c) The Process</li> <li>d) Examples of Scripts for Role play: Counseling Focused</li> <li>e) Examples of Scripts for Role Play: Clinical Skill</li> </ul>
<b>2.3 Questions and Questioning techniques</b>	<ul style="list-style-type: none"> <li>a) Types of questions</li> <li>b) Dealing with students wrong responses</li> </ul>
<b>2.4 Case based Learning</b>	<ul style="list-style-type: none"> <li>a) Definition and Educational Rationale</li> <li>c) Concerns of case based Teaching</li> <li>d) Case Selection and Preparing the case for selection</li> </ul>
<b>2.5 Clinical Teaching</b>	<ul style="list-style-type: none"> <li>a) Characteristics of Clinical Teaching</li> <li>b) Precepting in the context of Clinical teaching</li> <li>c) Determining the learner's Need</li> <li>d) Knowledge base for clinical teaching</li> </ul>
<b>2.6 Delivery of clinical teaching</b>	<ul style="list-style-type: none"> <li>a) Models of delivery of clinical teaching</li> <li>b) Teaching clinical reasoning Process</li> <li>c) Common Mistakes During clinical teaching</li> </ul>

<p><b>2.7</b></p> <p><b>Problem Based Learning (PBL)</b></p>	<p>a) Concepts and Rationale</p> <p>b) Objectives and outcomes of PBL</p> <p>c)PBL Process:</p> <ul style="list-style-type: none"> <li>• Steps in Writing a case scenario</li> <li>• Reviewing and improving the case</li> <li>• Setting the pace and tone of new group</li> <li>• PBL sessions</li> <li>• Tutor guide</li> <li>• The tutor’s role and responsibilities</li> </ul>
<p><b>2.8</b></p> <p><b>Assessment in PBL</b></p>	<p>a) Goals of assessment of PBL</p> <p>b) Assessment during tutorial</p> <p>c) Assessing process of PBL – Triple jump</p>
<p><b>2.9</b></p> <p><b>Implementation of PBL</b></p>	<p>a) PBL in new Medical Schools</p> <p>b) PBL in exiting Medical Schools</p> <p>c) PBL in Asian Medical Schools: Issues, Challenges, Options and More research</p>
<p><b>2.10</b></p> <p><b>E-learning</b></p>	<p>a) Need and concept</p> <p>b) Various modalities</p> <p>c) Various avenues</p> <p>d) <b>Advantages and limitations</b></p> <p>e) Challenges and solutions</p>
<p><b>2.11</b></p> <p><b>Integrated Teaching</b></p>	<p>a) Introduction and Need of integrated teaching.</p> <p>b) Types of integrated teaching</p> <p>c) Difference between integrated and traditional teaching</p> <p>d) Implementation of integrated teaching</p> <p>e) Process, Benefits and draw backs of module development and its Implementation.</p>
<p><b>2.12</b></p> <p><b>Innovative teaching , learning method</b></p>	<p>a) Team Based Learning (TBL)</p> <p>b) Modified PBL</p> <p>c) Early Clinical Exposure</p> <p>d) OMP: Principle of OMP ,Five micro skills observed during OMP, Limitations of OMP</p>
<p><b>2.13</b></p> <p><b>Microteaching</b></p>	<p>a) Principles of Microteaching</p> <p>b) Methodology</p> <p>c) Advantages of Microteaching</p> <p>d) How to plan</p> <p>e) Various skill practiced in microteaching</p>

<p><b>2.14</b> <b>Providing effective feedback</b></p>	<ul style="list-style-type: none"> <li>a) Educational Rationale</li> <li>b) Distinguishing Feedback from Praise and Criticism</li> <li>c) Nature of effective feedback</li> <li>d) Feedback in group setting</li> </ul>
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**Student Assessment**

<p><b>3.1 Concept and Purpose of Assessment</b></p>	<ul style="list-style-type: none"> <li>a) Concept of Assessment and Evaluation</li> <li><b>b) Difference between assessment and evaluation</b></li> <li>c) Understand why to assess, what to assess and how to assess</li> </ul>
<p><b>3.2. Types of students Assessment</b></p>	<ul style="list-style-type: none"> <li>a) Formative assessment</li> <li>b) Summative assessment</li> <li>c) Continuous Internal assessment</li> </ul>
<p><b>3.3 Levels of assessment</b></p>	<p style="text-align: center;">Overview of Millers pyramid</p>
<p><b>3.4 Characteristic of Assessment Instruments</b></p>	<ul style="list-style-type: none"> <li>a) Validity</li> <li>b) Reliability</li> <li>c) Objectivity</li> <li>d) Practicability</li> <li>e) Value</li> </ul>
<p><b>3.5 Road map to students assessment</b></p>	<ul style="list-style-type: none"> <li>a) Factor One: Education Objectives or Domains</li> <li>b) Factor Two: Level of Knowledge</li> <li>c) Factor Three: Useful as Formative or Summative Assessment</li> <li>d) Factor Four: Validity of Instrument</li> <li>e) Factor Five: Reliability of the Instrument</li> <li>f) Factor Six: Single Instrument versus</li> </ul>

<p><b>3.7</b></p> <p><b>Assessment by supervising clinics/practical</b></p>	<ul style="list-style-type: none"> <li>a) Global rating with comments at the end of rotation</li> <li>b) Mini – CEX</li> <li>c) Clinical simulation</li> <li>d) Standardized patients</li> <li>e) Objectively structured clinical examination (OSCE)</li> <li>f) Objectively structured practical examination (OSPE)</li> <li>g) Objectively structured long case examination record (OSLER)</li> </ul>
<p><b>3.8</b></p> <p><b>Assessment for learning</b></p>	<ul style="list-style-type: none"> <li>a) Workplace based assessment –MINI-CEX,DOPS</li> <li>b) In class assessment</li> <li>c) Programmatic assessment</li> </ul>
<p><b>3.9</b></p> <p><b>Assessment for Professionalism and Ethics</b></p>	<ul style="list-style-type: none"> <li>a. Oral examination</li> <li>b. Multisource “360 degree” assessment</li> <li>c. Assessment by Peers</li> <li>d. Self assessment</li> <li>e. Portfolios</li> </ul>
<p><b>3.10</b></p> <p><b>Question Banking</b></p>	<ul style="list-style-type: none"> <li>1. Concept</li> <li>2. Steps in preparing question bank</li> </ul>
<p><b>3.11</b></p> <p><b>Question paper setting</b></p>	<ul style="list-style-type: none"> <li>1. Need for a systematic approach</li> <li>2. Mechanism of paper setting</li> <li>3. Steps involved</li> <li>4. Item card</li> </ul>
<p><b>3.12</b></p> <p><b>Assessment in Clinical Competence</b></p>	<ul style="list-style-type: none"> <li>a) Concept of clinical Competency &amp; assessing clinical competence</li> <li>b) Criteria based Assessment</li> <li>c) Norm based assessment</li> </ul>
<p><b>3.13</b></p> <p><b>Oral Examinations</b></p>	<ul style="list-style-type: none"> <li>a) Advantages and Limitations</li> <li>b) Improving the Validity and Reliability of Oral Examinations by Objectively structured viva -voce. (OSVV)</li> </ul>
<p><b>3.14</b></p> <p><b>Assessment of Non – scholastic Abilities</b></p>	<ul style="list-style-type: none"> <li>a) Importance of assessing Non scholastic abilities</li> <li>b) Various Non scholastic abilities</li> <li>c) Tools of assessing Non scholastic abilities</li> </ul>



<b>3.15</b> <b>Teacher</b> <b>Assessment</b>	<ul style="list-style-type: none"> <li>a) Need</li> <li>b) Peer review</li> <li>c) Self Evaluation</li> <li>d) Students feedback</li> </ul>
<b>3.16</b> <b>From Marks to</b> <b>Grades</b>	<ul style="list-style-type: none"> <li>a) Define grade and types of grading</li> <li>b) Differentiate between relative and absolute grading</li> <li>c) Advantages of using grades in place of marks</li> </ul>

### Curriculum Development

<b>Sub category of Module</b>	<b>Topics to be covered</b>
<b>4.1.</b> <b>Concept of curriculum</b>	<ul style="list-style-type: none"> <li>a) What is Curriculum</li> <li>b) Levels of curriculum <ul style="list-style-type: none"> <li>• Societal</li> <li>• Institutional</li> <li>• Instructional</li> </ul> </li> <li>c) Types of curriculum</li> <li>d) Models of curriculum</li> </ul>
	<b>Total contact hours</b>
<b>4.2.</b> <b>Kern's Model of Six Step approach</b>	<ul style="list-style-type: none"> <li>a) Rational and origin</li> <li>b) Six step approach, Interactive and continuous approach of six step approach</li> <li>c) Dynamic cycle</li> </ul>
<b>4.3.</b> <b>Step 1</b> <b>Problem identification and General Needs Assessment</b>	<ul style="list-style-type: none"> <li>a) Definition &amp; Importance</li> <li>b) General Need Assessment</li> <li>c) Obtaining Information About Needs</li> <li>d) Time And Efforts</li> </ul>
<b>4.4.</b> <b>Step 2</b> <b>Targeted Needs Assessment</b>	<ul style="list-style-type: none"> <li>a) Definition &amp; Importance</li> <li>a) Identification Of Targeted Learners</li> <li>d) Methods</li> <li>d)Relation To Other Steps</li> </ul>

<p><b>4.5.</b> <b>Step 3</b> <b>Goals and objectives</b></p>	<p>a) Definition &amp; Importance b) Classification of objectives c) Writing objectives  d) Types of Educational objectives Learner objectives Process objectives Outcome objectives e) Qualities of Educational objectives f) Specific learning objectives g) Taxonomy of Educational objectives</p>
<p><b>4.6.</b> <b>Step 4</b> <b>Educational strategies</b></p>	<p>a) Definition &amp; Importance  b) Determination Of Content c) Choice Of Educational Methods</p> <ul style="list-style-type: none"> <li>• Methods for achieving cognitive objectives</li> <li>• Methods for achieving psychomotor objectives</li> <li>• Methods for achieving affective objectives</li> <li>• Methods for achieving learner centeredness</li> <li>• Methods for achieving new competencies</li> <li>• Methods for achieving professionalism</li> </ul>
<p><b>4.7.</b> <b>Step5</b> <b>Implementation of Educational strategies</b></p>	<p>a) Importance b) Identification Of Resources c) Obtaining Support For The Curriculum d) Administration Of The Curriculum e) Anticipating Barriers f) Introducing The Curriculum</p> <ul style="list-style-type: none"> <li>• Piloting</li> <li>• Phasing In</li> <li>• Full Implementation</li> </ul> <p>a) Interaction With Other Steps</p>
<p><b>4.8.</b> <b>Step 6</b> <b>Evaluation of Curriculum</b></p>	<p>a) Need, b) Different Models Of Curriculum Evaluation c) CIPP Model d) Kirkpatrick's model</p>

<b>4.9. Competency based curriculum</b>	<ul style="list-style-type: none"> <li>a) Overview of outcome based and Competency based curriculum</li> <li>b) Rationale of CBME</li> <li>c) Components of CBME: Competency, Entrust able Professional Activity,</li> <li>d) Overview of Dreyfus Model</li> <li>e) Implementation Of CBME</li> <li>f) Assessment of CBME</li> <li>g) Concept of ATCOM Module</li> </ul>
<b>4.10. Models of Curriculum</b>	SPICES Model
	Kerr Model Zais Model
	Tyler's Model
<b>4.11 Curriculum planning and revision</b>	<b>Need</b> <b>Steps in planning of curriculum revision</b>
<b>4.12 Curriculum Maintenance And Enhancement</b>	The dynamic nature of curriculum Management of change Sustaining the curriculum team
<b>4.13 curriculum Dissemination</b>	<ul style="list-style-type: none"> <li>a) Definition</li> <li>b) Planning for dissemination</li> <li>c) What should be disseminated</li> <li>d) Method of dissemination</li> <li>e) Resources required for dissemination</li> </ul>
Also recent advancements in the field of medical education and a frontier knowledge of the subject	