

Faculty of Medicine



**JSS Academy of Higher Education & Research**

(Deemed to be University)

Accredited "A" Grade by NAAC

Sri Shivarathreshwara Nagar, Mysuru – 570 015

# Regulation & Syllabus

Post Graduate Degree Programs  
**TB & RESPIRATORY MEDICINE 2016**

**MD**

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## **MD TB & RESPIRATORY MEDICINE**

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**REGULATION AND SYLLABUS FOR  
POST GRADUATE DEGREE PROGRAMS 2016**

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**MD TUBERCULOSIS &  
RESPIRATORY MEDICINE**

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## CHAPTER I

### REGULATION FOR POST GRADUATE DEGREE AND DIPLOMA COURSES

#### 1. Branch of study

##### Post graduate degree courses

##### Doctor of Medicine

- a) Anaesthesiology
- b) Anatomy
- c) Biochemistry
- d) Community medicine
- e) Dermatology, venereology and leprosy
- f) Emergency medicine
- g) Forensic medicine
- h) General medicine
- i) Hospital administration
- j) Microbiology
- k) Pathology
- l) Paediatrics
- m) Pharmacology
- n) Physiology
- o) Psychiatry
- p) Tuberculosis and Respiratory Medicine
- q) Radio Diagnosis

##### Master of Surgery

- a) General surgery
- b) Obstetrics and gynaecology
- c) Ophthalmology
- d) Orthopaedics
- e) Otorhinolaryngology

##### Post graduate diploma courses

- a) Anaesthesiology (DA)
- b) Child Health (DCH)
- c) Clinical Pathology (DCP)
- d) Dermatology, Venereology & Leprosy (DDVL)
- e) Medical Radio Diagnosis (DMRD)
- f) Obstetrics & Gynaecology (DGO)
- g) Ophthalmology (DO)
- h) Orthopaedics (D Ortho)
- i) Otolaryngology (DLO)
- j) Psychiatric Medicine (DPM)

## **2. Eligibility for admission**

**MD / MS Degree and Diploma courses:** A candidate who has passed final year MBBS examination after pursuing a study in a medical college recognized by the Medical Council of India and has completed one year compulsory rotating internship in a teaching institution or other institution recognized by the Medical Council of India, and has obtained permanent registration of any State Medical Council, shall be eligible for admission.

## **3. Admission**

A candidate desirous of admission to Post Graduate Medical Programmes MD/MS / PG Diploma Courses is required to complete the application form and submit to the Deemed to be University along with prescribed documents on or before the scheduled date. Eligibility criteria, application form and details of documents to be submitted are available in the Deemed to be University website: [www.jssuni.edu.in](http://www.jssuni.edu.in).

## **4. Registration**

A candidate who has been admitted to postgraduate course shall register in the Deemed to be University within a month of admission after paying the registration fee.

## **5. Intake of students**

The intake of students to each course shall be in accordance with the MCI.

## **6. Duration of study**

**MD, MS Degree Courses:** The course of study shall be 3 completed years including the period of examination.

Provided that in case of students having a recognized 2 years postgraduate diploma course in the same subject, the period of training including the period of examination shall be 2 years.

**Diploma courses:** The course of study shall be 2 completed years including the examination period.

## **7. Methodology of training**

The training of postgraduate for degree/diploma shall be residency pattern, with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate shall participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Similarly, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

## **8. Attendance, progress and conduct**

A candidate pursuing degree/diploma course, shall work in the concerned department of the institution for the full period as full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course, nor can he/she work in a nursing home or other hospitals/

clinic/laboratory while studying postgraduate course.

Each year shall be taken as a unit for the purpose of calculating attendance.

Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided, further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the Deemed to be University Examinations.

## 9. Monitoring progress of study

**Work diary / Log Book:** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention shall be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the Deemed to be University practical/clinical examination.

**Periodic tests:** In case of degree courses of three years duration (MD/MS), the concerned departments shall conduct three tests, two of them be annual tests, one at the end of first year and the other at the end of the second year. The third test shall be held three months before the final examination. The tests shall include written papers, practical / clinical and viva voce. Records and marks obtained in such tests shall be maintained by the Head of the Department and sent to the Deemed to be University, when called for.

In case of diploma courses of two years duration, the concerned departments shall conduct two tests, one of them at the end of first year and the other in the second year, three months before the final examination. The tests shall include written papers, practical / clinical and viva voce.

**Records:** Records and marks obtained in tests shall be maintained by the Head of the Department and shall be made available to the Deemed to be University or MCI.

## 10. Dissertation

Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a postgraduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

Every candidate shall submit to the Controller of Examinations of the Deemed to be University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course, on or before the dates notified by the Deemed to be University. The synopsis shall be sent through proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the Deemed to be University. No change in the dissertation topic or guide shall be made without prior approval of the Deemed to be University.

The dissertation should be written under the following headings:

- a) Introduction
- b) Aims or Objectives of study
- c) Review of Literature
- d) Material and Methods
- e) Results
- f) Discussion
- g) Conclusion
- h) Summary
- i) References
- j) Tables
- k) Annexure
- l) Proof of Paper presentation and publication

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

Four copies of dissertation thus prepared shall be submitted to the Controller of Examinations, six months before final examination, on or before the dates notified by the Deemed to be University.

The dissertation shall be valued by examiners appointed by the Deemed to be University. Approval of dissertation work is an essential precondition for a candidate to appear in the Deemed to be University examination.

Guide: The academic qualification and teaching experience required for recognition as a guide for dissertation work is as per MCI Minimum Qualifications for Teachers in Postgraduate Medical Education Regulations, 2000. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

Co Guide: A Co-guide may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching/training by JSS Deemed to be University / Medical Council of India.

Change of guide: In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the Deemed to be University.

A postgraduate student is required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.



## 11. Schedule of examination

The examination for MD / MS courses shall be held at the end of three academic years (six academic terms). The examination for the diploma courses shall be held at the end of two academic years.

For students who have already passed Post Graduate Diploma and appearing for MD examination, the examination shall be conducted after two academic years including submission of dissertation. The Deemed to be University shall conduct two examinations in a year at an interval of four to six months between the two examinations. Not more than two examinations shall be conducted in an academic year.

## 12. Scheme of examination

### MD/MS

**Dissertation:** Every candidate shall carry out work and submit a dissertation as indicated in Sl. No. 10. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

**Written Examination (Theory):** A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1st paper in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers. In basic medical subjects and para-clinical subjects, questions on applied clinical aspects shall also be asked.

### Pattern of Theory Examination Question Paper:

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying 10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

**Practical/Clinical Examination:** In case of Practical examination for the subjects in Basic Medical Sciences Practical Examination shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the experimental/Laboratory studies and his ability to perform such studies as are relevant to his subject.

Clinical examination for the subjects in Clinical Sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a specialist/Teacher, for which candidates shall examine a minimum one long case and two short cases.

The total marks for Practical / clinical examination shall be 200.

**Viva Voce:** Viva Voce shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which form a part of the examination.

The total marks shall be 100 and the distribution of marks shall be as under:

- |     |   |    |
|-----|---|----|
| i)  | For examination of all components of syllabus | 80 |
| ii) | For Pedagogy                                  | 20 |

If there is skills evaluation, 10 marks shall be reserved for Pedagogy and 10 marks for skill evaluation.

**Examiners.** There shall be at least four examiners in each subject. Out of



them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

**Criteria for declaring as pass in Deemed to be University Examination:**

A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the four papers for post graduate degree examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the four papers for postgraduate degree examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

**Declaration of class:** A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

## **Post Graduate Diploma Examinations**

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva - Voce.

**Theory:** There shall be three written question papers each carrying 100 marks. Each paper will be of three hours duration. In clinical subjects one paper out of this shall be on basic medical sciences. In basic medical subjects and Para-clinical subjects, questions on applied clinical aspects shall also be asked.

**Pattern of Theory Examination Question Paper:**

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying 10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

**Practical Clinical Examination:** In case of practical examination it shall be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.

In case of clinical examination, it shall aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate shall examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 150.

**Viva Voce Examination:** Viva Voce examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which shall form a part of the examination. The total marks shall be 50.

**Examiners.** There shall be at least four examiners in each subject. Out of

them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

**Criteria for declaring as pass in Deemed to be University Examination:**

A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the three papers for post graduate diploma examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the three papers for post graduate diploma examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

**Declaration of class:** A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

**13. Number of candidates per day**

The maximum number of candidates to be examined in Clinical/ practical and Oral on any day shall not exceed eight for M.D./M.S. degree, eight for diploma.

## **CHAPTER II**

### **GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM**

#### **GOAL**

The goal of postgraduate medical education shall be to produce competent specialists and/or medical teachers:

1. Who shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
2. Who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system.
3. Who shall be aware of the contemporary advance and developments in the discipline concerned.
4. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology and
5. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

#### **GENERAL OBJECTIVES**

At the end of the postgraduate training in the discipline concerned the student shall be able to:

1. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.
2. Practice the specialist concerned ethically and in step with the principles of primary health care.
3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.
5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
9. Play the assigned role in the implementation of national health programme, effectively and responsibly.

10. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
11. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.
12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
14. Function as an effective leader of a health team engaged in health care, research or training.

**STATEMENT OF THE COMPETENCIES:** Keeping in view the general objectives of postgraduate training, each discipline shall aim at development of specific competencies which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

**COMPONENTS OF THE POSTGRADUATE CURRICULUM:**

The major components of the Postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Dissertation skills.
- Attitudes including communication skills.
- Training in Research Methodology, Medical Ethics and Medicolegal aspects.

(Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000)

## CHAPTER III

### Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring shall be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Model checklists are given in this chapter which may be copied and used.

The learning outcomes to be assessed should include:

1. Personal Attitudes.
2. Acquisition of Knowledge.
3. Clinical and operative skills and
4. Teaching skills.

**1. Personal Attitudes:** The essential items are:

- a) Caring attitude.
- b) Initiative.
- c) Organisational ability.
- d) Potential to cope with stressful situations and undertake responsibility.
- e) Trustworthiness and reliability.
- f) To understand and communicate intelligibly with patients and others.
- g) To behave in a manner that establishes professional relationships with patients and colleagues.
- h) Ability to work in a team.
- i) A critical enquiring approach to the acquisition of knowledge.

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

**2. Acquisition of Knowledge:** The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

- a) **Journal Review Meeting (Journal Club).** The ability to do literature search, in depth study, presentation skills, and use of audio-visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I, Chapter III)
- b) **Seminars / Symposia.** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio-visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter III)

- c) **Clinico-pathological conferences.** This should be a multidisciplinary study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.
- d) **Medical Audit.** Periodic morbidity and mortality meeting shall be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### 3. Clinical skills:

- a. **Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter III).
  - b. **Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter III).
  - c. **Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter III).
4. **Teaching skills:** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter III).
  5. **Periodic tests:** In case of degree courses of three years duration, the department may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. In case of diploma courses of two year duration, the departments may conduct two tests. One of them at the end of first year and the other in the second year, three months before the final examination. The tests may include written papers, practical / clinical and viva voce.
  6. **Work diary:** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.
  7. **Records:** Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the Deemed to be University or MCI.
  8. **Log book:** The log book is a record of the important activities of the candidates during his training. Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate. Format for the log book for the different activities is given in Tables 1, 2 and 3 of Chapter III. Copies may be made and used by the institutions.

**Procedure for defaulters:** Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set him or herself right.

### Format of Model Check Lists

#### Check List-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

Sl No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	<b>Total Score</b>					



## Check List – II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

<b>Sl No</b>	<b>Items for observation during presentation</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall Performance					
10.	Any other observation					
	<b>Total Score</b>					

### Check List - III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads,  
including posting in other departments)

**Name of the Student:**

**Name of the Faculty/Observer:**

**Date:**

SI No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of ward work					
	<b>Total Score</b>					

**Check List - IV**  
**EVALUATION FORM FOR CLINICAL PRESENTATION**

**Name of the Student:**

**Name of the Faculty:**

**Date:**

<b>Sl No</b>	<b>Points to be considered</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required <ul style="list-style-type: none"> <li>• Complete list</li> <li>• Relevant order</li> <li>• Interpretation of investigations</li> </ul>					
11.	Ability to react to questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	<b>Total Score</b>					

## Check List - V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

SI No		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		

## Check List - VI

### MODEL CHECK LIST FOR DISSERTATION PRESENTATION

**Name of the Student:**

**Name of the Faculty:**

**Date:**

<b>Sl No</b>	<b>Points to be considered</b> <b>divine</b>	<b>Poor</b> <b>0</b>	<b>Below</b> <b>Average</b> <b>1</b>	<b>Average</b> <b>2</b>	<b>Good</b> <b>3</b>	<b>Very</b> <b>Good</b> <b>4</b>
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of Protocol					
5.	Preparation of proforma					
	<b>Total Score</b>					

**Check List - VII**

**CONTINUOUS EVALUATION OF DISSERTATION WORK  
BY GUIDE / CO GUIDE**

**Name of the Student:**

**Name of the Faculty:**

**Date:**

<b>SI No</b>	<b>Items for observation during presentations</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case Material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	<b>Total Score</b>					

**LOG BOOK**

**Table 1:** Academic activities attended

Name:

Admission Year:

<b>Date</b>	<b>Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching</b>	<b>Particulars</b>



**LOG BOOK**

**Table 2:** Academic presentations made by the student

Name:

Admission year:

Date	Topic	Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching

## LOG BOOK

**Table 3:** Diagnostic and Operative procedures performed

Name:

Admission year:

College:

<b>Date</b>	<b>Name</b>	<b>ID No.</b>	<b>Procedure</b>	<b>Category O, A, PA, PI*</b>

**\* Key:**

O - Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior Surgeon  
PI - Performed independently

### Model Overall Assessment Sheet

SI No	Faculty Member & Others	Name of Student and Mean Score*																			
		A	B	C	D	E	F	G	H	I	J										
1.	<b>Journal Review Presentations</b>																				
2.	<b>Seminars</b>																				
3.	<b>Clinical work in wards</b>																				
4.	<b>Clinical presentation</b>																				
5.	<b>Teaching skill practice</b>																				
	<b>Total Score</b>																				

Note: Use separate sheet for each year.

**Signature of HOD**

**Signature of Principal**

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

\* KEY:

**Mean score** : Is the sum of all the scores of checklists 1 to 7.  
**A, B, .....** Name of the trainees.

## Chapter IV

### Medical Ethics Sensitisation and Practice

#### Introduction

There is now a shift from the traditional individual patient- doctor relationship and medical care. With the advances in science and technology and the needs of patients, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal and General Objective stated in Chapter II and develop human values it is urged that ethical sensitisation be achieved by lectures or discussion on ethical issues, clinical discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

#### Course Contents

##### 1. Introduction to Medical Ethics

- What is Ethics?
- What are values and norms?
- Relationship between being ethical and human fulfillment.
- How to form a value system in one's personal and professional life.
- Heteronomous Ethics and Autonomous Ethics.
- Freedom and personal Responsibility.

##### 2. Definition of Medical Ethics

- Difference between medical ethics and bio-ethics
- Major Principles of Medical Ethics
  - Beneficence = fraternity
  - Justice = equality
  - Self determination (autonomy) = liberty

##### 3. Perspective of Medical Ethics

- The Hippocratic Oath.
- The Declaration of Helsinki.
- The WHO Declaration of Geneva.
- International code of Medical Ethics. (1993)
- Medical Council of India Code of Ethics.

##### 4. Ethics of the Individual

- The patient as a person.
- The Right to be respected.
- Truth and Confidentiality.
- The autonomy of decision.
- The concept of disease, health and healing.
- The Right to health.
- Ethics of Behaviour modification.
- The Physician – Patient relationship.
- Organ donation.

##### 5. The Ethics of Human life

- What is human life?
- Criteria for distinguishing the human and the non-human.

- Reasons for respecting human life.
- The beginning of human life.
- Conception, contraception.
- Abortion.
- Prenatal sex-determination.
- In vitro fertilization (IVF).
- Artificial Insemination by Husband (AIH).
- Artificial Insemination by Donor (AID).
- Surrogate motherhood.
- Semen Intra-fallopian Transfer (SIFT).
- Gamete Intra-fallopian Transfer (GIFT).
- Zygote Intra-fallopian Transfer (ZIFT).
- Genetic Engineering.

## **6. The Family and Society in Medical Ethics**

- The Ethics of human sexuality.
- Family Planning perspectives.
- Prolongation of life.
- Advanced life directives – The Living Will
- Euthanasia
- Cancer and Terminal Care

## **7. Profession Ethics**

- Code of conduct.
- Contract and confidentiality.
- Charging of fees, Fee-splitting.
- Prescription of drugs.
- Over-investigating the patient.
- Low – Cost drugs, vitamins and tonics.
- Allocation of resources in health care.
- Malpractice and Negligence.

## **8. Research Ethics**

- Animal and experimental research / humaneness.
- Human experimentation.
- Human volunteer research — Informed Consent Drug trials.

## **9. Ethical workshop of cases**

- Gathering all scientific factors.
- Gathering all human factors.
- Gathering all value factors.
- Identifying areas of value — conflict, setting of priorities
- Working out criteria towards decisions.

## **Recommended Reading**

1. Francis C.M., Medical Ethics, 1 Ed, 1993, Jaypee Brothers, New Delhi.
2. Good Clinical Practices:GOI Guidelines for clinical trials on Pharmaceutical Products in India ([www.cdsco.nic.in](http://www.cdsco.nic.in))
3. INSA Guidelines for care and use of Animals in Research – 2000.
4. CPCSEA Guidelines 2001 ([www.cpcsea.org](http://www.cpcsea.org).)
5. Ethical Guidelines for Biomedical Research on Human Subjects, 2000, ICMR, New Delhi.
6. ICMR Guidelines on animal use 2001, ICMR, New Delhi.

## Chapter - V - Syllabus

### M D TUBERCULOSIS & RESPIRATORY MEDICINE

#### GOALS

The goals of postgraduate training in MD Tuberculosis and Respiratory Medicine would be to train a basic medical graduate (MBBS):

- To practice as a pulmonologist, equipped with appropriate knowledge and skills necessary to care for the people with respiratory illness and advise preventive measures to the healthy individuals.
- To practice respiratory medicine in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- To practice with empathy and the highest ethical standards of the profession.
- To continue to strive for excellence by continuing medical education throughout his or her professional career.
- To teach by sharing knowledge and skills with colleagues.
- To research and find solutions to challenges in health care.

#### OBJECTIVES

The objectives to be fulfilled at the completion of the course are as follows: At the end of the program, the student should be able to:

##### Knowledge

- Describe, identify and monitor normal patterns in respiratory system and in disease.
- Describe aetio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of respiratory system and tuberculosis.
- Demonstrate an understanding of basic (pre and para-clinical) sciences and its application to the normal and abnormal processes.
- Analyze clinical and investigation data approach and manage a health-related problem.
- Identify and understand socio-economic-environmental-cultural factors in health care.
- Recognize problems outside his or her abilities and appropriately refer.
- Update one's knowledge and skills by self-directed learning, by participating in continued medical education programs and utilizing media – spoken, written, print and electronic.
- Teach students and share knowledge and skills with colleagues.
- Audit and analyze work, assist in research and publish scientific articles in peer reviewed journals.

##### Skills

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical physical examination skills on children and adults.
- Plan, decide upon and interpret appropriate cost effective investigations.

- Perform essential procedures both diagnostic and therapeutic.
- Manage, resuscitate and stabilize patients in emergencies.

### **Communication and attitudes**

- Communicate appropriately with patients and their care takers, assisting in their health care decision making.
- Practice respiratory medicine at the highest ethical level, protecting the patient at all costs.
- Respect patient's and their care taker's rights and professional relationships (doctor-doctor, doctor-patient, doctor-society, doctor-other health care professionals).
- Apply the highest level of ethics in research, publication, references and practice of pulmonary medicine.

### **Course Contents**

#### **Syllabus Topics:**

##### **1. Anatomy and Physiology of the Respiratory System**

Development and growth of the Lung, Bronchopulmonary segments, Lung Vasculature, Lymph nodes and Lymphatic drainage of the Lung, Pleura, Mediastinum, anatomy and histology of the airways, parenchyma and interstitium, Scientific basis of Lung function, Control of Respiration, Ventilation, Perfusion and Diffusion, respiratory muscles and pulmonary mechanics, acid base balance, Alveolar ventilation, pulmonary surfactant and airway epithelia, blood gas transport, exercise pulmonary physiology, lungs in pregnancy, aging of the respiratory system

##### **2. Pulmonary Function tests**

Indications, contraindications, procedure, preparation. Large Airway Functions – (FVC, FEV<sub>1</sub>, ratios) small airway functions, Arterial Blood gases, DLCO, Body plethysmography.

##### **3. Immunology of the respiratory system**

Pulmonary defence mechanisms against infections, Lymphocyte-macrophage mediated inflammation in the lung, Mast cells and Eosinophils, antibody mediated lung defences and humoral immunodeficiency.

##### **4. Approach to respiratory system clinical examination**

##### **5. Investigations of a patient with respiratory symptoms**

Conventional and newer Imaging, interventional radiology, pulmonary cytopathology, Broncho provocation tests, cardio pulmonary exercise testing, bronchoscopy, thoracoscopy, peri-operative respiratory considerations, scintigraphy studies, Allergy testing.

##### **6. Infectious diseases of the lungs**

Pulmonary clearance of infectious agents, Approach to a patient with respiratory infection, radiology of pulmonary infection, pathology of pulmonary infection, principles of antibiotic use and, rational antibiotic use, microbial virulence factors



## **7. Common syndromes in pulmonary infectious diseases**

Upper respiratory infection, Acute bronchitis, Community acquired pneumonia, pneumonia in childhood, Empyema, Lung abscess, Mediastinitis, bronchiectasis, cystic fibrosis

## **8. Pulmonary infections in special hosts**

Pneumonia in surgery and trauma, pneumonia in elderly, pulmonary infection in immune compromised hosts, HIV and pulmonary infections

## **9. Major pathogens in pulmonary infections**

Pneumonias caused by gram positive bacteria, nosocomial pneumonia, hospital acquired and ventilator associated pneumonia, Respiratory mycoses, viral pneumonias, parasitic diseases of the lung (protozoan and helminthic), zoonotic and other unusual bacterial pneumonias

## **10. Mycobacterial infections**

- a. Epidemiology including molecular epidemiology, prevention, tuberculosis transmission and control, microbiology,
- b. Pathology and pathogenesis, virulence and host response, immunology,
- c. clinical presentation, diagnosis, imaging, novel approach to rapid diagnosis, immunodiagnosis, treatment,
- d. RNTCP, anti-tubercular drugs, drug adherence, complications, prognosis, newer biomarkers, drug resistance, MDR TB, XDR TB, DOTS plus, (PMDT),
- e. TB and HIV, TB with other comorbidities,
- f. Non tubercular mycobacteria, latent tuberculosis, military TB, TB and pregnancy, TB in children, BCG, tuberculin testing, surgical therapy for TB, Newer drugs in TB.

## **11. Extrapulmonary tuberculosis:**

Pleural, Abdominal, Spinal, CNS, Lymph node, Bone, Renal, Genitourinary, Eye, Skin, Head and Neck, Cardiovascular, Hepatobiliary, musculoskeletal TB.

## **12. Airway diseases**

- a. **COPD:** Epidemiology, pathology, pathophysiology and pathogenesis, diagnostic criteria, differential diagnosis, clinical course and management, smoking and lung
- b. **Asthma:** epidemiology, pathology, pathophysiology and pathogenesis, diagnostic criteria, differential diagnosis, clinical course and management, aspirin induced asthma, asthma in pregnancy, exercise induced asthma, menstruation induced asthma,
- c. **Other obstructive disorders:** upper airway obstruction, bronchiectasis, bronchiolitis, bullous disease of the lung

## **13. Respiratory Failure**

Acute Respiratory Failure, Chronic respiratory failure, Acute Lung Injury, ARDS, Sepsis, Systemic inflammatory response syndrome, Multi-organ dysfunction syndrome, acute respiratory failure in the surgical patient, respiratory pump failure, hemodynamic and respiratory monitoring, nutrition in respiratory failure

#### **14. Metabolic, depositional and infiltrative disorders of the respirator system**

Depositional diseases of the Lungs, Lungs in patients with in-born errors of metabolism, Langerhans cell histiocytosis, pulmonary lymphangiomyomatosis

#### **15. Mechanical Ventilation:**

Invasive, non-invasive, intubation, airway management and weaning

#### **16. Oxygen Therapy and pulmonary toxicity**

#### **17. Pulmonary Pharmacotherapy**

#### **18. Pleural Diseases**

Pleural effusion, Empyema, pneumothorax, pleural malignancy

#### **19. Anatomy of the mediastinum and mediastinal diseases**

Mediastinal compartments and structures, non-neoplastic disorders of the mediastinum, congenital cysts of the mediastinum, Bronchopulmonary foregut anomalies, acquired lesions of the mediastinum both benign and malignant.

#### **20. Lung Cancer**

Epidemiology, Genetics and molecular changes of human lung cancer, Solitary pulmonary nodule, pathology of Non-small cell lung cancer, treatment of NSCLC, Small cell lung cancer: diagnosis, treatment and natural history, prevention of lung cancer, early diagnosis, screening, novel biomarkers, targeted therapies, primary lung tumors other than bronchogenic carcinoma, benign and malignant, paraneoplastic syndromes, pulmonary metastasis.

#### **21. Lymphoproliferative and Haematologic diseases involving the lung and pleura.**

Hodgkin's Lymphoma, Non-Hodgkin's Lymphoma, Leukaemia, Multiple Myeloma, Pleural lymphomas, Post-transplant lymphoproliferative disorder

#### **22. Congenital / Developmental disorders of Respiratory System**

- a. Tracheobronchial Anomalies: Tracheal stenosis, Tracheo-oesophageal Fistula, Tracheal agenesis, Tracheomalacia, Tracheobronchomegaly, Bronchial Atresia, Bronchogenic cysts
- b. Lung Anomalies: Congenital Cystic Adenomatoid Malformation (CCAM), Lung Agenesis/Hypoplasia, Lung Sequestration
- c. Anomalies of Pulmonary Vasculature: Absent Pulmonary Artery trunk/ Unilateral Pulmonary Artery, Pulmonary Artery Stenosis, Anomalous origin of Left Pulmonary Artery, Anomalous systemic pulmonary perfusion, Anomalous pulmonary venous drainage, Scimitar syndrome, Pulmonary Arteriovenous Malformations and telangiectasia.

#### **23. Environmental Lung Diseases:**

Indoor and outdoor air pollution, High Altitude Physiology and Clinical Disorders, Diving Injuries and Air Embolism, Thermal Lung Injuries and Acute smoke Inhalation

**24. Occupational Lung Diseases:**

Pneumoconiosis, Asbestosis, Berylliosis, Occupational Asthma, Byssinosis, Silicosis, Coal worker's Lung Diseases, Acute and Chronic responses to toxic inhalations.

**25. Systemic diseases involving the lung:**

- a.  $\alpha$ 1 Antitrypsin Deficiency, Neurofibromatosis, Marfan's Syndrome, Sickle Cell Disease, Systemic Sarcoidosis.
- b. Connective Tissue Disorders: Systemic Lupus Erythematosus, Rheumatoid Arthritis, Scleroderma, Polymyositis-Dermatomyositis, Mixed Connective-Tissue Disease, Sjogren's syndrome, Ankylosing Spondylitis.
- c. Wegeners Granulomatosis
- d. Hepatopulmonary syndrome, Lung involvement in cardiac diseases, neurologic, gastrointestinal and renal diseases

**26. Interstitial Lung Diseases:**

Idiopathic Pulmonary Fibrosis, NSIP, Hypersensitivity Pneumonitis, Radiation Pneumonitis,

**27. Alveolar Diseases:**

Alveolar hemorrhagic syndromes, aspiration disorders, pulmonary alveolar proteinosis, alveolar microlithiasis

**28. Drug Induced Lung Diseases:**

Drugs causing Bronchoconstriction, Cough, Drug induced Alveolitis, Drug induced Pulmonary, Pleural and Mediastinal fibrosis, Pulmonary toxicity associated with chemotherapeutic agents, Drug induced lung diseases due to non-chemotherapeutic agents

**29. Sleep Disorders:**

Stages of Sleep, Changes in the Cardiopulmonary System during Sleep, Sleep Apnea Syndromes, Differential Diagnosis and evaluation of Sleepiness.

**30. Disorders of Pulmonary Circulation:**

- a. Pulmonary Hypertension and cor pulmonale
- b. Pulmonary Thromboembolism
- c. Pulmonary Vasculitis

**31. Pulmonary Eosinophilias:**

Loffler's Syndrome, Drug/Toxin induced Pulmonary Eosinophilic Syndromes, Idiopathic Acute Eosinophilic Pneumonia, Tropical Pulmonary Eosinophilia, Chronic Eosinophilic Pneumonia, Allergic Bronchopulmonary Aspergillosis, Churg-Strauss Syndrome, Idiopathic Hypereosinophilic Syndrome.

**32. Chest Physical therapy and Pulmonary Rehabilitation****33. Diseases of the chest wall, diaphragm and spine**

Non-muscular diseases of the chest wall, effects of neuromuscular diseases on ventilation, management of neuromuscular respiratory muscle dysfunction

tion

**34. Surgical aspects of Pulmonary Medicine**

Perioperative care of the patient undergoing lung resection, Thoracic trauma, Lung Transplantation

**35. Bronchoscopy & Medical Thoracoscopy:** Indications, procedure, complications

**36. Ethics in Research and Intensive care Unit:** Fundamental principles of Bioethics and research, relationship between health care law and ethics, principles regarding End-of-Life issues in ICU, Ethics related to futile medical interventions, DONOT ATTEMPT RESUSCITATION orders in the ICU, Palliative care to ICU patients.

**I. POSTGRADUATE SKILLS**

**a. Clinical Assessment skills**

- History taking and clinical examination
- Identify the need for emergency interventions
- Demonstration of various signs on clinical examination
- Initiation and weaning from assisted ventilation
- Assessing the need for various preventive and therapeutic interventions

**b. Procedures**

- Pulmonary function testing: spirometry, DLCO
- Arterial Blood Gas
- Allergy Skin Testing
- Thoracocentesis, Pleural fluid aspiration
- Pleural biopsy
- Bronchoscopy, BAL and Endobronchial Biopsy
- Image Guided FNAC/Biopsy
- Sleep Study / Polysomnography
- Endotracheal Intubation
- Tracheostomy Tube insertion
- Intercostal tube insertion
- Peripheral and central venous catheter insertion
- Respiratory Care & Oxygen therapy
- Aerosol & Humidity therapy
- Invasive Mechanical Ventilation
- Non Invasive Ventilation
- Chest Physical Therapy
- Pulmonary Rehabilitation

**c. Laboratory - Interpretation & Diagnostic skills**

- Chest X-rays, CT and HRCT Thorax, Thoracic Ultrasound
- Pulmonary function testing: spirometry, DLCO
- ECG
- Arterial Blood Gas
- Allergy Skin Testing
- Pleural Fluid Analysis
- Bronchoscopy

- Sleep Study / Polysomnography

**d. Communication Skills**

- Clinical history and physical examination
- Teaching skills
- Lectures, bedside clinics, discussions
- Basic Pedagogy sessions— teaching students, care takers, health education
- Empathy with a family
- Communicating about health, disease, severity of the illness
- Communicating death
- Informed consent
- Referral letters, replies
- Discharge summaries
- Death declaration and Intimation
- Pre-counseling for HIV

**Methods of training**

**Teaching Sessions:**

- Once a week - Case discussion
- Once a week - Journal club
- Once a week - Subject Seminar
- Once a week - Grand rounds
- Once a Month - Radiology and Histopathological discussion
- Once a Month - Mortality Meeting, Inter Departmental meetings, Academic Society meeting

**1. Didactic Lectures: (Faculty lectures)**

- Objective: To introduce a broad-based concept in an important area of learning to orient the postgraduate student.
- Examples: Potential introductory topics to pulmonary medicine like oxygen therapy, ventilator support, pulmonary rehabilitation etc, recent advances, basic science/ concepts and National programs.
- Frequency: Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

**2. Seminars:**

- Objective: To enable a student to study in depth an important area of learning important to the training of the student.
- Examples: Examples of potential seminar topics would be COPD, Smoking and Lungs, tuberculosis, guidelines for management of asthma, systemic manifestations of pulmonary disease etc.
- Frequency: Four times a month. Topics to rotate once in 3 years. Students should be given more conceptual topics needing a higher degree of understanding and in-depth study. Seniors should have also a more difficult part of the topic when presented as a two-person seminar. Juniors can

present after a preliminary month of observation of seminar and ideally could be in combination with senior postgraduates.

### **3. Journal Club:**

- Objective: To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals, studies, reviews.
- Examples: Use of NIV as initial therapy to prevent Intubation in acute exacerbation of COPD, etc.
- Frequency: once in a week. Seniors get the first opportunity and juniors begin after their first year in the course.

### **4. Undergraduate Teaching: Clinics**

- Objective: To teach effectively undergraduate and colleagues utilizing simple educational methods.
- Methodology: During their MD course, postgraduate students should be given opportunities to teach undergraduates.
- Examples: Bedside Clinic, Didactic lecture, demonstration of examination methods.
- Frequency: once every month

### **5. Bedside Clinics**

- Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
- Examples: patient with breathlessness and past history of tuberculosis. Patient with stridor and has history of mechanical ventilation etc.
- Frequency: twice in a month is the minimum as it forms the basis of good - clinical training activities conducted by senior faculty.

### **6. Case discussion:**

- Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
- Examples: Breathlessness in patient with Rheumatoid arthritis. Tinnitus in patient taking ATT, etc.
- Frequency: once in a week is the minimum as it forms the basis of good - clinical training activities

### **7. Mortality Review Meeting**

- Objective: To analyze, discuss and learn from mortalities.
- Methodology: Once a month, all mortalities in the concerned department are presented to the department, both faculty and residents and pre-chosen cases are presented in detail. These cases are discussed further and after analysis shortcomings in diagnosis and treatment are identified to prevent future similar mortalities.
- Examples: Upper respiratory infection with breathlessness progressing to ARDS etc.
- Frequency: Once a month preferably in the first week to allow the previ-

ous months mortality to be presented for discussion.

## 8. Grand Rounds

- Objective: To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.
- Examples: The patient with recurrent cough, fever and breathlessness with SLE, etc.
- Frequency: Once in a week, Head of Unit or Department will conduct the rounds without any interference to daily care of patients.

## 9. Inter-departmental meetings

- Objective: To experience inter-departmental cooperation and develop a healthy professional respect for each other's opinions in addition to the subject learning experience.
- Methodology: Case discussions or students present investigations to members of both faculty. The discussion is a learning experience and improves communications between departments.
- Examples: Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of loculated pleural collection, mass lesion, interstitial lung disease etc.
- Frequency: Once in 2 months and rotated between departments – radiology, cardiology, nephrology, neurology, clinical hematology, etc.

## 10. Clinical Pathological Conference/ CPC

- Objective: To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.
- Frequency: Once in two months. First choice is a senior PG student. All are encouraged to participate.

## 11. Records Round

- Objective: To appreciate the importance of documentation of facts and record keeping.
- Methodology: Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.
- Frequency: Once a week with the entire team present at the session.

## Rotation Postings

This is essential to acquire knowledge in allied subjects as applicable to Tuberculosis and respiratory medicine. It is preferable to post PG students as per the following

1	In department of TB and Respiratory Medicine (parent department)	27 months
2	Department of Medicine	1 month
3	Cardiology	2 weeks
4	Radio-diagnosis	2 weeks



5	Casualty and EMD	2 weeks
6	Cardio-Thoracic Surgery	2 weeks
7	Respiratory ICU	6 months

### Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate-students, but also students to evaluate themselves. The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

The learning out comes to be assessed should included: (1) Personal attitudes, (2) Acquisition of knowledge, (3) Clinical and operative skills, (4) Teaching skills and (5) Dissertation

#### 1. Personal Attitudes: The essential items are:

- a. Caring attitudes.
- b. Initiative.
- c. Organisational ability.
- d. Potential to cope with stressful situations and undertake responsibility.
- e. Trust worthiness and reliability.
- f. To understand and communicate intelligibly with patients and others.
- g. To behave in a manner that establishes professional relationships with patients and colleagues.
- h. Ability to work in team.
- i. A critical enquiring approach to the acquisition of knowledge.

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

**2. Acquisition of Knowledge:** The methods used comprise of "Log Book" which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so desired.

**Journal Review Meeting (Journal Club):** The ability to do literature search, in depth study, presentation skills, and use of audio-visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist.

**Seminars / Symposia:** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist



**Clinico-pathological conferences:** This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

**Medical Audit:** Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### 3. Clinical skills

**Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills

**Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list

**Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

**4. Teaching skills:** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students

**5. Dissertation in the Department:** Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the Deemed to be University for registration, again before finalization for critical evaluation and another before final submission of the completed work. Synopsis Presentation at departmental level to be done within 3 months of joining course. Assessing the progress of the dissertation will be done every 6 months by presentation by the candidates. Final presentation and submission to be done at 6 months prior to examination.

**6. Periodic tests:** The departments will conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests include written papers, practical / clinical and viva voce.

#### **Internal evaluation of P.G. Students performance during three years:**

- **Ist Year** of M.D. (TB & Respiratory Medicine) Students: Assessment of students with multiple choice questions multiple short notes covering wide range of topics and practical examination with attention to history taking, clinical skills, relevant diagnostics and therapeutic plans ascertained. Suggested time of evaluation after first six months and at the end of first year rotation.
- **IIInd Year** of M.D. (TB & Respiratory Medicine) Students: Students should be evaluated at the end of II year on Theory and Practical examinations along with one faculty from General Medicine. For other specialties with

short rotations of one month may evaluate the candidate for comprehension of the subject and clinical skills.

- **III Year** of M.D. (TB & Respiratory Medicine) Students: P.G's should be evaluated at the beginning of his 3rd year training by panel of senior Post-graduate teachers. Suggested pattern of assessment with two essay type theory papers and multiple choice questions (200) — clinical skills, diagnostic and therapeutic skills evaluated intermittently by unit faculties.

**Mock examination suggested** — 3 to 4 months prior to final Deemed to be University exam should consist of two question papers each 3 hours duration, and Clinical and viva voce similar to Deemed to be University examination under the supervision of senior faculty.

Results of all evaluations should be entered into P.G's diary and departmental file for documentation purposes. Main purpose of periodic examination and accountability is to ensure clinical expertise of students with practical and communication skills and balance broader concept of diagnostic and therapeutic challenges.

- 7. Work diary/Log Book:** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.
- 8. Records:** Records, log books and marks obtained in tests will be maintained at the Office and will be made available to the Deemed to be University or MCI.

### **Log book**

The log book is a record of the important activities of the candidates during his training. Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures earned out by the candidate.

### **Log book evaluation**

At the end of first year, second year and 3 months before final examination, the logbook will be evaluated considering the following parameters:

1. Skills and procedures learned independently, under supervision or assisted by him
2. Presentations in journal clubs
3. Cases presented in clinical meetings
4. Presentation in departmental seminars
5. Intra and interdepartmental training and evaluation details
6. Teaching activities
7. Conferences/workshops/CME attended
8. Papers presented/published conferences
9. Side lab procedures done
10. Thesis progress and evaluation detail

**Procedure for defaulters:** The department along with the committee will review such situations and the defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

### **Recommended Books and Journals**

#### **Books:**

##### **Essential:**

1. Crofton and Douglas's Respiratory Diseases
2. Tuberculosis - Sharma / ROM
3. Pleural Diseases - Richard W. Light
4. Murray and Nadel's Textbook of Respiratory Medicine
5. Fishman's Pulmonary Diseases and Disorders
6. Respiratory Physiology: The Essentials - John B. West
7. Pulmonary Pathophysiology: The Essentials - John B. West
8. Egan's Fundamentals of Respiratory Care
9. Felson's Principles of Chest Roentgenology

##### **Reference:**

1. Harrison's Principles of Internal Medicine
2. Mechanical Ventilation: Physiological and Clinical Applications - Susan P. Pilbeam
3. The ICU Book - Paul L. Marino
4. Irwin and Rippe's Intensive Care Medicine
5. Nelson Textbook of Pediatrics
6. High resolution imaging of lungs

##### **Guidelines:**

1. National and International Guidelines for Pulmonary diseases
2. Eg: GOLD Guidelines for COPD, GINA Guidelines for Asthma, RNTCP/WHO Guidelines for Tuberculosis

#### **Journals:**

1. Indian JI of Chest Diseases and Allied Sciences (Q)
2. Indian JI of Tuberculosis (Q)
3. Asian Journal of critical care
4. American JI of Respiratory and Critical Care Medicine (F)
5. Tuberculosis (BM)
6. Clinics in Chest Medicine (Q)
7. Infectious disease clinics of North America (Q)
8. Immunology and Allergy clinics
9. Journal of Critical care
10. Journal of infectious diseases
11. Chest (BM) New
12. European Respiratory Journal (BM) New

#### **Online Peer Review Journals:-**

1. American Journal of Respiratory and Critical Care Medicine: An Official Journal of the American Thoracic Society, Medical Section of the American Lung Association
2. Applied Cardiopulmonary Pathophysiology
3. Archivos de Bronconeumología (English)

4. BMC pulmonary medicine
5. Canadian respiratory journal : journal of the Canadian Thoracic Society
6. Chest
7. Chest Disease Reports
8. Clinics In Chest Medicine
9. European respiratory journal
10. European respiratory review
11. Experimental lung research
12. Heart Views
13. Indian journal of chest diseases and allied sciences
14. Indian journal of tuberculosis
15. Internet Journal of Pulmonary Medicine
16. ISRN Pulmonology
17. Jornal Brasileiro de Pneumologia
18. Jornal de pneumologia
19. Lung
20. Lung India
21. The Open Lung Cancer Journal
22. PVRI Review
23. Respirology
24. Revista Chilena de Enfermedades Respiratorias
25. Revista Portuguesa de Pneumologia
26. RT: The Journal for Respiratory Care Practitioners
27. Thorax

### **Scheme of Examination**

#### **a. Theory (Written Papers) 400 marks**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

- Paper I: Basic Sciences including Anatomy and Physiology pertaining to Respiratory System
- Paper II : Non Tubercular Respiratory infectious Diseases and General Medicine
- Paper III : Tuberculosis - Pulmonary and extra pulmonary
- Paper IV : Non infectious diseases of lung

**Note: The distribution of chapters or topics shown against the papers are suggestive only.**

**Weightage of marks in each paper :**

#### **Paper I - Basic Sciences – 100**

Chapter	Paper I - Basic Sciences - Syllabus Topics	Weightage
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	<b>Anatomy and Physiology of the Respiratory System</b>	
<b>1</b>	Development of the Lung, Bronchopulmonary segments, Lung Vasculature, Lymph nodes and Lymphatic drainage of the Lung, Pleura, Mediastinum, anatomy and histology of the airways, parenchyma and interstitium, Scientific basis of Lung function, Control of Respiration, Ventilation, Perfusion and Diffusion, respiratory muscles and pulmonary mechanics, acid base balance, pulmonary surfactant and airway epithelia, blood gas transport, exercise pulmonary physiology, lungs in pregnancy, aging of the respiratory system	<b>20</b>
	<b>Immunology of the respiratory system</b>	
<b>2</b>	Pulmonary defense mechanisms against infections, Lymphocyte-macrophage mediated inflammation in the lung, Mast cells and Eosinophils, antibody mediated lung defenses and humoral immunodeficiency.	
	<b>Pulmonary Function tests</b>	
<b>3</b>	Large Airway Functions – (FVC, FEV1, ratios) small airway functions, Arterial Blood gases, DLCO, Body plethysmography,	
<b>4</b>	<b>Approach to respiratory system clinical examination</b>	
	<b>Investigations of a patient with respiratory symptoms</b>	<b>25</b>
<b>5</b>	Conventional and newer Imaging , interventional radiology, pulmonary cytopathology, Bronchoprovocation tests, cardio pulmonary exercise testing, bronchoscopy, thoracoscopy, peri-operative respiratory considerations, scintigraphic studies, Allergy testing.	
<b>6</b>	<b>Mechanical Ventilation:</b> Invasive, non-invasive, intubation, airway management and weaning	
<b>7</b>	<b>Ethics in Intensive care Unit:</b> Fundamental principles of Bioethics and research, relationship between health care law and ethics, principles regarding End-of-Life issues in ICU, Ethics related to futile medical interventions, DONOT ATTEMPT RESUSCITATION orders in the ICU, Palliative care to ICU patients.	<b>30</b>
<b>8</b>	<b>Oxygen Therapy and pulmonary toxicity</b>	
<b>9</b>	<b>Pulmonary Pharmacotherapy</b>	
<b>10</b>	<b>Pulmonary Rehabilitation</b>	

<b>11</b>	<b>Congenital / Developmental disorders of Respiratory System</b>	<b>15</b>
	<p><b>a.</b> Tracheobronchial Anomalies: Tracheal stenosis, Tracheo-oesophageal Fistula, Tracheal agenesis, Tracheomalacia, Tracheobronchomegaly, Bronchial Atresia, Bronchogenic cysts</p> <p><b>b.</b> Lung Anomalies: Congenital Cystic Adenomatoid Malformation (CCAM), Lung Agenesis/Hypoplasia, Lung Sequestration</p> <p><b>c.</b> Anomalies of Pulmonary Vasculature: Absent Pulmonary Artery trunk/Unilateral Pulmonary Artery, Pulmonary Artery Stenosis, Anomalous origin of Left Pulmonary Artery, Anomalous systemic pulmonary perfusion, Anomalous pulmonary venous drainage, Scimitar syndrome, Pulmonary Arteriovenous Malformations and telangiectasia.</p>	
<b>12</b>	<b>Diseases of the chest wall, diaphragm and spine</b>	
	Non-muscular diseases of the chest wall, effects of neuromuscular diseases on ventilation, management of neuromuscular respiratory muscle dysfunction	
<b>13</b>	<b>Surgical aspects of Pulmonary Medicine</b>	<b>10</b>
	Perioperative care of the patient undergoing lung resection, Thoracic trauma, Lung Transplantation	
<b>14</b>	<b>Medical Thoracoscopy:</b> Indications, procedure, complications	
	<b>Total</b>	<b>100</b>

**Paper II - Non Tubercular Respiratory infectious Diseases - 100**

<b>Chapter</b>	<b>Paper II - Non Tubercular Respiratory infectious Diseases - Syllabus Topics</b>	<b>Weightage</b>
<b>1</b>	<b>Infectious diseases of the lungs</b>	<b>25</b>
	Pulmonary clearance of infectious agents, Approach to a patient with respiratory infection, radiology of pulmonary infection, pathology of pulmonary infection, principles of antibiotic use and, rational antibiotic use, microbial virulence factors	
<b>2</b>	<b>Common syndromes in pulmonary infectious diseases</b>	<b>25</b>
	Upper respiratory infection, Acute bronchitis, Community acquired pneumonia, pneumonia in childhood, Empyema, Lung abscess, Mediastinitis, bronchiectasis, cystic fibrosis	
<b>3</b>	<b>Pulmonary infections in special hosts</b>	<b>25</b>
	Pneumonia in surgery and trauma, pneumonia in elderly, pulmonary infection in immune compromised hosts, HIV and pulmonary infections	

<b>4</b>	<b>Major pathogens in pulmonary infections</b>	<b>25</b>
	Pneumonias caused by gram positive bacteria, nosocomial pneumonia, hospital acquired and ventilator associated pneumonia, Respiratory mycoses, viral pneumonias, parasitic diseases of the lung (protozoan and helminthic), zoonotic and other unusual bacterial pneumonias	
	<b>Total</b>	<b>100</b>

### Paper III - Tuberculosis - Pulmonary and Extra Pulmonary - 100 Marks

Chapter	Paper III - Tuberculosis - Pulmonary and Extra Pulmonary - Syllabus Topics	Weightage
<b>1</b>	<b>Mycobacterial infections</b>	
	Epidemiology including molecular epidemiology, prevention, tuberculosis transmission and control, microbiology,	<b>35</b>
	pathology and pathogenesis, virulence and host response, immunology,	
	clinical presentation, diagnosis, imaging, novel approach to rapid diagnosis, immunodiagnosis, treatment,	
	RNTCP, anti-tubercular drugs, drug adherence, complications, prognosis, newer biomarkers, drug resistance, MDR TB, XDR TB, DOTS plus, (PMDT),	<b>25</b>
TB and HIV, TB with other comorbidities,	<b>20</b>	
Non tubercular mycobacteria, latent tuberculosis, military TB, TB and pregnancy, TB in children, BCG, tuberculin testing, surgical therapy for TB, Newer drugs in TB.		
<b>2</b>	<b>Extrapulmonary tuberculosis:</b>	<b>20</b>
	Pleural, Abdominal, Spinal, CNS, Lymph node, Bone, Renal, Genitourinary, Eye, Skin, Head and Neck, Cardiovascular, Hepatobiliary, musculoskeletal TB.	
	<b>Total</b>	<b>100</b>

### Paper IV - Non Infectious Diseases of Lungs

Chapter	Paper IV - Non Infectious Diseases of Lungs - Syllabus Topics	Weightage
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<b>1</b>	<b>Airway diseases</b>	<b>25</b>
	<b>COPD:</b> Epidemiology, pathology, pathophysiology and pathogenesis, diagnostic criteria, differential diagnosis, clinical course and management, smoking and lung	
	<b>Asthma:</b> epidemiology, pathology, pathophysiology and pathogenesis, diagnostic criteria, differential diagnosis, clinical course and management, aspirin induced asthma, asthma in pregnancy, exercise induced asthma, menstruation induced asthma,	
	<b>Other obstructive disorders:</b> upper airway obstruction, bronchiolitis, bullous disease of the lung	
	<b>Neoplasms &amp; Environmental Lung diseases</b>	<b>25</b>
<b>2</b>	<b>Lung Cancer</b> Epidemiology, Genetics and molecular changes of human lung cancer, Solitary pulmonary nodule, pathology of Non small cell lung cancer, treatment of NSCLC, Small cell lung cancer: diagnosis, treatment and natural history, prevention of lung cancer, early diagnosis, screening, novel biomarkers, targeted therapies, primary lung tumors other than bronchogenic carcinoma, benign and malignant, paraneoplastic syndromes, pulmonary metastasis.	
<b>3</b>	<b>Lymphoproliferative and Haematologic diseases involving the lung and pleura.</b> Hodgkin's Lymphoma, Non Hodgkin's Lymphoma, Leukemia, Multiple Myeloma, Pleural lymphomas, Post transplant lymphoproliferative disorder	
<b>4</b>	<b>Environmental Lung Diseases:</b> Indoor and outdoor air pollution, High Altitude Physiology and Clinical Disorders, Diving Injuries and Air Embolism, Thermal Lung Injuries and Acute smoke Inhalation	
<b>5</b>	<b>Occupational Lung Diseases:</b> Pneumoconiosis, Asbestosis, Berylliosis, Occupational Asthma, Byssinosis, Silicosis, Coal worker's Lung Diseases, Acute and Chronic responses to toxic inhalations.	



<b>6</b>	<b>Pleural Diseases</b> Pleural effusion, Empyema, pneumothorax, pleural malignancy	<b>30</b>
<b>7</b>	<b>Anatomy of the mediastinum and mediastinal diseases</b> Mediastinal compartments and structures, non-neoplastic disorders of the mediastinum, congenital cysts of the mediastinum, Bronchopulmonary foregut anomalies, acquired lesions of the mediastinum both benign and malignant.	
<b>8</b>	<b>Systemic diseases involving the lung:</b> <b>a.</b> $\alpha$ 1 Antitrypsin Deficiency, Neurofibromatosis, Marfan's Syndrome, Sickle Cell Disease, Systemic Sarcoidosis. <b>b.</b> Connective Tissue Disorders: Systemic Lupus Erythematosus, Rheumatoid Arthritis, Scleroderma, Polymyositis-Dermatomyositis, Mixed Connective-Tissue Disease, Sjogren's syndrome, Ankylosing Spondylitis. <b>c.</b> Wegeners Granulomatosis <b>d.</b> Hepatopulmonary syndrome, Lung involvement in cardiac diseases, neurologic, gastrointestinal and renal diseases	
<b>9</b>	<b>Respiratory Failure</b> Acute Respiratory Failure, Chronic respiratory failure, Acute Lung Injury, ARDS, Sepsis, Systemic inflammatory response syndrome, Multi-organ dysfunction syndrome, acute respiratory failure in the surgical patient, respiratory pump failure, hemodynamic and respiratory monitoring, nutrition in respiratory failure	
<b>10</b>	<b>Metabolic, depositional and infiltrative disorders of the respiratory system</b> Depositional diseases of the Lungs, Lungs in patients with in-born errors of metabolism, Langerhan's cell histiocytosis, pulmonary lymphangiomyomatosis	
<b>11</b>	<b>Interstitial Lung Diseases:</b> Idiopathic Pulmonary Fibrosis, Hypersensitivity Pneumonitis, Radiation Pneumonitis,	
<b>12</b>	<b>Alveolar Diseases:</b> Alveolar hemorrhagic syndromes, mechanisms of aspiration disorders, pulmonary alveolar proteinosis, alveolar microlithiasis	
<b>13</b>	<b>Drug Induced Lung Diseases:</b> Drugs causing Bronchoconstriction, Cough, Drug induced Alveolitis, Drug induced Pulmonary, Pleural and Mediastinal fibrosis, Pulmonary toxicity associated with chemotherapeutic agents, Drug induced lung diseases due to non-chemotherapeutic agents	

<b>14</b>	<b>Sleep Disorders:</b> Stages of Sleep, Changes in the Cardiopulmonary System during Sleep, Sleep Apnea Syndromes, Differential Diagnosis and evaluation of Sleepiness.	<b>20</b>
<b>15</b>	<b>Disorders of Pulmonary Circulation:</b> <b>a.</b> Pulmonary Hypertension and corpulmonale <b>b.</b> Pulmonary Thromboembolism <b>c.</b> Pulmonary Vasculitis	
<b>16</b>	<b>Pulmonary Eosinophilias:</b> Loffler's Syndrome, Drug/Toxin induced Pulmonary Eosinophilic Syndromes, Idiopathic Acute Eosinophilic Pneumonia, Tropical Pulmonary Eosinophilia, Chronic Eosinophilic Pneumonia, Allergic Bronchopulmonary Aspergillosis, Churg-Strauss Syndrome, Idiopathic Hyper-eosinophilic Syndrome.	
	<b>Total</b>	<b>100</b>

**b. Clinical Examination**

**200 marks**

To elicit competence in clinical skills and to discuss differential diagnostic therapeutic aspects. The cases are selected by external examiners and are allotted in the presence of external examiners. It can have 2 components, cases and OSCE

**a. Cases**

<b>CASES</b>	<b>NO</b>	<b>MARKS</b>	<b>TIME FOR</b>	
			<b>EXAMINATION</b>	<b>DISCUSSION</b>
LONG CASE	1	100	1 hr	30-45
SHORT CASES				
Short case 1	1	50	30	15-20
Short case 2	1	50	30	15-20
Total	3	200	2 hours	75 - 105 min

Long case will be evaluated by all the four examiners together. Each examiner will assign marks independently for a maximum of 25 marks.

- Short cases will be evaluated by 2 examiners (1 internal and 1 external). Each examiner will assign marks independently for a maximum of 25 marks.
- Sum Total of all the marks will be the final marks.

**b. Viva Voce Examination**

**100 marks**

Aims to elicit the candidate's knowledge and investigative / therapeutic skills.

**1. VIVA VOCE: 80 MARKS**

Will be conducted at 4 stations by all 4 examiners. Each station having 20 marks each. Examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be given case reports, charts, Spirometry, ABG, gross specimens, histo-pathology slides, x- rays, ultrasound, CT scan images, etc., for interpretation and questions on these as well ujas use of instruments will be asked. It includes discussion on dissertation also.

## PEDAGOGY EXERCISE: 10 MARKS

A topic will be given to each candidate in the beginning of viva voce examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

## 2. LOG BOOK : 10 MARKS

### c. Maximum marks

THEORY	PRACTICAL	VIVA	GRAND TOTAL
400	200	100	700

### 1. Log book format

#### MD Tuberculosis and Respiratory postgraduate training 'LOG BOOK'

##### Contents:

##### Personal Data

Name:

Degree: MD in TB and Respiratory Medicine

Institution: JSS Medical College, Mysuru

Deemed to be University: JSS Deemed to be University, Mysuru

Candidate Registration Number:

Dates of Postgraduation studies:

Joining:

Completion:

Dissertation Title:

Name and Designation of Guide:

Signature of candidate:

Signature of Supervisor:

Signature of Head of Department:

### 1. Clinical Postings: (eg. Parent dept, Medicine, ICU, Cardiology, radiology etc)

Speciality	Duration	Dates of Posting	Remarks by faculty (Any interesting case/difficult case)
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### 2. Case Presentations: (eg. Clinics, tutorials)

Date	Name/age/sex	Problem/Diagnosis	Grade	Moderator
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### 3. Seminars: (eg. Seminar on TB)

Date	Topic of Presentation	Grade	Moderator
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### 4. Journal clubs

Date	Topic of Presentation	Grade	Moderator
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### 5. Mortality meetings: (eg. Mortality case discussion)

Date	Name/age/sex	Problem/Diagnosis	Moderator
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### 6. Guest lecturers/ inter departmental teaching:

Date                      Topic    Departments involved

**7. Community Activity:** (eg. Camps, smoking cessation)  
Date                      Description of Activity    Supervisor

**8. Paper Presentation:** (Local, State, National, International Forum- eg. local association meetings, state forum meetings)  
Date                      Title of Paper presented                      conference    Supervisor

**9. Undergraduate Classes taken by candidate:**(eg. Didactic lecture or clinic)  
Date    Topic    Supervisor

**10. Academic Meetings, CMEs and Conferences attended :** (Extra mural, Local, State, National, International Forum-eg. local association meetings, state forum meetings)  
Date    Title    Organization

**11. Training Courses:** (eg. BLS, ACLS, Research methodology)  
Date    Title    Supervisor

**12. Dissertation:**  
Date    progress    Remarks by guide

**13. Side lab procedures:**  
Date    procedure    interpretation    supervisor

**14. Procedures:**  
Date                      Patient details                      procedure                      diagnosis                      supervisor



## **JSS Academy of Higher Education & Research**

(Deemed to be University)

Accredited "A" Grade by NAAC

Sri Shivarathreeswara Nagar, Mysuru – 570 015