



**SANTOSH**  
Deemed to be University  
(Established u/s 3 of the UGC Act, 1956)

## **M.Sc Course**

- i. M.Sc. Medical Anatomy
- ii. M.Sc. Medical Physiology
- iii. M.Sc. Medical Biochemistry
- iv. M.Sc. Medical Microbiology

## **2.9. PROGRAM STRUCTURE**

### **2.9.1. Curriculum**

- a) The curriculum and the syllabus for the course pertaining to the M.Sc. Medical PG Programme are given separately as per their specialization.
- b) The curriculum and the syllabus for the course shall be prescribed by the Academic Council based on the recommendations of concerned Board of Faculty and Board of Studies and duly approved by the Board of Management of the Institution Deemed to be University.

### **2.9.2. Components of Curriculum**

There shall be six components for Medical M.Sc. curriculum extended throughout the entire period of study as follows:



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SN	Components	No. of Courses	Theory Credits	Practical Credits	Total Credits
1	Discipline Specific Core Courses (Anatomy, Physiology, Biochemistry)	3T + 3P	12	12	24
2	Discipline Specific Specialty Courses viz. Anatomy, Physiology, Biochemistry & Microbiology	3T	18	-	18
3	Ability Enhancement Course (Optional)	1	2	-	2
4	Generic Elective Course (Optional)	1	4	-	4
5	Teaching Learning Requirements [Continuous Internal Assessment]	1	-	12	12
6	Practical / Clinical Postings	1	-	12	12
7	Dissertation & Viva-voce	1	-	14	14
<b>Total</b>		<b>12 + 2</b>	<b>30 + 6</b>	<b>50</b>	<b>80 + 6 (optional)</b>

**a) Discipline Specific Core Courses (DSCC - as per (1) above):**

The compulsory courses irrespective of the various specializations as per the Medical post-graduate programme form the Discipline Specific Core Courses of the said PG programme and it is mandatory for the students to compulsorily take up the said courses and its credits in order to complete the programme.

**b) Discipline Specific Specialty Courses (DSSC - as per (2) above)**

The Discipline Specific Specialty Courses are offered as per the various specializations opted as per the candidature and application for which the candidate is being admitted. The DSSC is offered as a combo of 3 papers which shall be examined at the end of the third year from the date



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of admission to the programme, however the candidate shall opt the programme of specialization at the beginning of the second year itself.

**c) Ability Enhancement Courses (AEC) - Optional:**

The Ability Enhancement Course has been designed with focus on competency / employability / skill development offered either on collaboration with partner Institutions / Industries, the said recognized MOOCs programme offered by any other Universities from time to time. The Ability Enhancement Course opted by the candidate shall not be considered for the calculation of CGPA and final classification of results as the nature of the course is being offered as non-CGPA course.

**AEC offered by the Partner Institution / SWAYAM - MOOCs**

- (i) Soft skill development
- (ii) Language and Communication Skill development
- (iii) Yoga and Wellness
- (iv) Analytical Skill development
- (v) Human value development
- (vi) Personality / Professional Development
- (vii) Employability Skills development

If a student wishes to opt for a MOOCs course, an appropriate **Three Member Committee** shall be formed by the Institution Deemed to be University headed by the Vice-Chancellor. The committee shall, on careful examination of the reliability and validity, including the examination patterns of the said MOOCs course, recommend the student for the entitlement of Credit transfer on production of the course completion / pass certificate / grade sheet indicating pass and duly approve the same in lieu of the Ability Enhancement Course offered by the University, provided that the corresponding entries in the transcript of the student shall be made as per the consideration of MOOCs course opted by the students.

**d) Generic Elective Course (GEC) - Optional:**

Fast track learners / advanced learners shall be entitled to opt for any one of the Generic Elective Courses from the pool of Courses offered as per his / her wish and interest for obtaining in depth knowledge and additional skills. The transcript of the student shall have entries showing his / her contribution towards the Generic Elective Course and shall have earned extra credit, which shall not be considered for calculation of CGPA.



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**List of GEC papers offered:**

- i. Hospital Management
- ii. Medical transcription
- iii. Basics of NABL / NABH Accrediation
- iv. Good Lab Practices / Good Clinical Lab Practices
- v. Introduction to SPSS package
- vi. Hospital Infection Control System
- vii. Biomedical Waste Management

**e) Teaching Learning requirements:**

- i. Log Book: Every Medical M.Sc., student shall maintain a work diary / Log Book and record his / her acquired skills, during the training period duly certified by the various Heads of Departments where he / she has undergone training including outside the Institution, participation in the training programme conducted by the department such as day to day relevant record pertaining to his / her specialty must be maintained for presentation during final examinations. The record includes - case records and specialty, journal reviews etc.
- ii. Presentation by Candidate: Special mention may be made of the presentation 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 the Guide once in three months, Head of the department and the Dean of Santosh Medical College and presented in the University Practical / clinical examinations.
- iii. Candidates are required to participate in the teaching and training program for the Under Graduate students.
- iv. Seminar, Journal club, Group Discussion and Participation in Clinical / Clinico-pathological Conferences
- v. Presentation of short HMRC papers in Conferences and improve on it and submit them for publication in reputed Journals.

The various teaching learning activities suggested above shall be minimum requirements and mandate for the completion of the said Medical M.Sc. programme.



**f) Practical / Clinical Postings:**

Practical / Clinical postings have been designed in view of the students to have hands on practice in various clinical skills and handling procedures for the requisite qualifications as prescribed by the statutory council norms from time to time. A rigorous practice on the skills such as communication, clinical examination, medical procedures or prescription, exercise prescription, latest techniques, evaluation and interpretation of results so as to undertake independent work as a specialist has been made available for the students.

**g) Dissertation:**

The Medical M.Sc. students shall prepare a dissertation based on the clinical or experimental work or any other study conducted by them under the supervision of a recognized Guide.

**2.10 YEAR WISE DISTRIBUTION OF CREDITS AND HOURS:**

**1<sup>st</sup> Year (For Credit Hours)**

SN	Components	No. of Courses	Theory Credits	Practical Credits	Hours per week
1	Discipline Specific Core Course - I (Anatomy)	1	4	4	8
2	Discipline Specific Core Course - II (Physiology)	1	4	4	8
3	Discipline Specific Core Course - III (Biochemistry)	1	4	4	8
4	Practical / Clinical Postings	-	-	-	18
	<b>Total</b>	<b>3</b>	<b>12</b>	<b>12</b>	<b>42</b>



**2<sup>nd</sup> Year (For Credit Hours)**

SN	Components	No. of Courses	Theory Credits	Practical Credits	Hours per week
1	Discipline Specific Specialty Course - I	-	-	-	8
2	Discipline Specific Specialty Course - II	-	-	-	8
3	Discipline Specific Specialty Course - III	-	-	-	8
4	Teaching Learning Requirements [Continuous Internal	-	-	-	8
5	Dissertation	-	-	-	10
6	Ability Enhancement Course (AEC) - Optional	1	2	-	2
7	Generic Elective Course (GEC) Optional	1	4	-	4
	<b>Total</b>	<b>2</b>	<b>6</b>	-	<b>42 + 6 optional</b>

**3<sup>rd</sup> Year (For Credit Hours)**

SN	Components	No. of Courses	Theory Credits	Practical Credits	Hours per week
1	Discipline Specific Specialty Course - I	1	6	-	6
2	Discipline Specific Specialty Course - II	1	6	-	6
3	Discipline Specific Specialty Course - III	1	6	-	6
4	Teaching Learning Requirements [Continuous Internal Assessment]	1	-	12	6
5	Practical / Clinical Postings	1	-	12	12



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6	Dissertation	1	-	14	6
	<b>Total</b>		<b>18</b>	<b>38</b>	<b>42</b>

## 2.11. EXAMINATIONS

### 2.11.1. Eligibility

a) Attendance: Every candidate shall secure 80 % attendance during each academic year.

b) Progress and Conduct: Every candidate shall participate in seminars, journal review meetings, symposia, conferences, case presentations, clinics and didactic lectures during each year organized by the concerned department.

c) Work diary and log book: Every candidate shall maintain a work diary and log book for recording his or her participation in the training programmes conducted by the department. The work diary and log book shall be verified and certified by the Head of the Department of the Institution. The certification of satisfactory progress is based on the work diary and log book.

### 2.11.2 University Examinations

The University Examinations shall consist of theory, practical and clinical examinations and viva-voce and Pedagogy.

#### a) Theory Examinations:

There shall be a theory examination in the Discipline Specific Core Course, Discipline Specific Elective Course at the end of **1<sup>st</sup> year** of course and **3<sup>rd</sup> year** of the course as given below. The question paper shall be set and evaluated by the concerned Department / Specialty.

#### First Year Theory Examinations:

SN	Components	Credits	Marks
1	Discipline Specific Core Course - I (Anatomy)	4	120
2	Discipline Specific Core Course - II (Physiology)	4	120
3	Discipline Specific Core Course - III (Biochemistry)	4	120
	<b>Total</b>	<b>12</b>	<b>360</b>



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First year theory examinations shall have three components as (i) Written Examinations (ii) Continuous Internal Assessment and (iii) Oral Examinations and shall be evaluated for a sum of **120 marks in each of the courses**. A sum total of all the three components shall have to be 50

% and above for students to have declared as pass in the theory examinations for each of the courses of the First year of study. The details of the components of theory examinations are as under:

**(i) Pattern of question paper for First Year Written Examinations:**

The students shall be evaluated for **80 marks** for each course **[3 courses]** of three hours duration of the following pattern

Section	Pattern	Marks per question	Total Marks
<b>A</b>	2 Essay Questions [10M each]	10	20
<b>B</b>	10 Short Notes [6M each]	6	60
		<b>Total</b>	<b>80</b>

**(ii) Continuous Internal Assessment for First Year:**

Continuous Internal Assessment for the first year shall be for **20 marks** for each of the theory courses. The Continuous Internal Assessment shall be given prior to the University Theory Examinations. A minimum of 50% of marks is required for a student to be declared pass. Students with less than 50% of Continuous Internal Assessment shall have to take up the unsuccessful course again in the subsequent year of study.

**(iii) Oral Examinations for First Year:**

Oral Examinations are mandatory for each course and shall be evaluated for **20 marks**.

**Third year Theory Examinations:**

SN	Components	Credits	Marks
1	Discipline Specific Specialty Course - I	6	100
2	Discipline Specific Specialty Course - II	6	100
3	Discipline Specific Specialty Course - III	6	100
	<b>Total</b>	<b>18</b>	<b>300</b>

Third year theory examinations shall have four components as (i) Written Examinations (ii) Continuous Internal Assessment (iii)





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Dissertation (iv) Oral / Viva Examinations and shall be evaluated for **550 marks**. A sum total of all the four components shall have to be 50 % and above for students to have declared as pass in the theory examinations for each of the courses of the Third year of study. The details of the components of theory examinations are as under:

**(i) Pattern of question paper for Third Year Written Examinations:**

The students shall be evaluated for **100 marks** for each course [3 courses] of three hours duration of the following pattern

Section	Pattern	Marks per question	Total Marks
<b>A</b>	2 Essay type Questions [20M each]	20	40
<b>B</b>	10 Short Notes [6M each]	6	60
		<b>Total</b>	<b>100</b>

**(ii) Continuous Internal Assessment for Third Year:**

Continuous Internal Assessment for the third year shall be for **150 marks**. The Continuous Internal Assessment shall be given prior to the University Theory Examinations. A minimum of 50% of marks is required for a student to be declared pass. Students with less than 50 % of Continuous Internal Assessment shall have to redo the entire third year courses again.

**(iii) Dissertation:**

Dissertation shall be a mandatory component for the M.Sc. Medical Degree programme and shall be evaluated for **40 marks**. Each student shall be allotted a topic of research as per the interest of the respective student guided by a mentor for undergoing the research. Every candidate appearing for the post-graduate degree examination shall, at least six months prior to the Final Year Examinations, submit four typewritten copies of dissertation undertaken by the candidate, prepared under the direction and guidance of his / her guide. The dissertation so submitted shall be referred to the external examiners for their examination, and acceptance of it shall be a condition precedent to allow the candidate to appear for the written part of the examination.

Provided further that if the dissertation is rejected by the examiner, the examiner shall assign reasons therefore with suggestions for its improvement to the candidate and such candidate shall submit his / her dissertation to the same examiner who shall accept it before appearing in the examinations.



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**(iv) Viva-Voce:** The post-graduate students whose dissertations have been approved by the external examiners shall appear for the Viva-Voce Examinations for **60 marks**.

**b) Clinical / Practical Examinations:**

Clinical / Practical Examinations is designed to test the clinical skill, performance and competence of candidate in skills such as communication, clinical examination, medical / dental procedures or prescription, exercise prescription, latest techniques, evaluation and interpretation of results so as to undertake independent work as a specialist. The University provides ample opportunity for the candidate to perform in various clinical procedures.

The practical / clinical examination in all the specialties shall be conducted for the candidates. Provided that the practical / clinical examination may be extended for one more day if not required. The practical / clinical examinations shall be conducted on selection of external examiners (approved by the Vice-Chancellor from a panel of examiners) of respective discipline made from the panel of examiners suggested by the HoD.

**i) First Year Practical Examinations:**

The practical / clinical examination for the **First Year** shall be evaluated for **80 marks** in each of the courses with a provision for internal marking scheme as follows:

SN	Courses	Credits	Internal	External	Total Marks
1	Discipline Specific Core Practical - I [Anatomy]	4	20	60	80
2	Discipline Specific Core Practical - II [Physiology]	4	20	60	80
3	Discipline Specific Core Practical - III [Biochemistry]	4	20	60	80
	<b>Total</b>	<b>12</b>			<b>240</b>

A student shall be declared to have passed the First Year Practical Examinations only when he / she has obtained 50 % and above marks in Internal component and 50 % and above in the sum total of the Internal and External component of each of the practical courses.



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**ii) Final Year Practical Examinations:** The practical / clinical examination for the **Final Year** shall be evaluated for **250 marks** in each of the courses with a provision for internal marking scheme as follows:

SN	Courses	Credits	Internal	External	Total Marks
1	Practical / Clinical Postings	12	50	200	250

A student shall be declared to have passed the Final Year Practical examinations only when he / she has obtained 50 % and above marks in Internal component and 50 % and above in the sum total of the Internal and External component of the practical course.

## **2.12. EXAMINERS**

### **2.12.1. Theory Examinations for Ability Enhancement Courses / Generic Elective Courses:**

- i. The Ability Enhancement Course / Generic Elective Course offered by the Industrial Collaboration / MOOCs Courses, the assessment shall be done as per the evaluation standards set forth by the Partner Institution / Industry / MOOCs evaluator, and the same shall be considered valid and reliable. The Industry shall evaluate the students as per their respective norms and certify through a certificate that the students have successfully completed the respective course. The students on producing the respective course completion certificate shall be entitled for credit transfer as per the UGC.

### **2.12.2. Practical / Clinical Examinations & Dissertation & Viva-voce Examinations:**

There shall be two examiners in each subject. Out of them, one shall be external examiner and one internal examiner. The external examiner shall be from other Universities / Institutions.

## **2.13. QUALIFICATION AND EXPERIENCE FOR EXAMINERS**

The qualification and experience for appointment of an examination shall be as under:

- i. Shall possess qualification and experience as Professor in a Post- Graduate Degree Programme of the same subject / allied subject;
- ii. The internal examiner in a subject shall not accept external examinership in a college for the same academic year;
- iii. No person shall be appointed as an external examiner for the same institution for more than two consecutive years. However, if there



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is a break of one year, the person may be re-appointed.

## 2.14. MALPRACTICES

Malpractices, of any kind or degree, shall be viewed very seriously by the Institution Deemed to be University. If a candidate indulges in malpractice in any internal test / model examination / end semester examination, he / she shall be liable for punitive action as prescribed by the rules and regulations of the Deemed to be University.

## 2.15. EQUIVALENT GRADE POINTS

The marks obtained by the candidates shall be equated to the respective grade points as under:

Range of Marks	Explanation	Letter Grade	Grade Point (GP)
90 & above	Outstanding	O	10
80 - 89	Excellent	A++	9
70 - 79	Very Good	A+	8
60 - 69	Good	A	7
50 - 59	Average	B	6
Less than 50	Fail	F	-
Absent	Absent	AB	-

## 2.16. PASSING REQUIREMENTS

### 2.16.1. First Year Passing requirements:

A candidate shall be declared to have passed in each of the Discipline Specific Core Courses [Anatomy, Physiology and Biochemistry] if he / she has secured a Grade Point of **6 and above** on an aggregate of the respective theory and practical courses.

### 2.16.2. Third [Final] Year Passing requirements:

A candidate shall be declared to have passed in each of the Discipline



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Specific Specialty Courses if he / she has secured a Grade Point of **6 and above** in the theory courses.

## **2.17. SUPPLEMENTARY EXAMINATION**

Students, who have failed in any of the theory / practical courses in any of the years, shall apply for the supplementary examinations conducted in the subsequent Examinations after 6 months.

## **2.18. METHODS FOR REDRESSAL OF GRIEVANCES IN EVALUATION OF ANSWER SCRIPTS**

Students who are not satisfied with the grades awarded shall seek redressal as follows:

- (i) Re-totaling of answer scripts shall be made available for the students within 30 days after declaration of result along with the payment of prescribed fee.

## **2.19. CLASSIFICATION OF PERFORMANCE**

Classification of performance of students in the examinations pertaining to the courses in a programme shall be arrived at on the basis of numerical value of Cumulative Grade Point Average (CGPA).

### **2.19.1. Yearly Grade Point Average (YGPA)**

On completion of a year, each student is assigned a Yearly Grade Point Average which is computed as below for all courses registered by the student during that semester.

$$\text{Yearly Grade Point Average (YGPA)} = \frac{\sum(C_i \times G_i)}{\sum C_i}$$

Where  $C_i$  is the credit for a course in that semester and  $G_i$  is the Grade Point earned by the student for that course. The YGPA is rounded off to two decimals.

#### **For Example:**

The credits earned by the candidate in the DSCC-I, II, III including theory and practical will be 8, 8 & 8 respectively ---- [1]

The grade point obtained by the candidate on equating the aggregate marks of theory and practical component of DSCC-I, II & III may be

$$6.8, 7.5 \text{ \& } 8.2 \text{ respectively} \quad \text{---- [2]}$$



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The total credits including Theory & Practical Components for DSCC-I, II & III are 8, 8, 8 credits respectively [4 theory & 4 practical] ---- [3]

Then the YGPA will be:

$$\begin{aligned} &= \frac{\text{DSCC-I [1] x [2]}}{[3]} + \frac{\text{DSCC-II [1] x [2]}}{[3]} + \frac{\text{DSCC-III [1] x [2]}}{[3]} \\ &= \frac{8 \times 6.8}{8} + \frac{8 \times 7.5}{8} + \frac{8 \times 8.2}{8} \\ &= \frac{54.4 + 60 + 70.4}{24} \\ &= \frac{184.8}{24} \\ &= 7.7 \quad \text{----- [YGPA for First Year]} \end{aligned}$$

### 2.19.2 Cumulative Grade Point Average (CGPA)

The overall performance of a student at any stage of the Degree programme is evaluated by the Cumulative Grade Point Average earned (CGPA) up to that point of time.

$$\text{Cumulative Grade Point Average (CGPA)} = \sum_j \left\{ \frac{\sum_i (C_{ij} \times G_{ij})}{\sum_i C_{ij}} \right\}$$

Where 'j' indicates the year number, 'i' indicates the course number in the year 'j', C the credit for a course in any year and G is the grade point earned by the student for that course. The CGPA is rounded off to two decimals.

### 2.20. CLASSIFICATION OF SUCCESSFUL CANDIDATES

Classification of successful candidates shall be made based on the CGPA of theory and practical separately in the final year as under:

#### 2.20.1 Theory Classification

- A successful candidate who secures CGPA not less than 8.50 in aggregate and passing all courses in his/ her first appearance will be declared to have passed in First class with Distinction.



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- b) A successful candidate who secures CGPA not less than 7.0 in aggregate and passing all courses within the three years of programme duration will be declared to have passed in First Class.
- c) Candidates who do not fall under clause 2.19.1 (a) & (b) but have passed all the courses as per regulations with a CGPA above 6.0 shall be declared to have passed in Second Class.

### **2.20.2 Practical Classification**

- a) A successful candidate who secures CGPA in Practicals not less than 8.50 in his/ her first appearance will be declared to have passed in First class with Distinction.
- b) A successful candidate who secures CGPA in Practicals not less than 7.0 will be declared to have passed in First Class.
- c) Candidates who do not fall under clause 2.19.2 (a) & (b) but have passed with a CGPA above 6.0 shall be declared to have passed in Second Class.

### **Final Classification:**

<b>Category</b>	<b>CGPA [Theory]</b>	<b>CGPA [Practical]</b>
First Class with Distinction	8.50 & Above	8.50 & Above
First Class	7.00 - 8.49	7.00 - 8.49
Second Class	6.00 - 6.99	6.00 - 6.99