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# DIPLOMA IN CRITICAL CARE TECHNOLOGY 2021

**Duration of Course:**

Duration of Para Medical Courses is 2 years followed by 6 months compulsory Post Examination Practical Training after passing of Final Examination of Para Medical Courses.

**Eligibility:**

Any person seeking admission into the course of study in Para Medical Courses must fulfill the following conditions:

- a) That he/she has passed the Higher Secondary or an equivalent Examination of any Indian University or duly constituted Board, with pass mark in Physics, Chemistry and Biology.
- b) That he/she has attained the age of 17 years on 1<sup>st</sup> September of the respective year of his/her admission into the course in an approved institution.
- c) That he/she has furnished a certificate of physical fitness from a registered medical practitioner and two references from persons other than relatives testifying to satisfactory general character.

**Selection:**

Selection for Admission to Para Medical Courses would be on Entrance Examination: Details to be notified in website ([www.smfwb.in](http://www.smfwb.in))

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## RULES, REGULATIONS AND SYLLABUS

### PART – IV

Duration of the DCCT Course:-

The Course of academic training shall be of 2 years : Duration of the Diploma – 2 years.

(a) The first one year of the course shall be devoted to the training in the subjects of the Preliminary Courses.

(b) On completion of the Preliminary Course, the Preliminary Examination will be held.

(c) On passing the Preliminary Examination, the students shall follow for one year the curriculum of the Final Course. On completion of the course, the Final Examination will be held.

(d) After successfully passing the Final Examination, the students shall undergo Compulsory Practical Training of not less than 600 hours in not less than 6 months in a recognized hospital.

1. The Preliminary and Final Course shall include the respective subjects as given in the Tables as well as the minimum number of hours devoted to each subject, lectures, practical and demonstration, subject to addition and alteration at the discretion of the Governing Body of the State Medical Faculty.

The detailed syllabus of each subject is given in Appendix I.

#### Preliminary Course – 160 Teaching Hours

<u>Subject to be taught</u>	<u>No. of lecturers including demonstration</u>
1. Basic of Critical Care Services	13 hours
2. Principles underlying different Procedures & Equipments and Clinical Application	47 hours
3. Assisting operation & maintenance of different Equipments Chest Physiotherapy	100 hours

#### Final Course – 260 Teaching Hours

1. Theory of operational Aspects of different procedures & equipments	80 hours
2. Practical	180 hours

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### Examination for the Diploma Course:

1. No person other than a student borne on the roll of an approved training institution and studying therein at the time, shall be eligible for appearing at the examination held by the Governing Body of the Faculty.
2. Every student after admission into the course of study in an approved Institution shall apply in the prescribed form Appendix II through the Principal/Director of the Institution with a fee of Rs.600/- to have his/her name registered in the Students' Register maintained by the Governing Body. A registration certificate bearing serial number allotted to the student will be sent to him/her through the Head of the Institution.
3. There will be two examinations – (a) Preliminary and (b) Final. The examinations shall be held twice a year at such time and place as may be determined by the Governing Body.
4. Preliminary Examination : Only such students, who produce certificate from the Head of the approved Institutions in proof of their having regularly undergone the Preliminary Course of study by attending not less than 75% of classes, both in theoretical and practical in each subject, shall be eligible for appearing at the Preliminary Examination.
5. All written examinations shall be of three hours' duration.
6. Every candidate for the Preliminary Examination shall apply to the Secretary, State Medical Faculty of West Bengal through the Head of the Institution where he/she is undergoing his/her study, in the prescribed form together with the necessary certificates Appendix III.
7. No application will be entertained unless it reaches the Secretary atleast 21 days before the date notified for commencement of the examination. An application received later but not later than 14 days before the commencement of examination, may on sufficient grounds being shown and accepted, be entertained provided that a late fee of Rs.20/- is paid for the delay.
8. Final Examination: Only such students, who produce certificate from the Head of the Institution concerned in proof of their having regularly undergone after successfully passing the Preliminary Examination by attending not less than 75% of classes – lectures, practical and clinical of each subject separately and has worked for atleast 350 days in the ITU Department of a recognized Hospital shall be eligible for appearing at the examination.
9. Every candidate for the Final Examination shall apply to the Secretary, State Medical Faculty of West Bengal through the Head of the Institution where he/she had been undergoing his/her course of studies, together with the necessary certificates from the Head of the Institution Appendix IV.
10. The fee payable with the application shall be such as may be prescribed by the Governing Body from time to time. The fee is not refundable on any account.

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- 11.No such application will be entertained unless it reaches the Secretary atleast 21 days before the date notified for commencement of the examination. An application received later but not later than 14 days before the commencement of examination, may on sufficient grounds being shown and accepted, be entertained provided that a late fee of Rs.20/- is paid for the delay.
- 12.A candidate declared to have passed the above examinations – both Preliminary and Final – if he/she secures 50% of the total marks in each subject – Theoretical + Oral – 50% and Practical – 50%. A candidate securing 75% marks or above in any subject or subjects, shall be declared to have obtained “Distinction” in that subject or subjects, provided he/she passes in all the subjects of the examination at the same time and at his/her first appearance at the examination.
- 13.A candidate, who appears at the Preliminary or Final Examination for the course but fails to pass in all the subjects or in one or more subjects, may be admitted to one or more subsequent examinations in subject or subjects in which he/she failed provided, however, that he/she passes in all the subjects in three subsequent examinations within a period of two years computed from the date of the examination in which he/she appeared for the first time. If he/she does not pass the entire examination within a period of two years, as mentioned above, he/she shall have to take the whole examination in all the subjects at the time when he/she appears next.
- 14.A failed candidate shall have to undergo a further course of training and produce a certificate from the Head of the Institution stating that he/she has, since the date of the last examination and within the period of six months proceeding his/her re-examination, attended to the satisfaction of the Head of the Institution further course of study in the subject or subjects in which he/she failed Appendix V.
- 15.The general rules and regulations regarding conduct of examinations of the State Medical Faculty of West Bengal shall apply with necessary modifications for the conduct of Diploma in Critical Care Technology examinations. Detailed rules and regulations may be framed by the Governing Body from time to time.
- 16.The rates of remuneration to Paper Setters, Examiners, Assistants, Inspectors and invigilators etc. appointed to conduct the examinations and the rates of Traveling Allowance, Daily Allowances to Examiners and Inspectors etc. shall be such as laid down by the Governing Body.

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AWARD OF DIPLOMA IN CRITICAL CARE TECHNOLOGY COURSE : DCCT

1. A candidate who passes successfully the Final Examination will be granted a Diploma in Critical Care Technology Course : DCCT.
2. Every such application shall be accompanied by a certificate from the Head of the recognized Hospital, in the form given in Appendix VI, with all the particular mentioned therein and the Head of the Institution shall forward the same to the Secretary, in the form given in Appendix VII, stating whether he/she considers him/her eligible to receive the Diploma in Critical Care Technology Course : DCCT.
3. The Governing Body may then, if satisfied that all requirements of these regulations have been fulfilled, issue the Diploma, which shall be in the form given in Appendix VIII.

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**PART IV**

**Appendix I**

SYLLABUS : **Preliminary Course- 160 Hours**

THEORY : 60 TEACHING HOURS

Basics of critical care services : 13 hours

Introduction

Cardiopulmonary resuscitation – basic & advanced

Advanced Cardiac Life Support

Oxygen Therapy

Aerosol therapy

Mechanical Ventilation

Patient Para monitoring

Complications of ICU care

Nutrition for critically ill patients

Infection in ICU – prevention & Control

Ethical issues

Chest Physiotherapy

Principles underlying different procedures and Equipments and Clinical Application : 47 hours

Blood Gas analysis

Blood Electrolyte analysis

Pulse Oxymetry

Capnometry

Mechanical Ventilation

Multimodality Bedside Monitor & Central Monitor

ECG

Defibrillator – Monitor

Temporary Pacemaker

Oxygen – storage and supply

Sucker Machine

Nebuliser

Bronchoscopy

Glucometer

Sterilization

Chest Physiotherapy

PRACTICAL : 100 HOURS

(ASSISTING OPERATION MAINTENANCE OF DIFFERENT EQUIPMENTS AND CHEST PHYSIOTHERAPY)

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SYLLABUS : Final Course – 260 Hours

THEORY : DIFFERENT PROCEDURES & EQUIPMENTS : 80 TEACHING HOURS

Blood Gas Analysis : Specimen collection & handling, operation, principle of operation, maintenance, trouble shooting, installation, programming

Blood electrolyte analysis : same as above

Bedside Monitor : System introduction, external devices, monitoring basics, setting different parameters, setting ECG, Respiration, Temperature, NIBP, Spo2, Invasive BP, cardiac output, spirometry, ETco2

Operation, display, recording, printing, Cleaning & care, Troubleshooting, safety precautions.

Central Monitor: System introduction, setting, display, recording, printing, troubleshooting, maintenance – warning, cautions, disposal, cleaning, preventive maintenance, messages.

Mechanical Ventilator: Physical principles, types, modes application, different types of ventilators, parts of a ventilator, operating procedures, technological troubleshooting.

Principles, operation, monitoring, troubleshooting of –

Glucometer, infusion pump, ECG, Pulse Oxymeter, Fibreoptic Bronchoscope, Difibrilator – monitor, oxygen supply, suction machine, Oxygen concentrator, portable oxygen cylinder & accessories.

Renal failure in critically ill patients.

CRRT :           a) Parts of machine, operation, principle underlying, maintenance & troubleshooting and quality control.  
                  b) Clinical application

PRACTICAL : 180 HOURS

1. To perform procedures and operate different equipments
2. Actual maintenance of equipments
3. Data recording & processing in computer
4. Application and maintenance of CRRT at bedside
5. Demonstration & Hands on training on salient aspects of Anaesthesia Machine as :
  - (a) Parts of the machine, operation, principle underlying, maintenance & troubleshooting and quality control.
  - (b) Clinical application.

STATE MEDICAL FACULTY OF WEST BENGAL

APPENDIX II

Form of application for registration of the name of a student admitted to an approved Training institution for Diploma in Critical Care Technology : DCCT

[ Vide Regulation of Part III ]

1. Name of the student in full :
2. Address –  
(a) Permanent :
  
- (b) Present :
3. Father's Name :  
{In case of married women, her  
Husband's name}
4. Age [as on the date of admission] :
5. Race – Caste or religion :
6. Name of the approved training Institution :
7. Date of admission :
8. Preliminary educational qualification :

\_\_\_\_\_  
Signature of the applicant

I hereby certify that the above particulars are true to my knowledge.

Dated, the .....20  
Place :

\_\_\_\_\_  
Signature of the Head of the Institute



STATE MEDICAL FACULTY OF WEST BENGAL

**APPENDIX III**

Application for admission to the Preliminary Examination for Diploma in Critical Care Technology :  
DCCT

[ Vide Regulation of Part III ]

To  
The Secretary, State Medical Faculty of West Bengal.

Sir,

I beg to apply for admission to the ensuing Preliminary Examination for Diploma in Critical Care Technology : DCCT to be held by the Governing Body of the State Medical Faculty of West Bengal from .....

The required certificate from the Head of the Institution is given herewith and I have paid the prescribed fee of Rs..... in his office.

- 1. Name in full (Block letters) :
- 2. Father's Name :
- 3. Present Age :
- 4. Student Registration No. :
- 5. Permanent Address :
- 6. Present :

Dated, the .....20

Signature of the applicant in full

**Certificate of the Head of the Institution**

I certify as below –

[1] that the above named ..... was admitted in this Institution for the course of Diploma in Critical Care Technology : DCCT on .....

[2] that previous to his/her admission, he/she has attended regularly the course of studies as laid down in the Regulations. His/her attendance in the several subjects being as below:

<u>Subject</u>	<u>No. of Theoretical lectures and demonstrations</u>	<u>No. of Attendance</u>
1.		
2.		

That he/she has paid in my office the prescribed fee of Rs. 500/- which is being separately remitted to the Faculty.

That his/her conduct in the Institution was satisfactory.

Signature of the Head of the Institute

Dated, the..... 20

Place :

STATE MEDICAL FACULTY OF WEST BENGAL

APPENDIX IV

Application for admission to the Final Examination for Diploma in Critical Care Technology : DCCT

[ Vide Regulation of Part III ]

To  
The Secretary, State Medical Faculty of West Bengal.

Sir,

I beg to apply for admission to the ensuing Final Examination for Diploma in Critical Care Technology : DCCT to be held by the Governing Body of the State Medical Faculty of West Bengal from.....\*

The required certificate from the Head of the Institution is given herewith and I have paid the prescribed fee of Rs. ....500/ ..... in his office.

I passed the Preliminary Examination in ..... and my present age is .....

- 1. Name in full (Block letters) :
- 2. Father's Name :
- 3. Present Age :
- 4. Student Registration No. :
- 5. Permanent Address :
- 6. Present :

Dated, the .....20 Signature of the applicant in full  
\* State name of the training institution.

Certificate of the Head of the Institution

I certify as below -

[1] that the above named..... passed the Preliminary Examination for Diploma in Critical Care Technology : DCCT in .....

[2] that he/she has attended regularly in this Institution. The 2<sup>nd</sup> Year's course of studies laid down in the Regulations and fulfilled the other requirements.. His/her attendance in the several subjects being as below:

<u>Subject</u>	<u>No. of Theoretical lectures and demonstrations</u>	<u>No. of Attendance</u>
1.		
2.		
3.		
4.		
5.		

[3] That he/she has paid in my office the prescribed fee of Rs.500/- which is being separately remitted to the Faculty.

[4] That his/her conduct in the Institution was satisfactory.

Dated, the.....20 Signature of the Head of the Institute

STATE MEDICAL FACULTY OF WEST BENGAL

**APPENDIX V**

(Certificate by the Head of the Institution regarding further course of training in the subject or subjects in case of a failed candidate)

[ Vide Regulation of Part III ]

This is to certify that Sri/Sm..... who appeared at the Preliminary/Final Examination for the Diploma in Critical Care Technology : DCCT in .....20 and failed in ..... has undergone a further course of training in the following subject/subjects since the date of the last examination to my entire satisfaction.

Sl. No.	Subject(s)	Number of Theoretical Lecturers/ Demonstrations attended
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Signature of the Head of the Institute

Dated, the..... 20

Place :

STATE MEDICAL FACULTY OF WEST BENGAL

APPENDIX V

(Certificates to be produced by students of Diploma in Critical Care Technology : DCCT after completion of Practical Training)

[ Vide Regulation of Part ]

No. : .....

Date : .....

I....., hereby certify that.....  
[ name of the student ] after passing the Final Examination for Diploma in Critical Care Technology : DCCT underwent practical training for .....hours during the period from .....to.....under my supervision and guidance.

Signature .....

Name .....

Designation .....

Address .....

(Countersigned by the Head of the Hospital)

STATE MEDICAL FACULTY OF WEST BENGAL

APPENDIX VII

[ Vide Regulation of Part ]

To  
The Secretary  
State Medical Faculty of West Bengal  
Dated, the.....20

Sir,

I am to say that the under-mentioned students have passed the Final Examination for the Diploma in Critical Care Technology : DCCT held by the Faculty in.....20 and have thereafter undergone the practical training as required under the Regulations of which the necessary certificates are enclosed. I certify that I consider the students to be eligible to receive the Diploma in Critical Care Technology : DCCT .

Yours faithfully,

Head of the Institution

STATE MEDICAL FACULTY OF WEST BENGAL

APPENDIX VIII

[ Vide Regulation 3 of Part IV ]

***Diploma in Critical Care Technology : DCCT***

*We, the President and Members of the Governing Body of the State Medical Faculty of West Bengal, acting under the authority vested in us by Article 24 of the Statutes of the said Faculty and in accordance with the Regulations made there under with the approval of the Government of West Bengal, do hereby declare that .....after undergoing the prescribed course of training for the Diploma in Critical Care Technology : DCCT, duly passed the Final Examination for the Diploma in Critical Care Technology : DCCT held by this Faculty in the month of .....20 with distinction.*

*And we, accordingly, grant him/her this Diploma in Critical Care Technology : DCCT of this Faculty.*

*Dated at Kolkata, the .....day of.....in the year .....*

*Signed on behalf of the Governing Body of the State Medical Faculty of West Bengal.*

*Secretary*

*President*

*Signature of the holder .....*