

INFORMATION BROCHURE FOR WBJEEM-2015

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**West Bengal Joint Entrance Examinations Board
AQ-13/1, Sector V, Salt Lake City,
Kolkata 700091**

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1. Introduction:

The West Bengal Joint Entrance Examinations Board was formed in the year 1962 for the purpose of holding Common Entrance Examinations for the *Undergraduate Level Engineering Courses in the State of West Bengal*. The endeavour of the Board has always been directed towards enhancement of transparency in conducting Common Entrance Examinations for various professional Undergraduate and Postgraduate level courses in the State through effective state-of-the-art technology. Online application and admission through *e-Counselling* is operational for the undergraduate level Engineering and Medical courses of the State.

For the 2015 – 2016 academic session, the Board will conduct the Common Entrance Examination for admission to Undergraduate Courses in Medical, Dental, Engineering & Technology, Pharmacy and Architecture in Universities, Govt. Colleges and Self Financed Institutes in the State. The application for this examination will be received **ONLINE** and the **FORM** will be available at the portal of the Board at <http://www.wbjeeb.nic.in>

The Office of the Board functions from AQ-13/1, Sector-V, Salt Lake City, Kolkata - 700 091.

2. About “WBJEEM - 2015”:

It is the Common Entrance Test for admission to different degree level courses in Medical, Dental, Engineering & Technology, Pharmacy and Architecture in Universities, Government Colleges as well as Self Financing Technological Institutes in West Bengal.

- 2.1 The “**WBJEEM-2015**” examination will be conducted on three papers: Biological Sciences, Mathematics, and Physics & Chemistry (combined). Based on courses offered, there will be 3 (three) categories of examinees as listed below:

Option	Availability of courses for admission through WBJEEM-2015	Candidates have to appear in the following subjects	Type
1	Engg/Tech/Arch/Pharm	Mathematics, Physics & Chemistry	E
2	Medical/Dental/Pharm	Biological Sciences, Physics & Chemistry	M
3	Engg/Tech/Arch/Pharm/ Medical/Dental	Biological Sciences, Mathematics, Physics & Chemistry	C
4	Pharmacy only (other than Jadavpur University)	Physics & Chemistry	E/M/C

Note 1: For admission to Pharmacy course:

Jadavpur University: Candidates have to appear for Maths along with Physics & Chemistry as “E” or “C”.

Other Pharmacy colleges: Candidates may be from “E” or “M” or “C” type. In fact, candidates desirous of studying only Pharmacy in these colleges can sit for Physics & Chemistry paper alone to get merit listed under this category.

Note 2: Other State candidates are not eligible for medical/dental courses. They can register only as ‘E’ type candidate. They have to sit for both papers (Mathematics and Physics & Chemistry) in order to get rank in Engineering/Technology. They may opt to sit only for Physics & Chemistry paper in order to get admission to Pharmacy colleges other than Jadavpur University, as explained above in Note 1.

2.2 Schedule of Examination “WBJEEM - 2015”:

Date of Examination	Subject, Marks and Timing of Examination	
18.04.2015 (Saturday)	Biological Sciences (150 marks) 1.00 p.m. to 4.00 p.m.	
19.04.2015 (Sunday)	Mathematics (100 marks) 12 noon to 2.00 p.m.	Physics & Chemistry (100 marks) 3.00 p.m. to 5.00 p.m.

N.B. No further examination shall be held under any circumstances for those who will be unable to appear on the scheduled date and time of WBJEEM-2015 examination.

3. Pattern of Questions and Mode of Answering:

3.1 Question Pattern:

Questions will be based on the syllabus for WBJEEM-2015 as given in **APPENDIX – I**.

In every subject, all questions will be **Multiple Choice Questions** (MCQ-type, with four options against each of the questions) and the **answer(s) to each of the questions has to be marked on the OMR**.

Questions will be of three categories, divided as per following table.

Subject	Category 1	Category 2	Category 3	Total Marks
Mathematics	60 X 1 mark	10 X 2 marks	10 X 2 marks	100
Biological Sciences	90 X 1 mark	15 X 2 marks	15 X 2 marks	150
Physics & Chemistry	30 X 1 mark 30 X 1 mark	5 X 2 marks 5 X 2 marks	5 X 2 marks 5 X 2 marks	50 + 50 = 100

Category 1:

- (a). Only one option is correct, correct response will yield 1 (one) mark.
- (b). For incorrect response, 25% of full mark (1/4) would be deducted and
- (c). For more than one answer indicated against a particular question in the OMR sheet; the said answer will be treated as incorrect response/answer. Marks will be deducted on the basis of rule enumerated in Clause (b) above.

Category 2:

- (a). Only one option is correct, correct response will yield 2 (two) marks.
- (b). For incorrect response, 25% of full marks (1/2) would be deducted and
- (c). For more than one answer indicated against a particular question in the OMR sheet; the said answer will be treated as incorrect response/answer. Marks will be deducted on the basis of rule enumerated in Clause (b) above.

Category 3:

- (a). More than one option may be correct and marking of all correct options will yield 2 (two) marks.
- (b). For any combination of answers containing one or more incorrect responses, net mark awarded will be zero (0) and
- (c). For partially correct response without any incorrect marking:

$$\text{Marks awarded} = 2 \times (\text{no of correct responses}) / (\text{total no of correct options})$$

3.2 Mode of Answering:

Questions must be answered on specially designed machine readable answer sheets (OMR Answer Sheet). **ANSWERS ARE TO BE MARKED (BUBBLED) USING BLUE/BLACK BALL POINT PEN ONLY ON THE 'OMR ANSWER SHEET.'**

N.B. It is to be noted carefully that the candidates must fill in as well as bubble in **ALL** the relevant information including the “**Question Booklet No**” at the indicated places on *both* **OMR Answer Sheet** and **Attendance Sheet** during examination.

4. Ranking methodology and Rules of Tie Breaking:

In WBJEEM-2015, there will be three separate merit lists: (i) Engineering, (ii) Medical and (iii) Pharmacy (for Pharmacy colleges other than Jadavpur University).

The merit list for successful candidates in the **Engineering category** will be prepared by listing them in the descending order of the total marks scored by them. However, there may be ties and such ties will be broken by sequentially applying the following set of rules:

1. Less negative marks in Mathematics, Physics and Chemistry taken together
2. More positive marks in Mathematics and Physics taken together

3. More positive marks in Mathematics and Chemistry taken together
4. Less negative marks in Mathematics and Physics taken together
5. Less negative marks in Mathematics and Chemistry taken together
6. More positive marks in Mathematics for only the 2 marks questions
7. More positive marks in Physics for only the 2 marks questions
8. More positive marks in Chemistry for only the 2 marks questions
9. Less negative marks in Mathematics for only the 2 marks questions
10. Less negative marks in Physics for only the 2 marks questions
11. Less negative marks in Chemistry for only the 2 marks questions

The merit list for successful candidates in the **Medical category** will be prepared by listing them in the descending order of the total marks scored by them. However, there may be ties and such ties will be broken by sequentially applying the following set of rules:

1. Less negative marks in Biology, Physics and Chemistry taken together
2. More positive marks in Biology and Chemistry taken together
3. More positive marks in Biology and Physics taken together
4. Less negative marks in Biology and Chemistry taken together
5. Less negative marks in Biology and Physics taken together
6. More positive marks in Biology for only the 2 marks questions
7. More positive marks in Chemistry for only the 2 marks questions
8. More positive marks in Physics for only the 2 marks questions
9. Less negative marks in Biology for only the 2 marks questions
10. Less negative marks in Chemistry for only the 2 marks questions
11. Less negative marks in Physics for only the 2 marks questions

For Pharmacy course at Jadavpur University, the merit list of Engineering will be considered. For **Pharmacy** (other than Jadavpur University), a separate merit list will be prepared. The list will be prepared as per the descending order of the total marks scored in Physics & Chemistry by candidates from all types ('E', 'M', 'C'). However, there may be ties and such ties will be broken by sequentially applying the following set of rules:

1. Less negative marks in Physics & Chemistry
2. More positive marks in Chemistry

3. Less negative marks in Chemistry
4. More positive marks in Chemistry for only the 2 marks questions
5. Less negative marks in Chemistry for only the 2 marks questions
6. More positive marks in Physics for only the 2 marks questions
7. Less negative marks in Physics for only the 2 marks questions

In generation of the Engineering, Medical and Pharmacy merit lists, if after applying the specified rules stated above there are still ties, same will be broken by the date of birth (DOB) of the concerned candidates; the older candidate will be given preference over the younger one.

5. Eligibility criteria for candidates:

AFTER EXAMINATION OR ADMISSION, OR DURING ANY STAGE THEREOF, IF IT IS FOUND ON SCRUTINY THAT AN APPLICANT IS UNDER AGE OR OTHERWISE INELIGIBLE, HIS/HER APPLICATION FOR ADMISSION WILL BE CANCELLED OUTRIGHT EVEN IF HE/SHE APPEARED IN WBJEEM-2015 AND SECURED A POSITION IN THE MERIT LIST. PERMISSION TO APPEAR IN WBJEEM-2015 OR SECURING A RANK IN THE MERIT LIST ON THE BASIS OF THE PERFORMANCE IN THE SAID EXAMINATION DOES NOT CONSTITUTE A RIGHT/ GUARANTEE IN FAVOUR OF THE CANDIDATE FOR HIS/HER ADMISSION TO ANY ENGG/TECH, PHARMACY, ARCHITECTURE, MEDICAL OR DENTAL COURSE UNLESS HE/SHE HAS FULFILLED ALL THE PRESCRIBED REQUIREMENTS AS SPECIFIED BELOW.

5.1 **Citizenship:** Applicant must be a citizen of India.

5.2 **Age Restriction:**

a) **Engineering / Technology (other than Marine Engineering), Pharmacy and Architecture Courses:**

Candidates **must be at least 17 (seventeen) years of age as on 31.12.2015**. There is no upper age limit.

b) **Marine Engineering course:**

Candidates **must be at least 17 (seventeen) years of age or above as on 31.12.2015 and must not be above 25 (twenty five) years of age as on 31.07.2015**; as per guidelines of appropriate authority.

c) **Medical/Dental Courses:**

Candidates **must be at least 17 (seventeen) years of age as on 31.12.2015**. There is no upper age limit.

5.3 **Residential/Domicile requirement:**

The Residential/Domicile requirement for admission to different degree level Medical, Dental, Engineering/Technology, Pharmacy & Architecture courses in West Bengal are listed below:

Type of institute	Category of Seats	Domicile Requirement
State-Aided Universities offering Engineering/ Technology/ Pharmacy /Architecture courses	General category	NO
	Reserved category	YES
Government Engineering & Technology Colleges	General category	YES
	Reserved category	YES
Government Pharmacy Colleges	General category	YES
	Reserved category	YES
Self Financing Institutions offering Engineering/ Technology/ Pharmacy /Architecture courses	General category	NO
	Reserved category	YES
Medical/Dental Colleges	General category	YES
	Reserved category	YES

5.3.1 **Explanation/Clarification for Residential/Domicile Requirement:**

Candidates seeking admission to (I) Government Engineering/Technology and Pharmacy Colleges, (II) Medical/Dental Colleges, (III) Reserve category seats of any Institution, including TFW Category Seats must be domicile of West Bengal and accordingly submission of Domicile Certificate in prescribed format from competent authority is mandatory prior to their selection in any of those Institutions.

The Domicile of West Bengal shall be treated for those candidates who are

EITHER

Residing in West Bengal continuously at least for last 10 (ten) years as on 30.12.2014 (Proforma A-I, A-II)

OR

whose parent(s) is/are permanent resident(s) of West Bengal having permanent address within the State of West Bengal (Proforma B).

5.3.2 **Procedure for Submission of Domicile Certificate:**

Candidate must **upload** Domicile Certificate in either Proforma A-I or Proforma A-II or Proforma B, whichever is applicable for his/her case. **(Only one certificate can be uploaded through the on-line)**

The 'Blank Proforma' is available in the public domain. The proforma as applicable to the candidate has to be downloaded and two copies are to be printed on A4 size white paper.

Get both copies of the Certificate filled in properly and duly authenticated/signed by a competent Authority as per the list provided in Section 5.3.3.

The Duplicate Copy of the Certificate is to be retained with the Office of the Issuing Authority for future reference/verification.

The candidate must retain the Original Certificate and shall have to produce it at the Reporting Centre

during counselling and admission.

5.3.3 Competent Authority to issue Residential/Domicile Certificate:

In order to become eligible for admission to any category of seat in Medical/Dental College and Government Engineering/Technology Colleges OR any reserved category seat in Self financing Institution Residential/Domicile Certificate has to be submitted by the intending candidate in the **Proforma** as given in the **Appendix VII** of this Brochure. The applicable proforma is to be downloaded and printed on an A4 size white paper and will be required to be filled in properly.

Proforma A-I OR Proforma B:

It must be signed and certified by any of the following competent authorities from Central Government or State Government *having local jurisdiction over the place of the permanent residence of the concerned candidate (Proforma A-I) or his/her parents (Proforma B), as the case may be*, viz.

i) District Magistrate; ii) Additional District Magistrate; iii) Deputy Magistrate & Deputy Collector; v) Sub – Divisional Officer; vi) Block Development Officer;

vii) Superintendent of Police, viii) Additional Supdt. of Police; ix) Sub Divisional Police Officer or Deputy Supdt. of Police, x) Commissioner, Additional Commissioner, Joint Commissioner, Deputy Commissioner, Assistant Commissioner of Police Commissionerate;

xi) Judicial Magistrate of any rank or position in the concerned district or Metropolitan locality or Hon'ble High Court at Calcutta or Hon'ble Supreme Court of India;

xii) Commissioner, Additional Commissioner, Joint Commissioner, Assistant Commissioner of Municipal Corporation; xiii) Executive Officer of Municipality;

xiv) Assistant Secretary / equivalent or above in the Secretariat to the Government of West Bengal (including GTA) or Central Government; xv) Deputy Director or above in the Directorate to the Government of West Bengal or Central Government.

Every official certifying the Domicile Status of the candidate or his/her parents **MUST** provide one's FULL NAME, DESIGNATION, PLACE OF POSTING WITH ADDRESS, LANDLINE AND MOBILE NUMBER ALONG WITH THE EMPLOYEE'S IDENTITY CARD NUMBER. These details are MANDATORY. **CERTIFICATION FROM ANY AUTHORITY OTHER THAN WHAT HAVE BEEN ENUMERATED ABOVE 'WILL NOT BE ACCEPTED.'**

Note: No elected people's representative like municipal commissioner, councillor of Municipal Corporation, any elected member of three-tier Panchayat system or GTA, MLA or MP is entitled to issue such certificates.

Proforma A-II

Domicile certificate in this proforma may be obtained from Head of the Institution from which the candidate has passed his/her 10+2 examination or will appear in his/her 10+2 examination. Such certificate may be issued based on verification of the school education record of the candidate. The proforma for such certificate is provided in the website and may be downloaded.

5.4 Academic Requirements:

5.4.1 For Engineering/Technology courses other than Marine Engineering:

In Jadavpur University and Calcutta University (this excludes Dept. of Jute & Fibre technology)

Candidates must pass Higher Secondary (10+2) Examination of **West Bengal Council of Higher Secondary Education** or equivalent examination from a recognized Council/Board with:

- Individual pass marks in **Physics, Chemistry and Mathematics as compulsory subjects.**
- Minimum of 60% marks in the above subjects taken together (55% for SC/ST/ PwD/OBC candidates) as well as pass in English with a minimum of 30% marks (for all categories of candidates) in the said qualifying examination.

In other institutes along with Dept. of Jute & Fibre technology, Calcutta University

Candidates must pass Higher Secondary (10+2) Examination of **West Bengal Council of Higher Secondary Education** or equivalent examination from a recognized Council/Board with:

- Individual pass marks in **Physics and Mathematics as compulsory subjects** along with Chemistry/Biotechnology/Biology)
- Minimum of 45% marks in the above subjects taken together (40% for SC/ST/PwD/OBC candidates) as well as pass in English with a minimum of 30% marks (for all categories of candidates) in the said qualifying examination.

Note: Pass marks in any subject shall imply pass marks in theory and practical individually, as applicable, as specified by the concerned Council/Board.

5.4.2 For Marine Engineering Course:

Candidates must pass Higher Secondary (10+2) Examination of **West Bengal Council of Higher Secondary Education** or equivalent examination from a recognized Council/Board with:

- 60% marks in **Physics, Chemistry and Mathematics** taken together with individual pass marks in the said subjects
- Minimum of 50% marks in English as subject in either in '10' or in '10+2' standard.

Note: Pass marks in any subject shall imply pass marks in theory and practical individually, as applicable, as specified by the concerned Council/Board.

5.4.3 For Architecture Course:

No Candidate with less than 50% marks in aggregate shall be admitted unless he/she has passed an Examination at the end of the **new 10+2 scheme** of senior school certificate Examination or equivalent with Mathematics as a subject of Examination at the 10+2 level **and also pass an Aptitude Test as**

specified by Council of Architecture.

Note:-*Passing in Mathematics as a subject of Examination at 10+2 level is mandatory.*

5.4.4 For Pharmacy Course:

In Jadavpur University

Candidates must pass Higher Secondary (10+2) Examination of **West Bengal Council of Higher Secondary Education** or equivalent examination from a recognized Council/Board with:

- Individual pass marks in **Physics, Chemistry and Mathematics as compulsory subjects**
- Minimum of 60% marks in the above subjects taken together (55% for SC/ST/ PwD/OBC candidates) as well as pass in English with a minimum of 30% marks (for all categories of candidates) in the said qualifying examination of the Higher Secondary (10+2).

In Pharmacy Colleges other than Jadavpur University

Candidates must pass Higher Secondary (10+2) Examination of **West Bengal Council of Higher Secondary Education** or equivalent examination from a recognized Council/Board with:

- Individual pass marks in **Physics and Chemistry as compulsory subjects** along with Mathematics/ Biotechnology/Biology.
- Minimum of 45% marks in the above subjects taken together (40% for SC/ST/ PwD/OBC candidates) as well as pass in English with a minimum of 30% marks (for all categories of candidates) in the said qualifying examination of the Higher Secondary (10+2).

Note: Pass marks in any subject shall imply pass marks in theory and practical individually, as applicable, as specified by the concerned Council/Board.

5.4.5 Mandatory requirement for admission to Engg/Tech/Arch/Pharmacy courses

For admission to any degree course in Engineering/Technology/ Pharmacy/Architecture, securing a rank in the WBJEEM-2015 is mandatory. However, self financed institutions may also admit candidates merit listed in the all India common entrance test, viz. JEE(Mains). For minority institutions, seats are available for admission through other entrance examination conducted by the Association of Minority Professional Academic Institutions.

5.4.6 For Medical/Dental Courses:

Candidates must pass Higher Secondary (10+2) Examination of West Bengal Council of Higher Secondary Education or equivalent examination recognized by the West Bengal University of Health Sciences with:

- Individual pass marks in Physics, Chemistry, Biology and English.
- Minimum of 50% marks in Physics, Chemistry, Biology taken together (40% for SC/ST candidates, 45% OBC-A, OBC-B candidates) and 30% marks in English (for all categories of candidates) in the said qualifying examination.

Note: Pass marks in any subject shall imply pass marks in theory and practical individually, if specified by the concerned Council/Board.

In addition, candidates appearing in WBJEEM-2015 have to secure at least 50 percent marks in Physics & Chemistry and Biological Sciences taken together (40 percent for SC/ST ,OBC-A/OBC-B candidates, 45 percent for PwD candidates) in line with Medical Council of India Regulation on Graduate Medical Education 1997.

5.5 **Additional Information to candidates seeking admission to Medical/Dental courses :**

5.5.1 **Admission to seats under “All India Quota”**

Candidates will have to apply separately to the Central Board of Secondary Education, New Delhi, subsequent to their notification for the purpose.

5.5.2 **Medical Fitness:**

Medical Certificate will have to be produced during counselling from a Registered Medical Practitioner regarding physical and mental fitness as per proforma to be provided at the time of counseling.

6. **Availability of seats**

Availability of seats for admission to degree level Engineering/Technology, Pharmacy, Architecture Medical(M.B.B.S.), Dental(B.D.S.) courses in the academic session of 2015-16 is as listed below:

6.1 **Engineering/Technology /Pharmacy/Architecture Courses:**

The list of different courses of degree level Engineering/Technology, Pharmacy, Architecture courses, as available tentatively for admission in the academic session of 2015-16, is given in **APPENDIX-IV**.

The list of different Universities, Government Colleges and Self Financing Engineering &Technology Colleges tentatively offering different degree level Engineering/Technology, Pharmacy, Architecture courses is given in **APPENDIX- V**.

6.1.2 **Availability of Engg/Tech, Pharmacy and Architecture seats in Universities and Government Colleges:**

100% seats shall be available for admission through the State Joint Entrance Examination (i.e. **WBJEEM-2015**) except for the **University Institute of Technology, Burdwan University**, which is running on self-financing basis, where 90% seats are available for admission through this State Joint Entrance Examination. 10% Seats of the said University shall be available for admission through Management Quota.

6.1.3 **Availability of Engg/Tech, Pharmacy and Architecture seats in Private Self Financing Colleges:**

80% to 90% Seats shall be available for admission through the State Joint Entrance Examination (i.e. **WBJEEM-2015**). **10% Seats** shall be available for admission through the All India Entrance Examination (i.e. **JEE-Main-2015**). Maximum of **10% seats** in such Institutions shall be available for admission through **Management Quota**, as may be desired by those Institutions.

6.2 **Medical (M.B.B.S.) and Dental (B.D.S.) Courses:**

The list of different Medical and Dental Colleges offering M.B.B.S. and B.D.S. courses is given in **APPENDIX-VI**

6.2.1 **Availability of seats in Government Medical/Dental Colleges:**

85% of seats shall be available for admission through the State Joint Entrance Examination (i.e. **WBJEEM-2015**). Remaining 15% Seats shall be available for admission through All India Medical Entrance Examination.

6.2.2 **Availability of seats in Private Medical/Dental Colleges:**

The number of seats that shall be available for admission through the State Joint Entrance Examination (i.e. **WBJEEM-2015**) and the number of seats that shall be available for admission through Management Quota will be put up in the website during counselling.

7. **Reserved Category Seats:**

7.1 **SC/ST/OBC-A/OBC-B of West Bengal:**

In Higher Education Institutes, funded fully or partly by the State offering undergraduate level Engineering/Technology/Pharmacy/Medical/Dental courses, reservation of seats for students under SC, ST and PwD categories shall continue as per the State Govt.'s Policy.

As regards reservation of seats for students under OBC category, as per the State Govt.'s Policy since this is conditional upon the creation of new/additional seats, reservation shall be to the extent of the availability of seats subject to the approval of the appropriate Regulatory Authorities.

For un-aided Self Financing Engineering/Technology/Pharmacy/Medical/Dental Colleges, reservation of seats for such categories of students is not mandatory. However, seats may be available for admission under such categories of students in those institutions where the Institution Authorities decide to offer such seats.

The **Scheduled Caste/Scheduled Tribe/Other Backward Classes** candidates **DOMICILED only in the State of West Bengal** are eligible for admission to the aforesaid reserved seats through WBJEEM-2015. **The certificates for SC/ST candidates** are to be issued by the any of the following competent authorities viz.

A-(i) Deputy Director, Backward Classes Welfare Directorate; W.B. **(ii)** Commissioner, Backward classes welfare W.B. in case of candidates claiming to be SC or ST residing in any part of West Bengal.

B-(i) Deputy Collector of Land Revenue, Kolkata; **ii)** Collector of Stamp Revenue, Kolkata; **iii)** Metropolitan Magistrate, Kolkata; **iv)** Additional Chief Metropolitan Magistrate, Kolkata; **v)** Chief Metropolitan Magistrate, Kolkata; **vi)** 1st Class Stipendiary Magistrate; **vii)** Executive Magistrate; **viii)** Sub-divisional Magistrate; **ix)** Sub-divisional Officer; **x)** Deputy Collector; **xi)** Additional District Magistrate; **xii)** Collector and **xiii)** District Magistrate within their respective local jurisdictions - in case of candidates claiming to be SC or ST and ordinarily residing within such jurisdictions.

For OBC candidates, the competent authority for issuing certificates will be put up on the website (www.wbjeeb.nic.in) as soon as the relevant Government Order is issued.

THE CERTIFICATE BEING SUBMITTED BY THE CANDIDATE FOR CLAIMING RESERVATION UNDER SC/ST/OBC QUOTA; MUST HAVE BEEN ISSUED BY THE COMPETENT AUTHORITY AS SPECIFIED ABOVE, ON A DATE PRIOR TO THE SUBMISSION OF THE ACTUAL ONLINE APPLICATION. CERTIFICATE ISSUED ON A LATER DATE BY ANY AUTHORITY, WILL NOT BE ACCEPTABLE AT THE TIME OF ADMISSION THROUGH COUNSELLING.

7.2 SC/ST/OBC of Other States:

SC/ST/OBC CANDIDATES HAILING FROM STATES OTHER THAN WEST BENGAL ARE NOT ELIGIBLE FOR SUCH BENEFITS AND THEY WILL BE TREATED AS GENERAL CATEGORY CANDIDATES.

7.3 PwD (Persons with Disabilities):

The PWD candidates claiming seats under reserved category are required to produce **appropriate PwD certificate issued by the competent authority satisfying the following criteria.**

For Admission to B.E/B.Tech/B.Arch/B.Pharm Courses:

PwD category candidates will be **ELIGIBLE** with a **minimum of 40% disability** with respect to **Loco-motor disorder, Visual impairment, Speech & Hearing Impairment** subject to the condition that the candidate is capable of carrying out all activities related to theory and practical work as applicable to B.E/B.Tech/B.Arch/B.Pharm courses without any special concession and exemption.

For Admission to MBBS/BDS Courses:

PwD category candidates will be **ELIGIBLE** with **50-70% Loco-motor disability of lower limb**. However, in case any seat in the earmarked quota remains unfilled on account of non-availability of candidates with loco-motor disability between 50% - 70%, any such unfilled seat in the said quota shall be filled up by persons with loco-motor disability of lower limbs between 40% to less than 50%.

The Medical Board constituted at IPGMR / SSKM Hospital will verify all certificates at the time of counselling.

It may be noted that candidates with disabilities **OTHER** than loco-motor disability will not be considered as **ELIGIBLE** for PwD category.

The list of competent authorities for issuing PwD certificate includes:

Officer-in-Charge or Medical Head of Primary Health Centres, Block Primary Health Centres, State General Hospitals, Rural Hospitals, Sub-Divisional Hospitals or the District Hospitals run by the State Government or any hospital run by a statutory body or authority.

7.4 Reservation under Minority quota (Sikh & Christian):

Higher Education Institutes, which have been granted the Minority Status (denoted as type '**M**' in **APPENDIX V** of the Information Brochure), 50% of the approved seats shall be available for admission to general category of students. Admission to such category of seats will be from **the merit listed**

candidates of WBJEEM-2015 or JEE-Mains 2015.

However, candidates belonging to **Sikh/Christian Religious Minority Category** may choose to get admitted in such religious minority Institutes as approved by the Government against specified MINORITY QUOTA notified by the State Government of West Bengal. Admission for minority seats in Minority Institutes for the academic session 2015-16 will be made through CEE-AMPAL. In case vacancy exists after this process, such vacant seats will be filled up through normal counselling procedure.

7.5 **Reservation of seats for SC/ST/OBC/PwD Candidates**

In Engg/Tech, Pharmacy and Architecture Courses:

Sl.No.	Nature of Institutions	Applicability of Reservation Rule for SC/ST/OBC-B/PwD Category of Students
1.	University/University Departments	Concerned University Rules shall be followed.
2.	Government Engineering & Technology and Govt Pharmacy Colleges	Reservation Rules of the State Government shall be followed
3.	Government Aided Self Financing Engineering/Technology Colleges	Reservation Rules of the State Government shall be followed.
4.	Un-Aided Self Financing Engineering/Technology/Pharmacy Colleges	Reservation of seats shall be available for students as may be desired by concerned Institution Authority.

In Medical and Dental Courses:

Sl.No.	Nature of Institutions	Applicability of Reservation Rule for SC/ST/OBC-B/PwD Category of Students
1.	Government Medical/Dental Colleges	Reservation Rule of State Government shall be followed
2.	Private & Self Financing Medical/Dental Colleges	Reservation of seats shall be available for students as may be desired by concerned Institution Authority.

It is important to note that such reserved categories of seats are ONLY offered to candidates DOMICILED IN THE STATE OF WEST BENGAL.

7.6 **Reservation of seats for students under Defence Quota:**

Altogether 9 (nine) seats in Engg/Tech are reserved for students under Defence Quota. Out of them, 7 (seven) seats are reserved in different branches in Govt. Engineering & Technology Colleges of the State; 2 (two) seats are reserved in Jadavpur University. The branches of such seats in Jadavpur University will be decided by the University Authority.

Branch-wise distribution of 7 (seven) seats under Govt. Engineering Colleges is furnished below:

Name of the Govt. Engg./Technology College	Course Name	No. of seats available
Jalpaiguri Govt. Engineering College	Mechanical Engineering	1
	Information Technology	1
Govt. College of Engg. & Textile Tech., Serampore	Information Technology	1
Govt. College of Engg. & Textile Tech., Berhampore	Computer Science & Engineering	1
Govt. College of Engg. & Ceramic Tech., Kolkata	Information Technology	1
Govt. College of Engg. & Leather Tech., Kolkata	Leather Technology	1
Kalyani Govt. Engineering College, Kalyani	Electrical Engineering	1

For consideration under **Defence Quota**, candidates will have to apply to the **Rajya Sainik Board, Home Department, Government of West Bengal, Writers' Buildings, Kolkata – 700 001** through the concerned Zila Sainik Board, W.B. (for ex-servicemen) and Units (for serving soldiers) in the prescribed form (available with the addressee) with an attested copy of WBJEEM - 2015 Admit Card.

Allotment of seats under Defence Quota is not done through e-counselling. Based on the recommendation of the said Rajya Sainik Board, a separate Merit List shall be published by the West Bengal Joint Entrance Examinations Board for subsequent offline counselling and allotment of seats.

7.7 **Reservation of seats in Engg/Tech for students Merit listed in JEE (Mains) 2015, the All India Common Entrance Examination for admission into NIT, IIIT and other Central Institutes of Engineering & Technology:**

Seats are available for students merit listed in **JEE (Mains) 2015 (erstwhile AIEEE)**, the All India Common Entrance Examination for admission to NIT, IIIT and other Central Institutes of Engineering & Technology up to the extent of 10% of the approved seats in all the existing Self Financing Engineering & Technology Colleges of the State. Allotment of seats shall be strictly on the basis of merit and preference of students through the e-counselling process conducted by the Board.

The eligibility and other criteria as stipulated for WBJEEM – 2015 candidates for admission to degree level Engineering / Technology / Pharmacy /Architecture courses, will also be applicable for JEE (Mains) 2015 merit listed candidates. However, such candidates need not be domiciled in West Bengal.

7.8 **Reservation of seats for admission under Management Quota:**

This is applicable only for Self Financing Colleges of the State offering B.E. /B.Tech./ B. Pharm / B. Arch. Courses. It is also applicable for courses running on self- financing basis under the University Institute of Technology, Burdwan University.

A Maximum of **10% of the approved seats** in respect of different courses of such Institutions may be admitted under such management quota directly by the Concerned Management of those Institutions. However, Institutions may or may not opt for admission of students under such quota.

The eligibility criteria in terms of academic qualification, citizenship, age restrictions, etc. as stipulated for **WBJEEM–2015** candidates for admission to degree level Engineering/Technology, Pharmacy, Architecture courses shall also be applicable for students to be admitted under the Management Quota. However, such candidates need not be domiciled in West Bengal.

8. Application Procedure:

Application has to be filled up ONLINE at the portal of the Board, <http://www.wbjeeb.nic.in>.

Candidates need to visit the portal and CLICK the requisite link ONLINE APPLICATION WBJEEM – 2015 and thereafter will be directed to the actual application form. The form is interactive in nature and the fields required to be filled up are categorized in different sub-sections. The fields super-scribed with * MUST be filled up as they are MANDATORY, otherwise the application will NOT get submitted.

The application form is broadly categorized into three steps: filling of **PERSONAL DETAILS; DOCUMENT UPLOADING & FEE PAYMENT**. Please see **Appendix-X** for detailed guidelines on fields to be entered at the time of online form filling.

Candidates need to fill in the first part i.e. PERSONAL DETAILS and will thereafter be directed to DOCUMENT UPLOADING. Once the documents are successfully uploaded, the system enters into the FEE PAYMENT. Finally, the candidate may take a printout of **CONFIRMATION PAGE** generated upon successful fee payment for their own record. **There is no need to send any document by post.**

8.1 Application form:

Filling up of fields will be interactive in nature. As soon as the cursor is taken to a certain field, a cursor tip MESSAGE will be shown to the candidate to assist in filling up. In case of difficulty, the HELP icon placed right next to the field will redirect the candidate to that section of the Brochure which deals with the filling up of the said field. Please note that the applicant name, father's name, mother's name, domicile and date of birth taken together must be unique for each application.

On completion and submission of the PERSONAL DETAILS, the system will generate a unique 7-digit numeric **APPLICATION NUMBER** for the candidate. The candidate has to choose a **PASSWORD** and keep it as guarded secret for all subsequent entries into their domain. A **SECURITY QUESTION AND ANSWER** will be captured from the candidate by the system at this stage. Candidate has to remember this question-answer pair for prompt retrieval of password in case it is forgotten at later stage. Once an Application Number is generated and the password is chosen, the candidate may logout of the system. The candidate will need to enter the system subsequently for various reasons as given below:

- Accessing and editing personal information (till going to the document upload stage)
- Uploading of documents
- Printing of e-Challan for Bank / performing fee payment through EPG

- Printing of the Confirmation Page
- Correction to data during dates specified by the Board, if needed
- Viewing of OMR answer sheet and result details after examination

The candidate has to use this system generated Application Number and chosen password for subsequent login to the system for all subsequent accesses to the system. Therefore it is very important for the candidate to note down the application number and password. It is also important to note the **security question** and the answer pair for retrieval of password in case the candidate forgets the chosen password. So the candidate must note down the security question and answer for future reference.

8.2 Document uploading

All candidates are required to upload the following three images and document:

1. **Recent coloured Passport sized Photograph**
2. **Left Thumb Impression (LTI)**
3. **Own Signature**
4. **ADMIT CARD OF 10TH STANDARD EXAMINATION**

Candidates domiciled in West Bengal including those who want to enjoy various category benefits need to upload the following documents, as applicable, in addition to the above:

- **DULY FILLED UP DOMICILE CERTIFICATE AS PER PROFORMA GIVEN IN THE BROCHURE**
- **THE SC/ST/OBC CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE**
- **THE PwD CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE**
- **DULY FILLED UP INCOME CERTIFICATE AS PER PROFORMA GIVEN IN THE BROCHURE.**

All uploaded images/documents have to be in jpg/jpeg format. The page size of document is to be in A4 format. Following are the details regarding the size and dimension of the documents:

Document	Storage size		Image dimension		Applicable to
	minimum	maximum	Height	Width	
Photograph	4 KB	100 KB	4.5 cm	3.5 cm	All candidates
Left thumb impression	1 KB	30 KB	1.5 cm	3.5 cm	All candidates
Signature	1KB	30 KB	1.5 cm	3.5 cm	All candidates
Class X admit card	50 KB	300 KB	210 mm	297 mm	All candidates
Income certificate	50 KB	300 KB	210 mm	297 mm	WB domiciled TFW
PwD certificate	50 KB	300 KB	210 mm	297 mm	WB domiciled PwD
SC/ST/OBC-A/ OBC-B certificate	50 KB	300 KB	210 mm	297 mm	WB domiciled SC/ ST/OBC-A/OBC-B
Domicile certificate	50 KB	300 KB	210 mm	297 mm	WB domicile (optional* for 'E' type general candidates)

*'E' type General candidates of WB domicile who do not upload their domicile certificate during the filling up of application form would not have the scope of studying in any Govt Engg College.

A DETAILED GUIDELINE FOR UPLOADING OF DOCUMENTS IS PROVIDED IN A SEPARATE LINK IN THE WEBSITE.

8.3 Application Fee Details:

Irrespective of his/her category and gender, a candidate applying for WBJEEM – 2015 has to pay Rs. 500/- (Rupees five hundred) only, as application fee, through ONLINE mode. The candidate, on successfully uploading the PERSONAL DETAILS and DOCUMENTS; will be directed to the webpage containing process of payment of application fee. The candidate has the option to choose from the following modes of payment:

Type	Availability of courses for admission through WBEEM – 2015	Fees payable (in INR)
E	Engg/Tech/Arch/Pharm only	500
M	Medical/Dental/Pharm only	500
C	Engg/Tech/Arch/Pharm/ Medical/Dental	600

Service charges, as applicable, would be payable along with fees at the bank.

- (a). **Payment through Allahabad Bank e-Challan:** The candidate has to select “Allahabad Bank e-challan” to submit the application fee through bank. As soon as he selects it an **e-Challan** will be generated containing details of the candidate. The candidate has to take a printout of the same and take it to the nearest **Core Banking Service (CBS) facility enabled Branch of the Bank** for making **payment**. Upon payment, the information will be updated in the system. After the update in fee payment status, candidate may login to check the **Confirmation Page which will be automatically generated**.
- (b). **Payment through EPG:** The candidate has to select EPG if he/she desires to submit the application fee through electronic payment gateway via debit card, credit card or net banking. As soon as the transaction is completed, a **RECEIPT** will be generated containing details of the transaction. The **Confirmation Page will be automatically generated**.

8.4 Confirmation Page

The **Confirmation Page** is generated upon successful payment of Application Fee. Its generation means that the candidate has been successfully **REGISTERED**. The candidate should take a printout and preserve the confirmation page for future reference. **There is no need to send any document to the Board by post.**

9

Filling up of Application Form:

The online filling-up of the Application Form is interactive in nature and online guidance will be available to the candidate while filling up the form. Please refer to **Appendix-III** and **Appendix-X** for detailed guidelines on filling up the form.

9.1. Discrepancy and correction

Normally, it is expected that the candidate has filled up all details correctly before proceeding to next stage. However, in case corrections are needed, there will be a window period during which the candidates would be allowed to change their data. No further changes would be entertained beyond this stipulated window period.

The candidate is required to enter their domain by typing the Application Number and password in the specified space through www.wbjeeb.nic.in for getting intimation regarding any discrepancy about the data or uploaded documents by the Board. Candidates would also be intimated over phone depending on the criticality of the mistakes.

As per activity no. 7 indicated in Appendix-XI, candidates may change their credentials and upload new certificates as per changed credentials during the mentioned period. No error correction will be normally

entertained after this stipulated period.

10. **Issue of Admit Card**

For each Applicant, an Admit Card will be generated indicating the allotted Examination Centre for WBJEEM - 2015 and a downloadable version of the admit card will be published on the respective webpage of the candidate concerned. **An Examination Roll Number will also be generated for each candidate.**

Candidate has to download the soft copy of the Admit Card from the website and has to appear in the examination with a printed hard copy at the concerned Examination Centre indicated in the downloaded Admit Card on production of the same along with **Identical one copy of original photograph (same as uploaded).**

Candidates must ensure that the photograph and signature printed on the admit card are not mutilated / distorted / soiled even by accident. Candidates with such mutilated / distorted / soiled admit cards will not be allowed to appear in WBJEEM-2015.

Candidates are advised to retain their admit cards carefully in secured place in undamaged condition in all respects as stated above till the completion of admission procedure.

All applicants who appear to be prima facie eligible shall be provisionally permitted to sit for WBJEEM-2015. If, after scrutiny at any stage, it is found that an applicant is otherwise ineligible, his/her candidature shall be cancelled even if he/she has appeared in WBJEEM-2015 and secured a position in the merit list.

The candidature shall also be cancelled if he/she fails to produce any of the required documents in original for fulfilment of eligibility and other criteria as specified earlier during counselling and physical admission and subsequent registration in respective affiliating universities.

11. **Allocation of Examination Centre:**

The allocation of examination centre will be based on the choices given by the candidate during online form fill-up. However, discretion of the Board in allocation of examination centre shall be final. No request for change of allocated centre will be entertained under any circumstances. List of district-wise examination zones is given in **Appendix-IX**.

- **Candidates from West Bengal, Assam and Tripura must select three zones in order of preference.**
- **Candidates from states other than the above must select Kolkata/Howrah/North 24 Pgs/ South 24 Pgs in order of preference.**
- **Any examination zone may be dropped if adequate numbers of candidates are not available.**

12. **Evaluation and Declaration of Results of WBJEEM – 2015:**

12.1 Rules for scrutiny/review of Answer Sheet:

After the examination, model answers would be available in public domain for feedback from all concerned. Thereafter, the answers will be frozen by a set of reviewers not connected with the paper setting/moderation process.

Before publication of results, the response sheets of each candidate will be uploaded along with subject wise mark(s) secured. Candidates may request for rechecking of the machine recorded responses online by **payment of 500 INR per response** within stipulated period of time. Board will consider all such cases prior to result publication. There will be no provision for post publication scrutiny and /or review and hence will not entertain any such request after the result publication.

12.2 Declaration of the Results of 'WBJEEM - 2015':

Results will be available in the website of the Board, and some other websites which will be announced in various electronic/printing media before declaration of results.

13. Legal Jurisdiction:

13.1 All matters pertaining to conduct of WBJEEM–2015 shall fall within the jurisdiction of Kolkata only.

13.2 The Board will not be a party pertaining to any dispute arising in the process of admission to any course of study through WBJEEM – 2015.

14. Procedure for conduct of Examination:

Important procedures to be followed during the conduct of examination are specified in **APPENDIX - II**. Please also refer to **Appendix-III** for necessary information.

15. Counselling and Admission:

15.1 Counselling procedure for Engg/Tech/Pharm/Arch courses:

Detailed information regarding admission to the concerned Universities / Colleges and allotment of seats therein shall be made available in due course. It should be noted that being Merit Listed does not make a candidate eligible for admission to any concerned University / College.

Codes for the branches in Engineering & Technology along with those for Pharmacy and architecture are listed in **Appendix IV**. The Universities/Institutions in West Bengal offering such courses are listed in **Appendix V** for ready reference of applicants. It is to be noted that the final list of branch-wise availability of seats for the participating Universities/Institutions shall be provided by competent authority prior to counselling and allotment.

15.2 Counselling procedure for Medical/Dental courses:

Admission to M.B.B.S. Course in Medical Colleges and B.D.S. Course in Dental Colleges mentioned in **Appendix-VI** will be done through e-counselling after publication of Merit List of WBJEEM-2015. Seat Allotment will be based on the rank position in the Merit List of the Joint Entrance Examination having

regard to preferences for Medical or Dental Colleges and subject to passing the qualifying examination satisfying the eligibility criteria. The dates and time of the aforesaid counselling process will be notified in the website in due course.

Selected candidates for both the M.B.B.S. and B.D.S. Course will have to furnish bonds giving undertaking to serve the State Government anywhere in the State for a minimum period of 3 years after passing.

Total intake to Medical and Dental Colleges will be notified by Appropriate Authority in due course.

16. Tuition Fee Waiver (TFW) Scheme and other Free-ship Schemes:

16.1 Tuition Fee Waiver (TFW) Scheme:

Applicable only for undergraduate level engineering/technology/pharmacy/architecture courses.

The **Tuition Fee Waiver Scheme of AICTE** has been implemented by the State Govt. in the Higher Education Department for all the AICTE approved Govt. Engineering and Technology Colleges, Self-financing Engineering, Technology, Pharmacy, Architecture Colleges, Universities/University Departments imparting Engineering, Technology, Pharmacy, Architecture education effectively from the academic session of 2011-12 for economically backward meritorious students of West Bengal.

16.1.1 Availability of seats under TFW Scheme along with other modalities:

- (i) Up to maximum of 5% of sanctioned intake per course are available **on supernumerary basis (over and above the sanctioned seats)** for admission under this scheme.
- (ii) For Universities/University Departments, seats available for admission under this scheme shall be as per the decision of the concerned University Authority.
- (iii) The **waiver** is limited to the Tuition Fee only for all the Institutions concerned. All other fees except tuition fee will have to be paid by the beneficiary.
- (iv) In the event of non-availability of students in this category or in-case of any vacancy created due to non-reporting of any candidate, already selected under this scheme, the seats shall not be allotted to any other category of applicants.
- (v) The selection of candidates for the **Tuition Fee Waiver Scheme** shall be decided on the basis of merit and preference of eligible students in the State Joint Entrance Examination (WBJEEM-2015).

16.1.2 Eligibility criteria:

- (i) Students must be domiciled in West Bengal.
- (ii) Submission of Photo-Copy of **Domicile Certificate** as prescribed in Section **5.3.3** of this Information Brochure is a mandatory requirement to be considered under this scheme.
- (iii) Total annual Family Income of the student from all sources must be less than **Rs. 2.50 lakhs** (Rupees two lakhs and fifty thousand) only.
- (iv) Submission of Photo-Copy of **Income Certificate** as prescribed in Appendix-VIII of this Information

Brochure is a mandatory requirement to be considered under this scheme.

16.1.3 Procedure for submission of Income Certificate in respect of annual family income in favour of applicant students:

- (i) Candidates must submit the 'Income Certificate' as per the Blank Proforma provided vide APPENDIX-VIII of this Information Brochure.
- (ii) The 'Blank Proforma' is downloadable in duplicate. Get it downloaded and printed in duplicate on A4 size paper.
- (iii) Get the Certificate Filled in properly and duly authenticated/signed by a Competent Authority as per the list provided here under.
- (iv) The Duplicate Copy of the Certificate is to be kept with the Office of the Issuing Authority for future reference/verification in the matter.

The candidate must retain the original certificate and shall have to produce it at the Reporting Centre during admission.

16.1.4 Competent Authority to issue 'Income Certificate' in respect of annual family income in favour of applicant students:

For the purpose of determining the Annual Income of parents / guardians from all sources, an officer of the State Govt. in the rank of Block Development Officer or Sub-Divisional Officer or Additional District Magistrate or District Magistrate / Group 'A' Gazetted Officer of State or Central Govt. of similar rank or above in the rural region.

Or

Executive Officer of Municipality / Assistant Commissioner or above in Municipal Commissionerate / Group "A" Gazetted Officer of State or Central Govt. of similar rank or above in the urban region will be competent to issue Income Certificate to be issued to each of such students.

***Note:** No elected people's representative like municipal commissioner, councillor of Municipal Corporation, any elected member of three-tier Panchayat system or GTA, MLA or MP is entitled to issue such certificates.*

16.2 The West Bengal Free-ship (WBFS) Scheme:

Applicable only for undergraduate level engineering/technology/pharmacy/architecture education.

The West Bengal Free-ship Scheme has been implemented in the State effectively from the academic session of 2011-12 towards awarding of 'Half Tuition Fee Waiver' or 'Half Free-ship' and 'Full Tuition Fee Waiver' or Full Free-ship' to students belonging to specific income-brackets who become eligible for the same; by virtue of their admission to Government as well as Self-financing Engineering /Technology/Pharmacy/Architecture Colleges after featuring among the selected candidates through the counselling conducted by the WBEEB. The scheme has been named as West Bengal Free-ship Scheme (WBFS) applicable for all AICTE approved Government Engineering & Technology Colleges, Self Financing Engineering/ Technology/Pharmacy Colleges as well as all Engineering Departments of state-aided

Universities of the State.

16.2.1 Availability of quantum of beneficiaries under WBFS Scheme along with other modalities:

- (i) For all Govt. Engineering & Technology Colleges of the State, 10% of the approved seats are available for Half Free-Ship and 10% of approved seats are available for Full Free-Ship.
- (ii) For Self Financing Engineering / Technology / Pharmacy Colleges, opted for admission of students **under Management Quota**, 10% of approved seats in respect of those courses shall be available for **Full Free-Ship**.
- (iii) For Self Financing Engineering / Technology / Pharmacy Colleges, implementing the revised Fee-Structure, vide Notification No. 246-Edn-(T), Dated, 06.06.2013, 10% of the approved seats shall be available for **Half Free-Ship**.
- (iv) Availability of the Scheme is a **post admission affair**. Students, only after admission to an institution through this admission process shall be eligible to apply for availing the scheme through the concern institution.
- (v) **The West Bengal Joint Entrance Examinations Board is in no way responsible for implementation of the Scheme.**

16.2.2 Eligibility Criteria:

- (i) Students must be domiciled in West Bengal.
- (ii) Total annual Family Income of the student from all sources must be less than Rs. 2.50 lakhs (Rupees two lakhs and fifty thousand) only.

16.2.3 Procedure for implementation of WBFS Scheme for economically backward meritorious students:

- (i) Candidates desirous of availing such scheme shall have to apply to concerned Institutional Authority in which he/she has taken admission, as per the Notification issued by those Institutions in this regard following their guidelines.
- (ii) Implementation of the Scheme shall be done from the Institutional Level concerned.
- (iii) However, the Income Certificate issued for candidates for the purpose of availing the TFW Scheme, as stated earlier, may also be acceptable for the present purpose.

16.3 The West Bengal Government Merit-cum-Means Scholarship Scheme:

Applicable for all undergraduate level medical/dental/engineering/technology/pharmacy/architecture education in the State of West Bengal.

The Scheme has been renamed as **“Swami Vivekananda West Bengal Government Merit-cum-Means Scholarship Scheme”** effectively from the academic session of 2013-14.

- The Scheme is available for poor and meritorious students, whose total family income is not exceeding Rs. 80,000/- per annum from all sources.
- Students must be domiciled in West Bengal, who have passed the ‘10+2’ examination with at

least 75% Marks based on two language subjects and three other elective subjects, taken together in the same year of his/her admission to any of the courses, as stated above, under any of the State University.

- The student must also pass the '10+2' examination from any Institution under the West Bengal Council of Higher Secondary Education.
- This is also is a **post admission affair**. Students, only after admission to an institution through this admission process shall be eligible to apply for availing the scheme through the concern institution.
- **The West Bengal Joint Entrance Examinations Board is in no way responsible for implementation of the Scheme.**
- The rate of Scholarship for beneficiary students is **Rs. 1400/- to Rs. 1500/-** per month.
- The Govt. of West Bengal has already taken initiative for implementation of the Scheme through On-Line Application System. However, separate Notification is issued every year for this scheme from the Government of West Bengal.
- Particulars of the said Scheme are available at: <http://mcmscholarship.wb.gov.in> or www.banglarmukh.gov.in or www.higherednwb.net.

APPENDIX –I

MATHEMATICS

Algebra

A.P., G.P., H.P.: Definitions of A. P. and G.P.; General term; Summation of first n-terms of series $\sum n$, $\sum n^2$, $\sum n^3$; Arithmetic/Geometric series, A.M., G.M. and their relation; Infinite G.P. series and its sum.

Logarithms: Definition; General properties; Change of base.

Complex Numbers: Definition and properties of complex numbers; Complex conjugate; Triangle inequality; Square root of complex numbers; Cube roots of unity; De Moivre's theorem (statement only) and its elementary applications. Solution of quadratic equation in complex number system.

Quadratic Equations: Quadratic equations with real coefficients; Relations between roots and coefficients; Nature of roots; Formation of a quadratic equation, sign and magnitude of the quadratic expression $ax^2 + bx + c$ (where a, b, c are rational numbers and $a \neq 0$).

Permutation and combination: Permutation of n different things taken r at a time ($r \leq n$). Permutation of n things not all different. Permutation with repetitions (circular permutation excluded). Combinations of n different things taken r at a time ($r \leq n$). Combination of n things not all different. Basic properties. Problems involving both permutations and combinations.

Principle of mathematical induction: Statement of the principle, proof by induction for the sum of squares, sum of cubes of first n natural numbers, divisibility properties like $2^{2n} - 1$ is divisible by 3 ($n \geq 1$), 7 divides $3^{2n+1} + 2^{n+2}$ ($n \geq 1$).

Binomial theorem (positive integral index): Statement of the theorem, general term, middle term, equidistant terms, properties of binomial coefficients.

Matrices: Concepts of $m \times n$ ($m \leq 3$, $n \leq 3$) real matrices, operations of addition, scalar multiplication and multiplication of matrices. Transpose of a matrix. Determinant of a square matrix. Properties of determinants (statement only). Minor, cofactor and adjoint of a matrix. Nonsingular matrix. Inverse of a matrix. Finding area of a triangle. Solutions of system of linear equations. (Not more than 3 variables).

Sets, Relations and Mappings: Idea of sets, subsets, power set, complement, union, intersection and difference of sets, Venn diagram, De Morgan's Laws, Inclusion / Exclusion formula for two or three finite sets, Cartesian product of sets.

Relation and its properties. Equivalence relation — definition and elementary examples, mappings, range and domain, injective, surjective and bijective mappings, composition of mappings, inverse of a mapping.

Statistics and Probability:

Measure of dispersion, mean, variance and standard deviation, frequency distribution. Addition and multiplication rules of probability, conditional probability and Bayes' Theorem, independence of events, repeated independent trials and Binomial distribution.

Trigonometry

Trigonometric functions, addition and subtraction formulae, formulae involving multiple and submultiple angles, general solution of trigonometric equations. Properties of triangles, inverse trigonometric functions and their properties.

Coordinate geometry of two dimensions

Distance formula, section formula, area of a triangle, condition of collinearity of three points in a plane.

Polar coordinates, transformation from Cartesian to polar coordinates and vice versa. Parallel transformation of axes, concept of locus, elementary locus problems. Slope of a line. Equation of lines in different forms, angle between two lines. Condition of perpendicularity and parallelism of two lines. Distance of a point from a line. Distance between two parallel lines. Lines through the point of intersection of two lines.

Equation of a circle with a given center and radius. Condition that a general equation of second degree in x, y may represent a circle. Equation of a circle in terms of endpoints of a diameter. Equation of tangent, normal and chord. Parametric equation of a circle. Intersection of a line with a circle. Equation of common chord of two intersecting circles.

Definition of conic section, Directrix, Focus and Eccentricity, classification based on eccentricity. Equation of Parabola, Ellipse and Hyperbola in standard form, their foci, directrices, eccentricities and parametric equations.

Co-ordinate geometry of three dimensions

Direction cosines and direction ratios, distance between two points and section formula, equation of a straight line, equation of a plane, distance of a point from a plane.

Calculus

Differential calculus: Functions, composition of two functions and inverse of a function, limit, continuity, derivative, chain rule, derivative of implicit functions and functions defined parametrically.

Rolle's Theorem and Lagrange's Mean Value theorem (statement only). Their geometric interpretation and elementary application. L'Hospital's rule (statement only) and applications. Second order derivative.

Integral calculus: Integration as a reverse process of differentiation, indefinite integral of standard functions. Integration by parts. Integration by substitution and partial fraction.

Definite integral as a limit of a sum with equal subdivisions. Fundamental theorem of integral calculus and its applications. Properties of definite integrals.

Differential Equations: Formation of ordinary differential equations, solution of homogeneous differential equations, separation of variables method, linear first order differential equations.

Application of Calculus: Tangents and normals, conditions of tangency. Determination of monotonicity, maxima and minima. Differential coefficient as a measure of rate. Motion in a straight line with constant acceleration. Geometric interpretation of definite integral as area, calculation of area bounded by elementary curves and Straight lines. Area of the region included between two elementary curves.

Vectors: Addition of vectors, scalar multiplication, dot and cross products, scalar triple product.

PHYSICS

Physical World, Measurements, Units & dimensions: Physical World, Measurements, Units & dimensions Units & Dimensions of physical quantities, dimensional analysis & its applications, error in measurements, significant figures.

Kinematics: Scalars & vectors, representation of vectors in 3D, dot & cross product & their applications, elementary differential & integral calculus, time-velocity & relevant graphs, equations of motion with uniform acceleration.

Laws of motion: Newton's laws of motion, using algebra & calculus, inertial & non inertial frames, conservation of linear momentum with applications, elastic & inelastic collisions, impulse centripetal force, banking of roads, relative velocity, projectile motion & uniform circular motion Work, power, energy: Work, power, energy Work, work-energy theorem, power, energy, work done by constant & variable forces, PE & KE, conservation of mechanical energy, conservative and nonconservative forces, PE of a spring,

Motion of centre of mass, connected systems, Friction: Centre of mass of two-particle system, motion of connected system, torque, equilibrium of rigid bodies, moments of inertia of simple geometric bodies (2D) [without derivation] conservation of angular momentum, friction and laws of friction.

Gravitation: Kepler's laws, (only statement) universal law of gravitation, acceleration due to gravity (g), variation of g , gravitational potential & PE, escape velocity, orbital velocity of satellites, geostationary orbits.

Bulk properties of matter: Elasticity, Hooke's law, Young's modulus, bulk modulus, shear, rigidity modulus, Poisson's ratio elastic potential energy. Fluid pressure: Pressure due to a fluid column, buoyancy, Pascal's law, effect of gravity on fluid pressure. Surface tension: Surface energy, phenomena involving surface tension, angle of contact, capillary rise,

Viscosity: Coefficient of viscosity, streamline & turbulent motion, Reynold's number, Stoke's law, terminal velocity, Bernoulli's theorem. Heat & Thermal Physics: Heat & temperature, thermal expansion of solids. liquids & gases, ideal gas laws, isothermal & adiabatic processes; anomalous expansion of water & its effects, sp. heat capacity, C_p , C_v , calorimetry; change of state, specific latent heat capacity. Heat transfer; conduction, thermal and thermometric conductivity, convection & radiation, Newton's law of cooling, Stefan's law.

Thermodynamics: Thermal equilibrium (Zeroth law of thermodynamics), heat, work & internal energy. 1st law of thermodynamics, isothermal & adiabatic processes, 2nd law of thermodynamics, reversible & irreversible processes.

Kinetic theory of gases: Equation of state of a perfect gas, kinetic theory of gases, assumptions in Kinetic theory of gases, concept of pressure. & temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (introductory ideas) & application to specific heats of gases; mean free path, Avogadro number.

Oscillations & Waves: Periodic motion – time period, frequency, time-displacement eqation, Simple harmonic motion (S.H.M) & its equation; phase; SHM in different sytems, restoring force & force const, energy in S.H.M.-KE & PE, free, forced & damped oscillations (introductory ideas), resonance wave motion, equation for progressive wave, longitudinal & transverse waves, sound waves, Newton's formula & Laplace's correction, factors affecting

the velocity of sound in air, principles of superposition of waves, reflection of waves, standing waves in strings & organ pipes, fundamental mode, harmonics & overtones, beats, Doppler effect.

Electrostatics: Conservation of electric charges, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle & continuous charge distribution. Electric field, & potential due to a point charge & distribution of charges, electric field lines electric field due to a dipole; torque on a dipole in uniform electric field; electric flux, Gauss' theorem & its simple applications, conductors & insulators, free charges & bound charges inside a conductor; dielectrics & electric polarisation, capacitors & capacitance, combination of capacitors in series & in parallel, capacitance of a parallel plate capacitor with & without dielectric medium between the plates, energy stored in a capacitor.

Current Electricity:

Electric current, & conductor, drift velocity' mobility & their relation with electric current; Ohm's law, electrical resistance, Ohmic and non-Ohmic conductors, electrical energy & power, carbon resistors, colour codes, combination of resistances, temperature dependence of resistances, electric cell, emf and internal resistance of an electric cell, pd, combination of cells, secondary cells, (introductory) Kirchoff's laws of electrical network, simple applications, principle of Wheatstone bridge, metre bridge and potentiometer and their uses, thermoelectricity; Seebeck effect; Peltier effect, thermo emf.

Magnetic effect of current: Concept of magnetic field, Oersted's experiment, Biot - Savart law & its application to current carrying circular loop; Ampere's law & its applications to infinitely long straight wire, straight and toroidal solenoids; force on a moving charge in uniform magnetic & electric fields, cyclotron frequency; force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors--definition of ampere. Torque experienced by a current loop in a uniform magnetic field; moving coil galvanometer-its current sensitivity & conversion to ammeter & voltmeter, Inter-conversion of voltmeter & ammeter & change of their ranges.

Magnetics: Current loop as a magnetic dipole & its magnetic dipole moment, magnetic dipole moment of a revolving electron, magnetic field intensity due to a magnetic dipole bar magnet along its axis & perpendicular to its axis, torque on a magnetic dipole (bar magnet) in a uniform magnetic field; magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field & its magnetic elements. para-, dia- & ferro- magnetic substances, with examples. Electromagnets & the factors affecting their strengths, permanent magnets.

Electromagnetic induction & alternating current: Electromagnetic induction; Faraday's laws, induced emf & current; Lenz's Law, eddy currents, self & mutual induction, alternating currents, peak and rms value of alternating current and voltage; reactance and impedance; LR & CR circuits, phase lag & lead, LCR series circuit, resonance; power in AC circuits, wattless current.

Electromagnetic waves: Electromagnetic waves and their characteristics (qualitative ideas only), transverse nature of electromagnetic waves, electromagnetic spectrum, applications of the waves from the different parts of the spectrum

Optics I (Ray optics): Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection & its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula. Newton's relation: Displacement method to find position of images (conjugate points) Magnification, power of a lens, combination of thin lenses in contact, combination of a lens & a mirror refraction and dispersion of light through a prism; optical instruments, human eye, image formation & accommodation, correction of eye

defects (myopia, hypermetropia) using lenses, microscopes & astronomical telescopes (reflecting & refracting) & their magnifying powers.

Optics II (Wave Optics): Scattering of light - blue colour of the sky, elementary idea of Raman effect; wave optics: wave front & Huygens' principle, reflection & refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection & refraction using Huygens' principle Interference, Young's double slit experiment & expression for fringe width, coherent sources, Fraunhofer diffraction due to a single slit,

Particle nature of light & wave particle dualism: Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation - particle nature of light, matter waves; wave nature of particles, de Broglie relation.

Atomic Physics: Alpha-particle scattering expt Rutherford's nuclear atom model of atom; Bohr model of hydrogen atom, energy levels in a hydrogen atom, hydrogen spectrum, continuous & characteristic x-rays.

Nuclear Physics: Composition & size of nucleus, atomic masses, isotopes, isobars; isotones, radioactivity - alpha, beta & gamma particles/ rays & their properties; radioactive decay law; mass-energy relation, mass defect; binding energy per nucleon & its variation with mass number; nuclear fission & fusion.

Solid state Electronics: Energy bands in solids (qualitative ideas only), conductors, insulators & semiconductors; semiconductor diode – I-V characteristics in forward & reverse bias, diode as a rectifier;

I-V characteristics of LED, photodiode, solar cell & Zener diode; Zener diode as a voltage regulator, junction transistor (BJT), transistor action, characteristics of a BJT, BJT as an amplifier (CE configuration) & oscillator; logic gates (OR, AND, NOT, NAND & NOR).

CHEMISTRY

Atoms, Molecules and Chemical Arithmetic:

Dalton's atomic theory; Gay Lussac's law of gaseous volume; Avogadro's Hypothesis and its applications. Atomic mass; Molecular mass; Equivalent weight; Valency; Gram atomic weight; Gram molecular weight; Gram equivalent weight and mole concept; Chemical formulae; Balanced chemical equations; Calculations (based on mole concept) involving common oxidation – reduction, neutralization, and displacement reactions; Concentration in terms of mole fraction, molarity, molality and normality. Percentage composition, empirical formula and molecular formula; Numerical problems.

Atomic Structure:

Concept of Nuclear Atom – electron, proton and neutron (charge and mass), atomic number. Rutherford's model and its limitations; Extra nuclear structure; Line spectra of hydrogen atom. Quantization of energy (Planck's equation $E = h\nu$); Bohr's model of hydrogen atom and its limitations, Sommerfeld's modifications (elementary idea); The four quantum numbers, ground state electronic configurations of many electron atoms and mono – atomic ions; The Aufbau Principle; Pauli's Exclusion Principle and Hund's Rule. Dual nature of matter and light, de Broglie's relationship, Uncertainty principle; The concept of atomic orbitals, shapes of s, p and d orbitals (pictorial approach).

Radioactivity and Nuclear Chemistry:

Radioactivity α -, β -, γ rays and their properties; Artificial transmutation; Rate of radioactive decay, decay constant, half-life and average age life period of radio-elements; Units of radioactivity; Numerical problems. Stability of the atomic nucleus – effect of neutron-proton (n/p) ratio on the modes of decay, group displacement law, radioisotopes and their uses (C, P, Co and I as examples) isobars and isotones (definition and examples), elementary idea of nuclear fission and fusion reactions.

The Periodic Table and Chemical Families:

Modern periodic law (based on atomic number); Modern periodic table based on electronic configurations, groups (Gr. 1-18) and periods. Types of elements – representative (s-block and p-block), transition (d-block) elements and inner transition (f-block/lanthanides and actinides) and their general characteristics. Periodic trends in physical and chemical properties – atomic radii, valency, ionization energy, electron affinity, electronegativity, metallic character, acidic and basic characters of oxides and hydrides of the representative elements (up to $Z = 36$). Position of hydrogen and the noble gases in the periodic table; Diagonal relationships.

Chemical Bonding and Molecular Structure:

Valence electrons, the Octet rule, electrovalent, covalent and coordinate covalent bonds with examples; Properties of electrovalent and covalent compounds. Limitations of Octet rule (examples); Fajans Rule. Directionality of covalent bonds, shapes of poly-atomic molecules (examples); Concept of hybridization of atomic orbitals (qualitative pictorial approach): sp , sp^2 , sp^3 and dsp^2 . Molecular orbital energy diagrams for homonuclear diatomic species – bond order and magnetic properties. Valence Shell Electron Pair Repulsion (VSEPR) concept (elementary idea) – shapes of molecules. Concept of resonance (elementary idea), resonance structures (examples). Elementary idea about electronegativity, bond polarity and dipole moment, inter- and intra-molecular hydrogen bonding and its effects on physical properties (mp, bp and solubility); Hydrogen bridge bonds in diborane.

Coordination Compounds:

Introduction, Double salts and complex salts, coordination compounds (examples only), Werner's theory, coordination number (examples of coordination number 4 and 6 only), colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds.

Solid State:

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n & p type semiconductors.

Liquid State:

Vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations).

Gaseous State:

Measurable properties of gases. Boyle's Law and Charles Law, absolute scale of temperature, kinetic theory of gases, ideal gas equation – average, root mean square and most probable velocities and their relationship with

temperature. Daltons Law of partial pressure, Grahams Law of gaseous diffusion. Deviations from ideal behavior. Liquefaction of gases, real gases, van der Waals equation; Numerical problems.

Chemical Energetics and Chemical Dynamics:

Chemical Energetics – Conservation of energy principle, energy changes in physical and chemical transformations. First law of thermodynamics; Internal energy, work and heat, pressure – volume work; Enthalpy. Internal energy change (ΔE) and Enthalpy change (ΔH) in a chemical reaction. Hess's Law and its applications (Numerical problems). Heat of reaction, fusion and vaporization; Second law of thermodynamics; Entropy; Free energy; Criterion of spontaneity. Third law of thermodynamics (brief introduction).

Chemical Equilibria – The Law of mass action, dynamic nature of chemical equilibria. Equilibrium constants, Le Chatelier's Principle. Equilibrium constants of gaseous reactions (K_p and K_c) and relation between them (examples). Significance of ΔG and ΔG° .

Chemical Dynamics – Factors affecting the rate of chemical reactions (concentration, pressure, temperature, catalyst), Concept of collision theory. Arrhenius equation and concept of activation energy.

Order and molecularity (determination excluded); First order reactions, rate constant, half – life (numerical problems), examples of first order and second order reactions.

Physical Chemistry of Solutions:

Colloidal Solutions – Differences from true solutions; Hydrophobic and hydrophilic colloids (examples and uses); Coagulation and peptization of colloids; Dialysis and its applications; Brownian motion; Tyndall effect and its applications; Elementary idea of emulsion, surfactant and micelle.

Electrolytic Solutions – Specific conductance, equivalent conductance, ionic conductance, Kohlrausch's law, Faraday's laws of electrolysis, applications. Numerical problems.

Non-electrolytic Solutions – Types of solution, vapour pressure of solutions. Raoult's Law; Colligative properties – lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure and their relationships with molecular mass (without derivations); Numerical problems.

Ionic and Redox Equilibria:

Ionic equilibria – ionization of weak electrolytes, Ostwald's dilution law. Ionization constants of weak acids and bases, ionic product of water, the pH – scale, pH of aqueous solutions of acids and bases; Buffer solutions, buffer action and Henderson equation.

Acid-base titrations, acid – base indicators (structures not required). Hydrolysis of salts (elementary idea), solubility product, common ion effect (no numerical problems).

Redox Equilibria: Oxidation – Reduction reactions as electron transfer processes, oxidation numbers, balancing of redox reactions by oxidation number and ion-electron methods. Standard electrode potentials (E°), Electrochemical series, feasibility of a redox reaction. Significance of Gibbs's equation: $\Delta G^\circ = -nF\Delta E^\circ$ (without derivation), no numerical problems. Redox titrations with (examples); Nernst equations (Numerical problems).

Hydrogen:

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen, hydrides-ionic covalent and interstitial; physical and chemical properties of water, heavy water, hydrogen peroxide – preparation, reactions and structure and use; hydrogen as a fuel.

Chemistry of Non-Metallic Elements and their Compounds:

Carbon – occurrence, isotopes, allotropes (graphite, diamond, fullerene); CO and CO₂ production, properties and uses. Nitrogen and Phosphorus – occurrence, isotopes, allotropes, isolation from natural sources and purification, reactivity of the free elements. Preparation, properties, reactions of NH₃, PH₃, NO, NO₂, HNO₂, HNO₃, P₄O₁₀, H₃PO₃ and H₃PO₄.

Oxygen and Sulphur – Occurrence, isotopes, allotropic forms, isolation from natural sources and purification, properties and reactions of the free elements. Water, unusual properties of water, heavy water (production and uses). Hydrogen peroxide and ozone (production, purification, properties and uses).

Halogens – comparative study, occurrence, physical states and chemical reactivities of the free elements, peculiarities of fluorine and iodine; Hydracids of halogens (preparation, properties, reactions and uses), inter-halogen compounds (examples); Oxyacids of chlorine.

Chemistry of Metals:

General principles of metallurgy – occurrence, concentration of ores, production and purification of metals, mineral wealth of India. Typical metals (Na, Ca, Al, Fe, Cu and Zn) – occurrence, extraction, purification (where applicable), properties and reactions with air, water, acids and non-metals. Manufacture of steels and alloy steel (Bessemer, Open-Hearth and L.D. process).

Principles of chemistry involved in electroplating, anodizing and galvanizing. Preparation and properties of K₂Cr₂O₇ and KMnO₄.

Lanthanoids – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.

Actinoids – Electronic configuration, oxidation states and comparison with lanthanoids.

Chemistry in Industry:

Large scale production (including physicochemical principles where applicable, omitting technical details) and uses of Sulphuric acid (contact process), Ammonia (Haber's process), Nitric acid (Ostwald's process), sodium bicarbonate and sodium carbonate (Solvay process).

Polymers:

Natural and synthetic polymers, methods of polymerization (addition and condensation), copolymerization, some important polymers – natural and synthetic like polythene, nylonpolyesters, bakelite, rubber. Biodegradable and non-biodegradable polymers.

Surface Chemistry:

Adsorption – physisorption and chemisorption, factors affecting adsorption of gases on solids, catalysis, homogenous and heterogenous activity and selectivity; enzyme catalysis colloidal state distinction between true

solutions, colloids and suspension; lyophilic, lyophobic multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation, emulsion – types of emulsions.

Environmental Chemistry:

Common modes of pollution of air, water and soil. Ozone layer, ozone hole – important chemical reactions in the atmosphere, Smog; major atmospheric pollutants; Green House effect; Global warming pollution due to industrial wastes, green chemistry as an alternative tool for reducing pollution, strategies for control of environment pollution.

Chemistry of Carbon Compounds:

Hybridization of carbon: σ – and π – bonds. Isomerism – constitutional and stereoisomerism; Geometrical and optical isomerism of compounds containing upto two asymmetric carbon atoms. IUPAC nomenclature of simple organic compounds – hydrocarbons, mono and bifunctional molecules only (alicyclic and heterocyclic compounds excluded).

Conformations of ethane and n-butane (Newman projection only). Electronic Effects: Inductive, resonance and hyperconjugation. Stability of carbocation, carbanion and free radicals; Rearrangement of carbocation; Electrophiles and nucleophiles, tautomerism in β -dicarbonyl compounds, acidity and basicity of simple organic compounds.

Compounds:

Alkanes – Preparation from alkyl halides and carboxylic acids; Reactions — halogenation and combustion.

Alkenes and Alkynes – Preparation from alcohols; Formation of Grignard reagents and their synthetic applications for the preparation of alkanes, alcohols, aldehydes, ketones and acids; S_N1 and S_N2 reactions (preliminary concept). Markownikoff's and anti-Markownikoff's additions; Hydroboration;

Oxymercuration-demercuration, reduction of alkenes and alkynes (H_2 /Lindler catalyst and Na in liquid NH_3), metal acetylides.

Haloalkanes and Haloarenes:

Haloalkanes – Preparation from alcohols; Nomenclature, nature of C -X bond, physical and chemical properties, mechanism of substitution reactions, optical rotation. Formation of Grignard reagents and their synthetic applications for the preparation of alkanes, alcohols, aldehydes, ketones and acids; S_N1 and S_N2 reactions (preliminary concept). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Alcohols:

Preparation of alcohols from carbonyl compounds and esters. Reaction – dehydration, oxidation, esterification, reaction with sodium, $ZnCl_2/HCl$, phosphorous halides.

Ethers – Preparation by Williamson's synthesis; Cleavage with HCl and HI. Aldehydes and Ketones – Preparation from esters, acid chlorides, gem-dihalides, Ca-salt of carboxylic acids. Reaction – Nucleophilic addition with HCN, hydrazine, hydroxyl amines, semi carbazides, alcohols; Aldol condensation, Clemmensen and Wolff – Kishner reduction, haloform, Cannizzaro and Wittig reactions.

Carboxylic Acids – Hydrolysis of esters (mechanism excluded) and cyanides; Hunsdicker and HVZ reactions.

Aliphatic Amines – Preparation from nitro, cyano and amido compounds. Distinction of 1^o, 2^o and 3^o amines (Hinsberg method); Reaction with HNO₂; Carbyl amine reaction.

Aromatic Compounds:

Benzene – Kekule structure, aromaticity and Hückel rule. Electrophilic substitution – halogenation, sulfonation, nitration, Friedel Crafts reaction, ozonolysis. Directive influence of substituents in monosubstituted benzenes. Carcinogenicity and toxicity.

Amines – Preparation from reduction of nitro compounds; Formation of diazonium salts and their stability; Replacement of diazonium group with H, OH, X (halogen), CN and NO₂, diazocoupling and reduction.

Haloarenes – Nature of C -X bond, substitution reactions; Nucleophilic substitution, cine substitution (excluding mechanism, Directive influence of halogen in monosubstituted compounds only).

Phenols – halogenation, sulfonation, nitration, Reimer – Tiemann and Kolbe reactions. Aromatic Aldehydes – Preparation by Gattermann, Gattermann-Koch, Rosenmund and Stephen's method. Reactions – Perkin, Benzoin and Cannizzaro.

Application Oriented chemistry:

Main ingredients, their chemical natures (structures excluded) and their side effects, if any, of common antiseptics, analgesics, antacids, vitamin-C.

Introduction to Bio-Molecules:

Carbohydrates – Pentoses and hexoses. Distinctive chemical reactions of glucose. Aminoacids – glycine, alanine, aspartic acid, cysteine (structures). Zwitterion structures of amino acids, peptide bond.

ADP and ATP – structures and role in bioenergetics; Nucleic acids – DNA and RNA skeleton structures. Names of essential elements in biological system.

Principles of Qualitative Analysis:

Detection of water soluble non-interfering Acid and Basic Radicals by dry and wet tests from among:

Acid Radicals: Cl⁻, S₂⁻, SO₄²⁻, NO₃⁻, CO₃²⁻. **Basic Radicals:** Cu²⁺, Al³⁺, Fe³⁺, Fe²⁺, Zn²⁺, Ca²⁺, Mg²⁺, Na⁺, NH₄⁺.

Detection of special elements (N, Cl, Br, I and S) in organic compounds by chemical tests. Identification of functional groups in: phenols, aromatic amines, aldehydes, ketones and carboxylic acids.

BIOLOGY

Science of Life

Basic unit of life process; Cell Theory; prokaryotic and eukaryotic cells- structure and differences

Ultra structure and functions of cellular components

Cell wall, plasma membrane, plastids, endoplasmic reticulum, Golgi bodies, mitochondria, ribosomes, lysosomes, nucleus, nucleolus, centrosome, microbodies (peroxisomes and glyoxysomes), cytoskeleton, vacuole, centriole, cilia, flagella

Chemical constituents of living cells

Classification, components and structural properties of carbohydrates, lipids, proteins and nucleic acids; enzymes, enzymatic action (lock and key, allosterism, regulation)

Chromosome

Morphology of chromosomes; brief idea of polytene chromosomes; euchromatin and heterochromatin; nucleic acids as genetic material (viral transduction and bacterial transformation)

Cell division

Cell cycle; mitosis- definition and significance (process not required); meiosis- process, types and significance; difference between mitosis and meiosis

Genetics and Evolution

Mendelian inheritance (laws only); deviations from Mendelism- (i) incomplete dominance, (ii) codominance, (iii) multiple alleles and inheritance of blood groups (ABO, Rh); phylogenetic inheritance (elementary); chromosome theory of inheritance; chromosomes and genes; sex determination in humans, birds and honey bees; linkage and crossing over; sex-linked inheritance- haemophilia, colour blindness; Mendelian disorders in humans- (i) autosomal (a) Thalassaemia (b) Down syndrome; (ii) sex-linked (a) Turner's syndrome (b) Klinefelter's syndrome (cause and symptoms only)

Molecular basis of inheritance

DNA as the genetic material (Griffith, Avery-MacLeod-McCarty and Hershey-Chase experiments); structure of DNA and RNA; types of RNA- mRNA, rRNA and t-RNA; DNA packaging; central dogma (elementary); DNA replication; transcription; genetic code; translation; elementary knowledge of regulation of gene expression (lac operon); DNA finger printing (basic idea only)

Evolution

Origin of life- theories of origin of life; abiogenic origin/chemical origin of life- Oparin-Haldane hypothesis; biological evolution- evidences, theories of organic evolution, Darwin's contribution, synthetic theory; mechanism of evolution- variation and its sources of origin, mutation, recombination; gene flow and genetic drift; Hardy-Weinberg principle; human evolution- an outline

Morphological variations and structural organization

Plant tissue and tissue system- types, structure and functions; animal tissue- classification, structure and functions in brief

Physiology and Biochemistry

Plants

1. Movements of water, nutrients and gases: absorption of gases, water and nutrients; cell-to-cell transport, diffusion, active transport; plant-water relation- imbibitions, water potential, osmosis and plasmolysis; long distance transport- apoplastic, symplastic, root pressure, transpiration pull, uptake of minerals; transpiration and guttation; opening and closing of stomata; transport through xylem and phloem
2. Essential minerals: macro and micro nutrients and their functions; elementary idea of hydroponics; nitrogen metabolism; nitrogen cycle; biological nitrogen fixation
3. Respiration: cellular respiration- glycolysis, fermentation, TCA cycle and ETS (aerobic)- definition, process and significance; energy relation- number of ATP molecules generated in respiration; amphibolic pathways; respiratory quotients of nutrients
4. Photosynthesis: definition; site of photosynthesis; photosynthetic pigments (structure not required); photochemical and biosynthetic phases; photorespiration; C3 and C4 pathways; factors controlling photosynthesis
5. Growth and development: idea of growth, differentiation and development; various growth factors (light, temperature, water, nutrients, hormones only); growth rate; growth regulation- auxin, gibberellins, cytokinin, ethylene, ABA; seed germination, seed dormancy, vernalisation; photoperiodism- definition, types of plants on the basis of the length of photoperiod
6. Reproduction: mode of reproduction- sexual and asexual; asexual reproduction- definition, characteristics, modes (binary fission, sporulation, budding, gemmule formation, fragmentation, regeneration, vegetative propagation, cutting, grafting, layering and gootee); sexual reproduction- flower structure; pollination (autogamy and geitonogamy); cross pollination (allogamy and xenogamy); agents of pollination- brief description with examples; significance; development of male gametophyte and female gametophyte; out breeding devices; pollen-pistil interaction, double fertilization; post-fertilization events- development of endosperm and embryo (in brief); formation of fruit and development of seed (elementary); special modes- apomixes, parthenogenesis, parthenocarpy and polyembryony (brief account); significance of fruit and seed formation

Animals: Human

1. Digestion and absorption: Structure of human alimentary canal including dental arrangement and digestive glands (in brief); peristalsis; digestion, role of digestive enzymes and the Cr-I hormones in digestion; absorption, assimilation of carbohydrates, protein and fats; egestion; nutritional and digestive disorder- protein-energy malnutrition (PEM), indigestion, constipation, vomiting, jaundice, diarrhoea (brief idea)
2. Breathing and respiration: respiratory organs in animals (in brief); respiratory system in human (outline); mechanism of breathing and its regulation in human body; exchange of gases, transport of gases; regulation of respiration; respiratory volume; disorders related to respiration- asthma, emphysema, occupational respiratory disorders (e.g. Silicosis, asbestosis); definition of hypoxia, anoxia, apnoea, dyspnoea
3. Body fluids and circulation: composition of blood (in tabular form); blood grouping; coagulation of blood; lymph and its function; outline idea of human circulatory system; structure of human heart and blood vessels; cardiac cycle, cardiac output, stroke volume, minute volume, determination of cardiac output- Fick's principle; double circulation; regulation of cardiac activity (neural and hormonal) including factors regulating blood pressure; disorders of circulatory system- hypertension, coronary artery disease, angina pectoris, heart failure (brief idea only)

4. Excretory products and their elimination: modes of excretion- ammonotelism, ureotelism, uricotelism (definition and examples); human excretory system- structure and function (histology of nephron); urine formation and osmoregulation; regulation of kidney functions, rennin, angiotensin, antidiuretic factor (ADH) and diabetes insipidus; role of other organs in excretion- liver, skin, lung and salivary glands; disorders- uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney (brief idea only)
5. Locomotion and movement: types of movement-ciliary, flagellar and muscular; skeletal muscle contractile proteins and its function; joints; disorders of muscular and skeletal system- myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, and gout (brief idea only)
6. Neural control and coordination: brief idea of neurons and nerves, neural control and coordination; nervous system of human- central, peripheral and visceral; brain and its major parts- cerebral cortex, thalamus, hypothalamus and limbic system; midbrain, pons, medulla, cerebellum and spinal cord (outline idea); distribution and function of peripheral nervous system and autonomic nervous system; generation and conduction of nerve impulse; reflex action and reflex arc; sense organs- sensory perception; outline structure and function of eye and ear
7. Chemical coordination and regulation: endocrine glands and hormones; human endocrine system- hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads- location and function only; elementary idea of hormone action, role of hormones as messengers and regulators; hypo- and hyperactivity of endocrine glands and related diseases- dwarfism, acromegaly, cretinism, goitre, exophthalmic goitre, diabetes, Addison's disease (brief idea of cause and symptoms only)
8. Reproduction: male and female reproductive system (outline idea with diagram); microscopic anatomy of testis and ovary; gametogenesis (brief account); menstrual cycle; fertilization and development of embryo up to blastocyst formation; implantation, pregnancy and placenta formation; elementary idea of parturition and lactation

Taxonomy, Systematics and Biodiversity

Definition; binomial nomenclature; Law of priority; need for classification; genetic diversity; species diversity, ecosystem diversity, biodiversity; five kingdom classification; salient features and classification of plants and animals

Ecology and Environment

Concept of ecology, ecosystem, environment, habitat and niche; biome concept and distribution; major abiotic factors; response to abiotic factors and adaptation; population interaction- mutualism, competition, predation, parasitism; population attributes- growth, birth rate and death rate; trophic relationship, pyramids of number, biomass and energy; ecological succession

Biodiversity and Conservation

Pattern of biodiversity; importance and loss of biodiversity; need of biodiversity conservation; hotspot; endangered species; extinction; Red Data Book and Green Data Book; biodiversity conservation- biosphere reserve, national parks and sanctuaries (general idea)

Environmental issues

Sound, air, water pollution and their control; agrochemical and their effects; green house effect and global warming; ozone depletion; deforestation; idea of success stories addressing environmental issues- 1) Chipko Movement, 2) Dasholi Gram Swarajya Mandal Movement (DGSM), Silent Valley or Amrita Devi Bishnoi Movement (Jaipur); concept and biomagnifications and bioaccumulation; cause of dyslexia, Minamata and itai-itai diseases; idea of BOD, COD, acid rain, ozone hole

Microbes and human welfare

Morphological characteristics of bacteriophage (T2), plant virus (TMV), animal virus (influenza) and bacteria (E. coli), gram negative and gram positive bacteria (characteristics and examples)

Health and diseases

Concept of immune system, antibody, antigen and its reactions; types of immunity, vaccine and vaccination (brief idea); pathogens and parasites causing human diseases (only causative agents, symptoms of diseases, modes of transmission and preventive measures)- malaria, kala azar, amoebiasis, filariasis, ascariasis, typhoid, pneumonia, common cold, ring worm, HIV, AIDS, cancer

Biotechnology and its applications

Principle and process of genetic engineering (recombinant DNA technology); cloning of microbial genes (brief idea only); application of biotechnology in health and agriculture- in household food processing; industrial production, energy generation, sewage treatment; Rhizobium and other nitrogen fixing bacteria, biofertilizers and biopesticides, industrial production of curd; tanning and brewery, synthesis of antibiotics, vitamins, human insulin and vaccine production; gene therapy, transgenesis, transgenic animals and plants with examples (including BT cotton)

APPENDIX –II

Procedures to be followed in the Examination

1. The Examination Hall will be opened 15 minutes before the commencement of the test. Candidates are expected to take their seats immediately after the opening of Examination Hall. If the candidates do not report in time, they are likely to miss some of the general instructions to be announced in the Examination Hall.
2. Candidate must bring with them i) Downloaded Admit Card of WBJEEM-2015, ii) One copy of photograph, same as the one uploaded; iii) Black / Blue Ball Point Pen.
3. Candidates must show on demand the Admit Card (WBJEEM-2015) for admission to the Examination Hall. A candidate not possessing print out of the downloaded admit card along with the photograph shall not be allowed to enter in the Examination Hall by the Center-in-Charge.
4. A seat indicating Roll No. will be allocated to each candidate. Candidates must find out and occupy their allocated seat.
5. **Candidates are not allowed to carry any textual material, printed or written, bits of papers or any other material except those listed under. SL.No.-2 inside examination Hall.**
6. **Mobile Phones, Calculators, Slide Rules, Log Tables, Electronic Watches with facilities of Calculator are not allowed in the Examination Hall. Possession of such items during the Examinations may lead to cancellation of candidature.**
7. No candidate, without the special permission of the Centre-in-Charge or the invigilator concerned, will leave his/her seat or Examination Hall until the duration of examination for a paper is over. Candidate should not leave the hall without handing over their OMR sheet to the invigilator on duty; this may otherwise lead to cancellation of the concerned paper.
8. It is to be noted carefully that the candidates must write the "Question Booklet No." at the indicated places both on the OMR Answer Sheet and Attendance Sheet during examination. Otherwise his/her OMR Answer sheet in the concerned subject will be cancelled.
9. Candidates shall maintain silence during the examination. Any conversation or gesticulation or disturbance in the examination hall shall be deemed as misdemeanour. If a candidate is found adopting unfair means, his/her candidature shall be cancelled and he/she will be liable to be debarred from taking examination either permanently or for a period according to the nature of offence.

If a candidate is found impersonating, his/her candidature will be cancelled outright and the concerned examinee will be handed over to the Police.

APPENDIX – III

DOS AND DONTs

<u>Dos</u>	
1.	Read the online instructions carefully before filling-in of the Application Form online.
2.	Specify all personal information, address and date of birth correctly.
3.	Remember your application number, security question/answer and password.
4.	Choose the District and examination zones correctly.
5.	Upload colour photograph, LTI and signature with specified size only
6.	Retain a copy of the Confirmation Page.
7.	Enter the examination hall only with your Admit Card, one photograph and blue/black ball point pens.
8.	Submit the OMR Answer Sheet to the Invigilator after completion of each session of Examination.
9.	Write the Question Booklet No. in specified places on both the OMR Answer Sheet and Attendance Sheet.
<u>Don'ts</u>	
1.	Don't divulge your application number, security question/answer and password to anybody.
2.	Don't give wrong/unused mobile number during form fill up.
3.	Don't send poorly scanned photograph and thumb impression.
4.	Don't sign in capital letters, sign your full signature and upload as per specifications.
5.	Don't claim any credentials for which supporting documents are not available.
6.	Don't send duly filled in Confirmation Page or any document through post.
7.	Don't spoil the hard copy of your downloaded admit card.
8.	Don't bring Mobile Phone, Calculator or any other electronic gadget inside the Examination Hall.

APPENDIX –IV
LIST OF BRANCH CODES

Sl.No	Course /Branch Name	Branch Code
1	Agricultural Engineering	AGR
2	Apparel Production Management	APM
3	Applied Electronics & Instrumentation Engineering / Electronics & Instrumentation Engineering/Instrumentation & Electronics Engg.	EIE
4	Architecture	ARC
5	Automobile Engineering	ATE
6	Bio Medical Engineering	BMD
7	Bio Technology	BOT
8	Ceramic Engineering/Technology	CRM
9	Chemical Engineering	CHE
10	Chemical Technology	CHT
11	Civil Engineering	CIV
12	Civil and Environmental Engineering	CEE
13	Computer Science & Engineering Technology / Computer Science & Technology	CSE
14	Construction Engineering	COE
15	Dairy Technology	DAT
16	Electrical & Electronics Engineering	EEE
17	Electrical Engineering	ELE
18	Electronics & Communication Engineering/Electronics & Telecommunication Engineering	ECE
19	Food Technology	FET
20	Information Technology	INT
21	Instrumentation Engineering	INE
22	Instrumentation and Control Engineering	ICE
23	Jute & Fibre Technology	JFT
24	Leather Technology	LET
25	Marine Engineering	MRE
26	Mechanical Engineering	MEC
27	Metallurgical Engineering	MET
28	Optics and Optoelectronics	OOE
29	Pharmaceutical Engineering / Pharmaceutical Technology	PHE
30	Power Engineering	PWE
31	Polymer Science & Technology	PST
32	Printing Engineering / Printing Technology	PRT
33	Production Engineering	PRO
34	Textile Engineering / Textile Technology	TEX

APPENDIX – V

List of Universities & Colleges offering Engineering/Technology, Pharmacy & Architecture Courses

Sl. No.	Institute Name	Available courses (Tentative)	Institute Type
1.	BIDHAN CHANDRA KRISHI VISWAVIDYALAYA, KALYANI	AGR	U
2.	UNIVERSITY OF CALCUTTA	JFT, CHE, CHT, CSE, ECE, ELE, INT, INE, OOE, PST	U
3.	JADAVPUR UNIVERSITY, KOLKATA	ARC, CHE, CIV, CSE, COE, ECE, ELE, FET, INT, EIE, MEC, MET, PWE, PRO, PRT	U
4.	UNIVERSITY OF KALYANI – SCIENCE INSTRUMENTATION CENTRE, KALYANI	EIE, INT	U
5.	UNIVERSITY INSTITUTE OF TECHNOLOGY, BURDWAN UNIVERSITY, BURDWAN (Self Financing Courses)	EIE, CIV, CSE, ECE, ELE, INT	U
6.	UTTAR BANGA KRISHI VISWAVIDYALAYA, COOCHBEHAR	AGR	U
7.	WEST BENGAL UNIVERSITY OF ANIMAL & FISHERY SCIENCES, HARINGHATA, KALYANI	DAT	U
8.	WEST BENGAL UNIVERSITY OF TECHNOLOGY, SALT LAKE	CSE, INT	U
9.	GOVT. COLLEGE OF ENGINEERING & CERAMIC TECHNOLOGY, KOLKATA	CRM, CSE, INT	G
10.	GOVT. COLLEGE OF ENGINEERING & TEXTILE TECHNOLOGY-SERAMPUR	APM, CSE, INT, TEX	G
11.	GOVT. COLLEGE OF ENGG. & TEXTILE TECHNOLOGY-BERHAMPUR	CSE, ELE, MEC, TEX	G
12.	GOVERNMENT COLLEGE OF ENGINEERING AND LEATHER TECHNOLOGY, SALT LAKE	CSE, INT, LET	G
13.	INSTITUTE OF PHARMACY, JALPAIGURI	PHE	G
14.	JALPAIGURI GOVERNMENT ENGINEERING COLLEGE	CIV, CSE, ECE, ELE, INT, MEC	G
15.	KALYANI GOVERNMENT ENGINEERING COLLEGE	CSE, ECE, ELE, INT, MEC	G
16.	ABACUS INSTITUTE OF ENGINEERING & MANAGEMENT, MOGRA, HOOGHLY	EIE, CSE, ECE, ELE, INT	P
17.	ACADEMY OF TECHNOLOGY, BANDEL, HOOGHLY	EIE, CSE, ECE, ELE, INT, MEC	P
18.	ADMAS INSTITUTE OF TECHNOLOGY, BARASAT	CIV, CSE, ECE, ELE, INT, MEC	P
19.	ARYABHATTA INSTITUTE OF ENGINEERING & MANAGEMENT, PANAGARH, BURDWAN	CIV, CSE, ECE, ELE, EEE, INT, MEC	P
20.	ASANSOL ENGINEERING COLLEGE, ASANSOLE	EIE, CIV, CSE, ECE, ELE, INT, MEC	P
21.	B.P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY, VIP ROAD, KOLKATA		P
22.	BANKURA UNNAYANI INSTITUTE OF ENGINEERING	EIE, CIV, CSE, ECE, ELE, INT, MEC	P
23.	BATANAGAR INSTITUTE OF ENGINEERING, MANAGEMENT & SCIENCE, BATANAGAR	CIV, CSE, ECE, ELE, MEC	P
24.	BENGAL COLLEGE OF ENGINEERING &	CSE, ECE, ELE, EEE, INT	P

	TECHNOLOGY FOR WOMEN, DURGAPUR		
25.	BENGAL COLLEGE OF ENGINEERING & TECHNOLOGY, DURGAPUR	EIE,BOT,CIV,CSE,ECE,ELE,EEE,INT,MEC	P
26.	BENGAL INSTITUTE OF TECHNOLOGY & MANAGEMENT, SHANTINIKETAN,BIRBHUM	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
27.	BENGAL INSTITUTEL OF TECHNOLOGY, BANTALA,KOLKATA	BOT,CSE,ECE,INT,	P
28.	BIRBHUM INSTITUTE OF ENGINEERING & TECHNOLOGY,SURI	CIV,CSE,ECE,ELE,INT,MEC	P
29.	BRAINWARE GROUP OF INSTITUTIONS, BARASAT	CIV,CSE,ECE,ELE,INT,MEC	P
30.	BUDGE BUDGE INSTITUTE OF TECHNOLOGY, BUDGE BUDGE	CIV,CSE,ECE,ELE,MEC	P
31.	CALCUTTA INSTITUTE OF ENGINEERING & MANAGEMENT, TALLYGUNJ, KOLKATA	CIV,CSE,ECE,ELE,ICE,INT	P
32.	CALCUTTA INSTITUTE OF TECHNOLOGY, ULUBERIA, HOWRAH	CHE,CIV,CSE,ECE,ELE,MEC	P
33.	CAMELIA INSTITUTE OF ENGINEERING & TECHNOLOGY, BUD BUD, BURDWAN	CIV,CSE,ECE,ELE,MEC	P
34.	CAMELIA INSTITUTE OF ENGINEERING, BADU ROAD,MADHYAMGRAM	CIV,CSE,ECE,ELE,MEC	P
35.	CAMELIA INSTITUTE OF TECHNOLOGY & MANAGEMENT, BAINCHI,HOOGLY	CIV,CSE,ECE,ELE,MEC	P
36.	CAMELIA INSTITUTE OF TECHNOLOGY, MADHYAMGRAM, 24-PGS-NORTH	EIE,CIV,CSE,ECE,ELE,EEE,INT,MEC	P
37.	CAMELIA SCHOOL OF ENGINEERING & TECHNOLOGY, BADU,MADHYAMGRAM,24-PGS-NORTH	CIV,CSE,ECE,ELE,EEE,INT,MEC	P
38.	COLLEGE OF ENGINEERING AND MANAGEMENT, KOLAGHAT, EAST MIDNAPUR	EIE,CSE,ECE,ELE,INT,MEC	P
39.	DR. B. C. ROY ENGINEERING COLLEGE, DURGAPUR	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
40.	DR. SUDHIR CHANDRA SUR DEGREE ENGINEERING COLLEGE,DUM DUM, KOLKATA	ATE,CIV,CSE,ECE,ELE,MEC	P
41.	DREAM INSTITUTE OF TECHNOLOGY, NAHAZARI,24-PGS-SOUTH	EIE,CSE,CSE,ELE,MEC	P
42.	DUMKAL INSTITUTE OF ENGINEERING & TECHNOLOGY, DUMKAL,MURSHIDABAD	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
43.	DURGAPUR INSTITUTE OF ADVANCED TECHNOLOGY & MANAGEMENT,PANAGARH	CHE,CSE,ECE,ELE,INT,MEC	P
44.	FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT,SONARPUR, KOLKATA	EIE,CSE,ECE,ELE,INT,MEC	P
45.	GARGI MEMORIAL INSTITUTE OF TECHNOLOGY, BARUIPUR, 24-PGS-SOUTH	CIV,CSE,ECE,ELE,MEC	P
46.	GLOBAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY, KRISHNANAGAR,NADIA	CIV,CSE,ECE,ELE,MEC	P
47.	GREATER KOLKATA COLLEGE OF ENGINEERING & MANAGEMENT, BARUIPUR, 24-PGS-SOUTH	EIE,CSE,ECE,ELE,INT	P
48.	HALDIA INSTITUTE OF TECHNOLOGY, EAST MIDNAPUR	EIE,BOT,CHE,CIV,CSE,ECE,ELE,FETINT,ICE,MEC,PRO	P

49.	HERITAGE INSTITUTE OF TECHNOLOGY, KOLKATA	EIE,BOT,CHE,CIV,CSE,ECE,ELE,INT,MEC	P
50.	HEMNALINI MEMORIAL COLLEGE OF ENGINEERING,HARINGHATA, NADIA	CEE,CIV,MEC,FET,CSE	P
51.	HOOGHLY ENGINEERING & TECHNOLOGY COLLEGE, HOOGHLY	CIV,CSE,ECE,ELE,MEC	P
52.	IDEAL INSTITUTE OF ENGINEERING,KALYANI,NADIA	CIV,CSE,ECE,ELE,MEC	
53.	IMPS COLLEGE OF ENGINEERING & TECHNOLOGY, MALDA	CIV,CSE,ECE,ELE,INT	P
54.	INSTITUTE OF ENGINEERING & MANAGEMENT, SALT LAKE	CSE,ECE,ELE,INT,MEC	P
55.	INSTITUTE OF SCIENCE AND TECHNOLOGY, CHANDRAKONA, WEST MIDNAPUR	CIV,CSE,ECE,ELE,EEE,MEC	P
56.	KANKSA ACADEMY OF TECHNOLOGY & MANAGEMENT, PANAGARH, BURDWAN	CIV,CSE,ECE,ELE,INT,MEC	P
57.	KANAD INSTITUTE OF ENGINEERING & MANAGEMENT, MANKAR, BURDWAN	CIV,CSE,ECE,ELE,EEE,INT,MEC	P
58.	MALLABHUM INSTITUTE OF TECHNOLOGY, BISHNUPUR, BANKURA	CIV,CSE,ECE,ELE,MEC	P
59.	MCKV INSTITUTE OF ENGINEERING, LILUAH, HOWRAH	ATE,CSE,ECE,ELE,INT,MEC	P
60.	MEGHNAD SAHA INSTITUTE OF TECHNOLOGY, KOLKATA	CIV,CSE,ECE,ELE,INT,MEC	P
61.	MODERN INSTITUTE OF ENGINEERING & TECHNOLOGY, BANDEL, HOOGHLY	EIE,CIV,CSE,ECE,ELE,MEC	P
62.	MURSHIDABAD COLLEGE OF ENGINEERING & TECHNOLOGY, MURSHIDABAD	CIV,CSE,ECE,ELE,INT	P
63.	NATIONAL POWER TRAINING INSTITUTE- DURGAPUR UNDER MINISTRY OF POWER, GOVT. OF INDIA – SELF FINANCING	PWE	P
64.	NEOTIA INSTITUTE OF TECHNOLOGY MANAGEMENT & SCIENCES, D.H.ROAD, 24-PGS-SOUTH	BOT,CSE,ECE,EEE,INT,MEC, MRE	P
65.	NETAJI SUBHAS ENGINEERING COLLEGE, GARIA, KOLKATA	EIE,BME,CIV,CSE,ECE,ELE,INT,MEC	P
66.	NSHM KNOWLEDGE CAMPUS, DURGAPUR	CIV,CSE,ECE,EEE,MEC	P
67.	OM DAYAL GROUP OF INSTITUTIONS, ULUBERIA, HOWRAH	ARC,CIV,CSE,ECE,MEC	P
68.	PAILAN COLLEGE OF MANAGEMENT & TECHNOLOGY, JOKA, 24-PGS-SOUTH	CSE,ECE,EEE,INT	P
69.	REGENT EDUCATION AND RESEARCH FOUNDATION,TITAGARH, 24-PGS-NORTH	CIV,CSE,ECE,ELE,EEE	P
70.	RCC INSTITUTE OF INFORMATION TECHNOLOGY,BELEGHATA, KOLKATA	EIE,CSE,ECE,ELE,INT	P
71.	SANAKA EDUCATION TRUSTS GROUP OF INSTITUTIONS, KANKSHA, BURDWAN	ARC,CIV,CSE,ECE,ELE,EEE,MEC	P
72.	SAROJ MOHAN INSTITUTE OF TECHNOLOGY,	EIE,CSE,ECE,ELE,INT,MEC	P

	GUPTIPARA,HOOGHLY		
73.	SEACOM ENGINEERING COLLEGE, SANKRAIL, HOWRAH	CIV,CSE,ECE,ELE,INT,MEC,MRE	P
74.	SILIGURI INSTITUTE OF TECHNOLOGY, SILIGURI	EIE,CIV,CSE,ECE,ELE,INT	P
75.	ST. THOMAS COLLEGE OF ENGINEERING & TECHNOLOGY, KHIDIRPUR, KOLKATA	CSE,ECE,ELE,INT	P
76.	SUPREME KNOWLEDGE FOUNDATION GROUP OF INSTITUTIONS, MANKUNDU, HOOGHLY	EIE,CIV,CSE,ECE,ELE,MEC	P
77.	SURENDRA INSTITUTE OF ENGINEERING & MANAGEMENT, SILIGURI	CIV,CSE,ECE,ELE,MEC	P
78.	SWAMI VIVEKANANDA INSTITUTE OF SCIENCE & TECHNOLOGY, SONARPUR, 24-PGS-SOUTH	CSE,ECE,ELE,MEC	P
79.	TECHNO GLOBAL-BALURGHAT, SOUTH DINAJPUR	CIV,CSE,ECE,ELE,INT	P
80.	TECHNO INDIA-BANIPUR, 24-PGS-NORTH	EIE,CSE,ECE,EEE,INT	P
81.	TECHNO INDIA COLLEGE OF TECHNOLOGY, RAJARHAT, SALT LAKE	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
82.	TECHNO INDIA, SALT LAKE	EIE,CIV,CSE,ECE,ELE,FET,INT,MEC	P
83.	GURU NANAK INSTITUTE OF TECHNOLOGY, PANIHATI,24-PGS-NORTH	EIE,CSE,ECE,ELE,FET,INT	P, M
84.	JIS COLLEGE OF ENGINEERING, KALYANI	EIE,BME,CIV,CSE,ECE,ELE,INT,MEC	P, M
85.	NARULA INSTITUTE OF TECHNOLOGY,AGARPARA, 24-PGS-NORTH	EIE,CIV,CSE,ECE,ELE,INT	P, M
86.	ST. MARYS TECHNICAL CAMPUS, BARASAT, 24-PGS-NORTH	CIV,CSE,ECE,EEE,MEC	P, M
87.	BCDA COLLEGE OF PHARMACY & TECHNOLOGY, HRIDAYPUR,BARASAT	PHE	P
88.	BENGAL COLLEGE OF PHARMACEUTICAL SCIENCE & RESEARCH, DURGAPUR	PHE	P
89.	BENGAL SCHOOL OF TECHNOLOGY, CHINSURA,HOOGHLY	PHE	P
90.	BHARAT TECHNOLOGY, ULUBERIA, HOWRAH	PHE	P
91.	CALCUTTA INSTITUTE OF PHARMACEUTICAL TECH. AND ALLIED HEALTH SCIENCES, ULUBERIA, HOWRAH	PHE	P
92.	DR. B. C. ROY COLLEGE OF PHARMACY AND ALLIED HEALTH SCIENCES, DURGAPUR	PHE	P
93.	GUPTA COLLEGE OF TECHNOLOGICAL SCIENCE	PHE	P
94.	GURU NANAK INSTITUTE OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY, PANIHATI,24-PGS-NORTH	PHE	P,M
95.	N.S.H.M. COLLEGE OF PHARMACEUTICAL TECHNOLOGY, TOLLYGUNJ, KOLKATA	PHE	P
96.	NETAJI SUBHASH CHANDRA BOSE INSTITUTE OF PHARMACY, CHAKDAH, NADIA	PHE	P

Legend: U – University/University Department, G – Govt. College,

APPENDIX – VI

List of Colleges offering M.B.B.S / B.D.S Courses

Sl. No.	Institute Name	Institute Type
1.	MEDICAL COLLEGE & HOSPITAL, KOLKATA	G
2.	N.R.S. MEDICAL COLLEGE, KOLKATA	G
3.	R.G. KAR MEDICAL COLLEGE, KOLKATA	G
4.	CALCUTTA NATIONAL MEDICAL COLLEGE, KOLKATA	G
5.	BANKURA SAMMILANI MEDICAL COLLEGE, BANKURA	G
6.	BURDWAN MEDICAL COLLEGE, BURDWAN	G
7.	NORTH BENGAL MEDICAL COLLEGE, DARJEELING	G
8.	I.P.G.M.E.R., KOLKATA	G
9.	MIDNAPUR MEDICAL COLLEGE, PASCHIM MEDINIPUR	G
10.	MALDAH MEDICAL COLLEGE, MALDAH	G
11.	MURSHIDABAD MEDICAL COLLEGE & HOSPITAL	G
12.	COLLEGE OF MEDICINE & SAGAR DUTTA HOSPITAL, KOLKATA	G
13.	ESI PGIMSR, JOKA, KOLKATA	G [#]
14.	COLLEGE OF MEDICINE AND J.N. MEMORIAL HOSPITAL, KALYANI, NADIA	G
15.	K.P.C. MEDICAL COLLEGE & HOSPITAL, KOLKATA	P
16.	IQ CITY MEDICAL COLLEGE & NH HOSPITAL, DURGAPUR	P
17.	I CARE MEDICAL COLLEGE & HOSPITAL, HALDIA	P
18.	DR. R. AHMAD DENTAL COLLEGE, KOLKATA	G
19.	NORTH BENGAL DENTAL COLLEGE, DARJEELING	G
20.	GURUNANAK INSTITUTE OF DENTAL SCIENCE & RESEARCH, PANIHATI, KOLKATA	P
21.	HALDIA INSTITUTE OF DENTAL SCIENCES AND RESEARCH, HALDIA, PURBA MEDINIPUR	P
22.	BURDWAN DENTAL COLLEGE, BURDWAN	G

[#]Central Government Institute

APPENDIX – VII

Proforma for Residential/Domicile Certificate

PROFORMA-A-I

Applicable for candidates residing in the State of West Bengal continuously at least for last ten (10) years as on 30.12.2014

To be issued by authorized persons other than Head of the Institution from which the candidate appeared/due to appear in '10+2' or equivalent examination.

Domicile Certificate: Type-A-I

Certified that _____ son / daughter of _____ is a resident/permanent resident of West Bengal at Village/House No. _____ Street _____ Post Office _____ Police Station _____ in the District of _____ under Assembly Constituency _____ and has been living in the State of West Bengal continuously / uninterruptedly at least for the last ten (10) years as on 30-12-2014.

Paste passport size
photograph of
applicant in this
box

Note:

- Photograph to be attested by the certifying authority.

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Office Phone No. _____ Mobile No: _____ (optional)

ID No: _____ (optional)

Note: The Certifying Authority may please preserve the duplicate copy of the Certificate in his/her Office provided by the candidate

APPENDIX – VII

Proforma for Residential/Domicile Certificate

PROFORMA-A-II

Applicable for candidates residing in the State of West Bengal continuously at least for last ten (10) years as on 30.12.2014

To be issued by the Head of the Institution from which the candidate appeared/due to appear in '10+2' or equivalent examination.

Domicile Certificate: Type-A-II

Certified that _____ son / daughter of _____ has passed the '10+2' Examination in the year _____ / will appear in the Final '10+2' Examination in 2015 from this Institution.

It is also certified that the student is a resident/permanent resident of West Bengal at Village/House No. _____

Street _____

Post Office _____ Police Station _____

in the District of _____ under Assembly Constituency _____

_____ and has been living in the State of West Bengal continuously / uninterruptedly at least for the last ten (10) years as on 30-12-2014.

Paste passport size
photograph of
applicant in this box

Note:

- Photograph to be attested by the certifying authority.

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Phone No. _____ Mobile No: _____ (optional)

ID No: _____ (optional)

Note: The Certifying Authority may please preserve the duplicate copy of the Certificate in his/her Office provided by the candidate

APPENDIX – VII

Proforma for Residential/Domicile Certificate

PROFORMA-B

Applicable for candidates not residing in the State of West Bengal but whose parent(s) is(are) permanent resident(s) of West Bengal having their permanent home address within the State.

To be issued by authorized persons other than Head of the Institution from which the candidate appeared/due to appear in '10+2' or equivalent examination.

Domicile Certificate: Type-B

Certified that _____ Father/Mother of
_____ (the applicant) is/are permanent resident
of West Bengal at Village/House No. _____ Street _____
_____ Post Office _____ Police Station _____
_____ in the District of _____ under Assembly
Constituency _____

Paste passport size
photograph of
applicant in this box

Paste passport size
photograph of
Father/Mother of
applicant

Note:

- Photograph to be attested by the certifying authority.

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Office Phone No. _____ Mobile No: _____ (optional)

ID No: _____ (optional)

Note: The Certifying Authority may please preserve the duplicate copy of the Certificate in his/her Office provided by the candidate

APPENDIX – VIII

Proforma for Income Certificate

Certified that the TOTAL ANNUAL FAMILY INCOME FROM ALL SOURCES of

_____ son/daughter of _____

residing at _____

Post Office _____ Police Station _____ in the district of

_____ in the state of West Bengal for the year 2013-2014

is less than Rs. 2.50 lakhs (Rupees two lakhs and fifty thousand only) and stands at

Rs. _____ (Rupees _____)

Paste passport
size photo of
CANDIDATE

Date: _____ Signature of Certifying Authority _____

Place: _____ Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Office Phone No. _____ Mobile No: _____ (optional)

ID No: _____ (optional)

APPENDIX – IX

District-wise list of zones for choosing examination centre

District	Zone Name				
Alipurduar	Alipurduar				
Bankura	Bishnupur	Bankura			
Birbhum	Suri	Bolpur			
Burdwan	Bardhaman	Durgapur	Asansol		
Coochbehar	Coochbehar				
Darjeeling	Siliguri	Kurseong			
Dinajpur Dakshin	Balurghat				
Dinajpur Uttar	Raiganj				
Hooghly	Chinsurah	Bandel	Srirampur	Arambagh	
Howrah	Uluberia	Bally	Shibpur	Central	Domjur
Jalpaiguri	Jalpaiguri				
Kolkata	College Street	Sealdah	Taratala	Ballygunje	Khidirpur
Kolkata (contd)	Shyambazar	Park Circus	Esplanade	Tollygunje	Behala
Malda	Malda				
Medinipur Paschim	Kharagpur	Medinipur	Jhargram	Garbeta	
Medinipur Purbo	Tamluk	Haldia	Contai		
Murshidabad	Berhampur	Jiaganj	Raghunathganj		
Nadia	Krishnanagar	Kalyani			
Purulia	Purulia				
24 Pgs North	Barrackpur	Dum Dum	Barasat	Habra	Basirhat
24 Pgs North (contd)	Salt Lake				
24 Pgs South	Budge Budge	Diamond Harbour	Jainagar	Sonarpur	Garia

Other States	
Tripura	Agartala
Assam	Silchar

The candidates may not be allocated in his/her 1st Choice Zone, if sufficient candidates are not available.

In such case, the 2nd Choice/ 3rd choice of Zone would be allocated to the concerned candidates.

Appendix-X

Guidelines for filling up the online form

S.N.	Description of Field	Value	Remarks
1	State of Domicile	---Select---	W. B. (WB) /Tripura (TR) /Assam (AS) / Others (OS)
2	Application Form For	---Select---	1- Engineering; 2- Medical; 3- Both courses ('1' is only option shown for candidates other than WB domicile)
3	Candidate's Full Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
4	Father's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
5	Mother's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
6	Date of Birth	DD/MM/YYYY	See Section 5.2 for eligibility condition on date of birth
7	Nationality	---Select---	Indian (eligible) /Others (not eligible)
8	District of Residence	---Select---	For W.B. , District code: 70-89 For Tripura , District code: 90 For Assam , District code: 91 For Others , District code: 92
9	Religion Other religions Religious Minority	---Select--- Enter text Auto-filled	Hindu (H) / Muslim (M) /Christian (C) / Buddhist (B) / Sikh (S)/ Others (O) to be specified within 15 characters CM: Christian Minority SM: Sikh Minority NO: for others
10	Income Category	---Select---	1 – above 10 lakhs; 2 - from 6.0 lakhs to below 10 lakhs, 3 - from 2.5 lakhs to below 6.0 lakhs , 4 – below 2.5 lakhs For category '1' and '2', OBC will be treated as creamy layer
11	Whether eligible for Tuition Fee Waiver (TFW) scheme	Auto-filled	If Income category above is 4 then TFW='YES' Else TFW='NO'
12	Category	---Select---	• GEN/SC/ST/OBC-A/OBC-B: for W.B candidates • GEN: for Assam, Tripura and Other State candidates
13	Person with Disability (PwD) for Engineering Person with Disability (PwD) for Medical	YES/NO YES/NO	Auto-filled with NO: for Assam, Tripura and Others candidates Please check eligibility condition in Section 5.
14	Gender	---Select---	• Male (M) • Female (F)
15	Place of Residence	---Select---	• Municipality/Corporation (M) • Panchayat (P) • Others (O)
16	Permanent Residence	Type address	Address - Max 100 character Pin Code – 6 character
17	Address for Communication	Type address Or Auto-filled	Address - Max 100 character; Pin Code – 6 character if same as permanent address is chosen
18	Choice of Location of Examination	-- 1st Choice-- -- 2nd Choice-- -- 3rd Choice--	a. Three choices to be selected mandatorily from the entire list of examination zones (refer to Appendix-IX for list of zones) for all W.B, Assam and Tripura candidates b. For Others candidates has to select from Howrah, Kolkata, North 24 Pgs, South 24 Pgs
19	Year of passing	---Select---	1971-2013

	Madhyamik/class 10 equivalent exam		
20	Name and address of school from which applicant passed class 10 examination	School name, address and pin code	(Max 100 character) (Max 100 character) (6 character)
21	Year of passing/ appearing Higher Secondary or class 12 equivalent exam	---Select---	(1973-2014)
22	Board from where applicant passed/ is appearing class 12 or equivalent Examination	---Select---	As per Board list
23	Name and postal address of school from which applicant passed/will appear in class 12 final exam	School name, address and pin code	(Max 100 character) (Max 100 character) (6 character)
24	Landline Phone No	Type number	(20 character) and Optional
25	Mobile No	Type number	(10 character) and Mandatory – to be used for sending SMS
26	Email address	Type email id	(30 character) and Mandatory - to be used for sending messages
27	Have you applied in JEE (Main)	---Select---	• YES (Y) • NO (N)
28	If Yes, enter Application No of JEE(Main)	Type valid number if Y	(Max 8 character)
29	Choose and confirm password	Type password	8 to 13 characters out of which one character has to be capital letter, one numeric and one special character
30	Security question	---Select---	Choose from drop down menu
31	Answer to security question	Type answer	Character or alphanumeric
32	Security PIN	displayed	Has to match with the displayed text

APPENDIX – XI**Important dates**

	Activity	Date (with time)
1.	Availability of information along with proforma for domicile and income certificate in the public domain www.wbjeeb.nic.in	From 22 nd December, 2014
2.	Start of Online form fill-up	30.12.2014. (10:30 AM)
3.	End of registration	14.02.2015. (11:59 PM)
4.	Document uploads allowed till	21.02.2015. (11:59 PM)
5.	Fee payment allowed till	28.02.2015. (11:59 PM)
6.	Confirmation page printing available till	31.03.2015. (11:59 PM)
7.	Candidate Correction window (based on Board feedback and self-induced errors) along with upload of correct testimonials	06.03.2015. (10:30 AM) to 16.03.2015. (11:59 PM)
8.	Publication of Downloadable Admit Card in www.wbjeeb.nic.in	02.04.2015. (10:30 AM)
9.	Date of Examination Biological Sciences Mathematics Physics & Chemistry	 18.04.2015. (1 PM to 4 PM) 19.04.2015. (12 Noon to 2 PM) 19.04.2015. (3 PM to 5 PM)
10.	Publication of Results	By 10th June 2015

Note: All schedules are subject to change under unavoidable circumstances