

INFORMATION BROCHURE FOR WBJEEM-2014

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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 2014 – 2015 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** is 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 - 2014”:

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-2014**” examination will be conducted on four subjects: Biological Sciences, Mathematics, Physics and Chemistry. Based on courses offered, there will be 3 (three) categories of examinees as listed below:

Option	Availability of courses for admission through WBJEEM-2014	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

Note on subject of examination for Pharmacy candidates:

Candidates seeking admission to Pharmacy course at Jadavpur University will have to appear for Mathematics along with Physics and Chemistry as “E” or “C” type candidate.

For other Pharmacy colleges, the score in Physics and Chemistry will be considered along with the better score of either Mathematics or Biology. Therefore candidates may be from “E” or “M” or “C” type.

2.2 Schedule of Examination “WBJEEM - 2014”:

Date of Examination	Subject, Marks and Timing of Examination		
19.04.2014 (Saturday)	-	Biological Sciences (100 marks) 12 noon to 2.00 p.m.	-
20.04.2014 (Sunday)	Mathematics (100 marks) 9.30 a.m. to 11.30 a.m.	Physics (75 marks) 12.30 p.m. to 2.00 p.m.	Chemistry (75 marks) 3.00 p.m. to 4.30 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-2014 examination.

3. Pattern of Questions & Mode of Answering:

3.1 Question Pattern:

Questions will be based on the syllabus for WBJEEM-2014 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 each	15 X 2 marks each	05 X 2 marks each	100
Biological	60 X 1 mark each	15 X 2 marks each	05 X 2 marks each	100
Physics	45 X 1 mark each	10 X 2 marks each	05 X 2 marks each	75
Chemistry	45 X 1 mark each	10 X 2 marks each	05 X 2 marks each	75

Category 1:

- Only one option is correct, correct response will yield one mark.
- For incorrect response, 33.33% of full mark (1/3) would be deducted and
- 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:

- Only one option is correct, correct response will yield two marks.
- For incorrect response, 33.33% of full marks (2/3) would be deducted and
- 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:

- More than one option may be correct and marking of all correct options only will yield two marks.
- 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:

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 & Rules of Tie Breaking:

In WBJEEM-2014, there will be three separate merit lists: (i) Engineering, (ii) Medical and (iii) Pharmacy (not applicable to 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 by them in Physics, Chemistry and Mathematics or Biological Sciences, whichever is greater (to be treated as 3rd subject). However, there may be ties and such ties will be broken by sequentially applying the following set of rules:

1. Less negative marks in 3rd subject (Mathematics/Biology), Physics and Chemistry taken together
2. More positive marks in 3rd subject (Mathematics/Biology) and Physics taken together
3. More positive marks in 3rd subject (Mathematics/Biology) and Chemistry taken together
4. Less negative marks in 3rd subject (Mathematics/Biology) and Physics taken together
5. Less negative marks in 3rd subject (Mathematics/Biology) and Chemistry taken together
6. More positive marks in 3rd subject (Mathematics/Biology) 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 3rd subject (Mathematics/Biology) 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

In generation of the Engineering, Medical and Pharmacy merit lists, if after applying the 11 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:

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

5.2 **Age Restriction:**

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

Candidates **must be at least 17 (seventeen) years of age as on 31.12.2014**. There is no upper age limit.

b) **Marine Engineering course:**

Candidates **must be at least 17 (seventeen) years of age or above as on 31.12.2014** and **must not be above 25 (twenty five) years of age as on 31.07.2014**; as per guidelines of appropriate authority.

c) **Medical/Dental Courses:**

Candidates **must be at least 17 (seventeen) years of age as on 31.12.2014**. 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 Seats	NO
	Reserved category Seats	YES
Government Engineering & Technology Colleges:	General category Seats	YES
	Reserved category Seats	YES
Government Pharmacy Colleges:	General category Seats	YES
	Reserved category Seats	YES
Self Financing Institutions offering Engineering/ Technology/ Pharmacy /Architecture courses:	General category Seats	NO
	Reserved category Seats	YES
Medical/Dental Colleges:	General category Seats	YES
	Reserved category Seats	YES

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

Candidates seeking admission in (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 15.12.2013 (Proforma A-I and 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 submit Domicile Certificate in either Proforma A-I or Proforma A-II or Proforma B, whichever is applicable for his/her case.

The 'Blank Proforma' is downloadable in duplicate. Download the same and print it on A4 size white paper.

Get 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 kept with the Office of the Issuing Authority for future

reference/verification.

Photocopy of the Original Certificate and a **photocopy of either of his/her parent's (father/mother who is a permanent resident of West Bengal) voter ID card or passport (2nd page)** are to be attached with the Confirmation Sheet.

Original Certificate need not be submitted with the Confirmation Sheet. The candidate must retain the same and shall have to produce it at the Reporting Centre during 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 and 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 or his/her parents, 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:**

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-2014 AND SECURED A POSITION IN THE MERIT LIST. PERMISSION TO APPEAR IN WBJEEM-2014 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.

5.4.1 **For Engineering/Technology courses other than Marine Engineering:**

In 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 Mathematics as compulsory subjects** along with Chemistry/Biotechnology/Biology/Technical Vocational Subjects (Engineering Drawing / Computer Science)
- 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.

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.

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

5.4.3 For Architecture Course:

A candidate, besides satisfying the eligibility criteria as stated in section 5.4.1 above, must qualify in the **NATA (National Aptitude Test in Architecture) conducted by the Council of Architecture, New Delhi** and necessary document in this regard is to be produced at the time of Counselling.

5.4.4 For Pharmacy Course:

In 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/Technical Vocational Subjects (Engineering Drawing / Computer Science)
- 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).

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).

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

5.4.5 For Medical/Dental Courses:

General 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 must have to secure at least 50 percentile marks in Physics, Chemistry and Biological Sciences taken together (40 percentile for SC/ST candidates, 45 percentile for OBC-A, OBC-B candidates) in WBJEEM-2014.

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 counseling 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 Medical(M.B.B.S.), Dental(B.D.S.), Engineering/Technology, Pharmacy, Architecture courses in the academic session of 2014-15 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 2014-15, 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-2014**) 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-2014**). **10% Seats** shall be available for admission through the All India Entrance Examination (i.e. **JEE Main-2014**). 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 respect Government Medical/Dental Colleges:**

85% of seats shall be available for admission through the State Joint Entrance Examination (i.e. **WBJEEM-2014**). 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-2014**) 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-2014. **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 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 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 **Minority (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 WBJEE-2014** through the **e-counselling process** conducted by the Board.

However, candidates belonging to **Sikh/Christian Religious Minority Category** and **DOMICILED in West Bengal**; 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 modalities for minority seats in Minority Institutes for the academic session 2014-15 will be notified by the State Govt. in the Higher Education Department in due course of time.

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 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 12 (twelve) 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 and 3 (three) seats are reserved at Bengal Engineering and Science University, Shibpur respectively. The branches of such seats in these Universities will be decided by the respective 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 - 2014 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) 2014, 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) 2014 (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 – 2014 candidates for admission to degree level Engineering / Technology / Pharmacy /Architecture courses, will also be applicable for JEE (Mains) 2014 merit listed candidates. However, such candidates need not be domiciled in West Bengal.

7.8 **Reservation under Minority quota (Sikh & Christian):**

Percentage of reserved seats will be as per discretion of the minority institutes and thereafter notified by the Government.

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

Applicable only for Self Financing Colleges of the State offering B.E. /B.Tech./ B. Pharm / B. Arch. Courses. 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 – 2014** 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 – 2014 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 uploaded / submitted.

The application form is broadly categorized into: **PERSONAL DETAILS & FEE PAYMENT DETAILS**. 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 FEE PAYMENT DETAILS. 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. Once an Application Number is generated, 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 generation of Confirmation Page)
- Printing of e-Challan for Bank
- Entering e-Challan details
- Printing of the Confirmation Page as well as Top Sheet

- Correction to data on dates specified by the Board, if needed

The candidate has to use this system generated Application Number and his/her Date-of-Birth for subsequent login to the system for all subsequent accesses to the system. Therefore it is very important for the candidate to note down this number.

8.1 Application Fee Details:

Irrespective of his/her category and gender, a candidate applying for WBJEEM – 2014 has to pay Rs. 500/- (Rupees five hundred) only, as application fee, through ONLINE mode. The candidate, on successfully uploading the PERSONAL DETAILS; 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 - 2014	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 separately at the bank.

Information Brochure in hard copy would be available upon payment of 30 INR from the bank counters.

- 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**. After payment, the candidate has to login to the system and upload the details written on the e-Challan by the bank official. When the details are uploaded, the **Confirmation Page** will be generated.
- 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 candidate may proceed with generation of the **Confirmation Page**.

8.2 Confirmation Report and Its filling up:

The **Confirmation Report** is generated after successful payment of Application Fee. Its generation means that the candidate has been successfully **REGISTERED**. It contains separate links to a **Confirmation Page** and another page that is to be stapled as the **Top Sheet** for the requisite enclosures. The two pages should be printed on separate A4 size papers. On the **Confirmation Page** the candidate should **paste two (2) identical recent coloured Passport sized Photographs**. One of the photographs needs to be self-attested after pasting. Then the candidate has to put his/her **Left Thumb Impression (LTI)** and **Signature** in the respective boxes. **The box for signature of the Father / Mother / Guardian (in case both parents are absent /unavailable) MUST also be duly filled up by either Father / Mother of the candidate or the**

Guardian, as the case may be. FILLING UP OF FIELDS IN CONFIRMATION PAGE WITH SIGNATURE AND LTI OF THE CANDIDATE, SIGNATURE OF THE PARENT/GUARDIAN OF THE CANDIDATE ALONG WITH PASTING OF COLOUR PASSPORT SIZED PHOTOGRAPHS OF THE CANDIDATE **IS MANDATORY.** In the second page, the candidate has to put his/her own signature only. Then the candidate needs to self-attest all the photocopies of the required documents / testimonials mentioned in the Confirmation Page AND attach those along with a self-attested photocopy of the e-Challan/Receipt with the **system generated top sheet**. The Confirmation Page MUST NOT be stapled.

Finally, the candidate has to send, in a single envelop, the following documents to WBJEEB office at AQ-13/1, Sector-V, Salt Lake City, Kolkata-700 091, by speed post:

SET: I – One unstapled single page

CONFIRMATION PAGE FILLED UP IN EVERY RESPECT

SET: II – Collection of following pages

- TOP SHEET duly signed by the candidate
- SELF-ATTESTED COPY OF THE e-CHALLAN/RECEIPT
- SELF-ATTESTED COPY OF THE ADMIT CARD OF 10TH STANDARD EXAMINATION

Wherever applicable:

- SELF-ATTESTED COPY OF THE SC/ST/OBC CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE
- SELF-ATTESTED COPY OF THE PwD CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE
- SELF ATTESTED COPY OF THE DULY FILLED UP DOMICILE CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE ALONG WITH SELF ATTESTED COPY OF EITHER OF THE PARENT'S VOTER ID CARD/PASSPORT (2ND PAGE)
- SELF ATTESTED COPY OF THE DULY FILLED UP INCOME CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE.

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 **Submission of Application Form:**

The Confirmation Page and the Top Sheet (after being stapled to the requisite enclosures) are to be put in an envelope and sent to the Board Office, only by Speed Post.

9.2. **Intimation regarding receipt of Confirmation Report by the Board in the website:**

The candidate is required to put/log/enter the Application Number in the specified space through www.wbjeeb.nic.in for getting intimation regarding receipt of his/her Confirmation Report by the Board.

The application nos. of the received Confirmation Reports will be displayed in the same website.

10. **Issue of Admit Card:**

After receipt of Confirmation Report from a candidate by the Board, an Admit Card will be generated indicating the allotted Examination Centre for WBJEEM 2014 and a downloadable version of the admit card will be published on the respective webpage of the candidate concerned. **An Examination Roll Number will 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 two copies of original photographs (same as pasted in the Confirmation page) duly attested by the Head of the Institution last attended.**

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-2014.

Candidates are advised to retain their admit cards carefully in secure 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-2014. 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-2014 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 in order of preference.**
- **Exam centres in North and South 24 Pgs may also be allocated to candidates from other states.**
- **Any examination zone may be dropped if adequate numbers of candidates are not available.**

12. **Evaluation and Declaration of Results of WBJEEM – 2014:**

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 question 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 - 2014':

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–2014 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 – 2014.

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-2014. 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 counseling 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 through e-counselling will be notified by the Appropriate Authority in due course of time.

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 (WBJEE-2014).

16.1.2 Eligibility criteria:

- (i) Students must be domiciled in West Bengal.
- (ii) Submission of Photo-Copy of **Domicile Certificate** as prescribed in article **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.
- (v) The Photo Copy of the Original Certificate is to be attached with the Confirmation Sheet for candidates claimed to be eligible for the Scheme.

Original Certificate need not be submitted with the Confirmation Sheet. The candidate must retain the same 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 into 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

SYLLABUS FOR WBJEEM - 2014

PHYSICS

Mechanics & General properties of matter

- (i) Units and dimensions: Units of measurement, system of units, fundamental and derived units, S I units, dimensional analysis.

Methods of measurement: Vernier scale, screw gauge, analysis of errors, significant figures.

- (ii) Scalars and vectors: Addition, subtraction, multiplication of vectors. Dot product and cross product
- (iii) Kinematics in one, two and three dimensions, projectiles, uniform circular motion, centripetal force, centrifugal force, relative velocity.
- (iv) Dynamics: Newton's laws of motion; inertial frames, uniformly accelerated frame (pseudo-forces), principle of conservation of linear momentum, rocket motion, centre of mass, impulsive forces, friction.
- (v) Work, Power and Energy, conservative and non-conservative forces, principle of conservation of energy, collision (elastic and inelastic).
- (vi) Rotational motion : Torque, angular momentum and principle of conservation of angular momentum, moment of inertia, radius of gyration, moment of inertia of objects with simple geometrical shapes, rotational kinetic energy and rolling on horizontal surface

Gravitation: Newton's Law of gravitation, gravitational field and potential, acceleration due to gravity and its variation, escape velocity, Kepler's laws and planetary motion, motion of satellites, Geostationary orbit.

Elasticity: Hooke's law, elastic moduli, Poisson's ratio, elastic energy.

Hydrostatics and Fluid Mechanics: Pressure inside a fluid, Pascal's law, Archimedes' principle, hydraulic press.

Surface energy and surface tension, capillary rise.

Viscosity, streamline and turbulent motion, critical velocity, Reynold's number, Stoke's law, Bernoulli's theorem and its application.

Vibrations: Simple Harmonic Motion(SHM), equation of motion, damped and forced vibrations, resonance, superposition of SHM.

Wave motion: Elastic waves, longitudinal and transverse waves, progressive waves, superposition of waves: interference, stationary waves, beats, vibration of strings, air columns, velocity of elastic waves in different media, Doppler effect.

Thermal Physics: Scales of temperature, thermal expansion of solids, liquids and gases, calorimetry, change of state of matter, latent heat, transition temperature, Transmission of heat: conduction, convection, radiation, Black body radiation, absorptive and emissive powers: Kirchhoff's law of radiation, Wien's law, Stefan's law, Newton's law of cooling, Kinetic theory: mean free path, pressure of an ideal gas, mean and rms velocities of molecules of a gas, kinetic interpretation of temperature, degrees of freedom, equipartition of energy (statement only) application to mono atomic and diatomic gases.

Thermodynamics: First law of thermodynamics, equivalence of heat and work, intensive and extensive thermodynamic variables, reversible and irreversible processes, specific heats of gases, relation between C_p and C_v .

Optics: Reflection and refraction at plane and spherical surfaces, total internal reflection, thin lenses, power of a lens, combination of lenses and mirrors, deviation and dispersion by prisms, Simple and compound microscopes, astronomical telescope, human eye: it's defects and remedies.

Coherent sources, interference of light, Young's double slit experiment.

Electrostatics: Coulomb's law, electric field and potential, flux of electric field, Gauss' law, electric field and potential due to an infinite line charge, charged infinite sheet, solid spheres and spherical shells. Electric dipole and field due to an electric dipole.

Capacitance, spherical and parallel plate capacitors, energy stored in a capacitor, series and parallel combination of capacitors.

Current Electricity: Electric current, drift velocity and mobility. Ohm's law, resistivity, combination of resistances in series and parallel, combination of cells.

Kirchoff's laws of electric network, Wheatstone bridge, Metre bridge, potentiometer.

Heating effect of current, thermoelectricity, Seebeck and Peltier effect.

Chemical effect of current, Faraday's law of electrolysis, primary and secondary cells.

Electromagnetism: Magnetic effects of Current, BiotSavart's law, magnetic field due to current flowing through i) an infinitely long straight wire, ii) circular coil iii) solenoid; Ampere's circuital law, Lorentz force, Fleming's left hand rule, force between two current carrying conductors, magnetic moment of a current loop, magnetic dipole, torque experienced by a current carrying coil in a uniform magnetic field, galvanometer, current sensitivity, conversion of galvanometer to voltmeter and ammeter.

Magnetic field of earth.tangent galvanometer, magnetic properties of materials : Diamagnetic, paramagnetic and ferromagnetic materials, permeability, susceptibility.

Electromagnetic induction : Magnetic flux, Faraday's laws of electromagnetic induction, Lenz's law, self and mutual induction, , Fleming's right hand rule, Alternating current, peak and rms value of alternating voltage and current; generator, D.C. motor and transformer

Qualitative idea of electromagnetic waves and electromagnetic spectrum.

Modern Physics: Bohr's atomic model for hydrogen like atom, hydrogen spectrum, x-ray emission, Moseley's law, wave particle duality, de Broglie's hypothesis, photoelectric effect .

Constituents of an atom, isotopes, mass defect, mass-energy equivalence, binding energy.radioactivity – α , β , γ radiation, half life, mean life, fission, fusion.

Electronics : Energy bands in solids, intrinsic and extrinsic semiconductors, p-n junction diode, rectifier, pnp and npn transistors, common emitter characteristics of a transistor.

Binary numbers, AND, OR, NOT, NAND and NOR gates.

MATHEMATICS

Algebra

A.P., G.P., H.P.: Definitions of A. P. and G.P.; General term; Summation of first n-terms; A.M. and G.M.; Definitions of H.P. (only 3 terms) and H.M.; Finite arithmetic-geometric series.

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.

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.

Infinite series: Binomial theorem for negative and fractional index. Infinite G.P. series, Exponential and Logarithmic series with range of validity (statement only), simple applications.

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.

Probability: Classical definition, addition rule, conditional probability and Bayes' theorem, independence, multiplication rule.

Trigonometry

Trigonometric ratios, compound angles, multiple and submultiple angles, general solution of trigonometric equations. Properties of triangles, inverse trigonometric functions.

Coordinate geometry of two dimensions

Basic Ideas: 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.

Straight line: 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.

Circle: 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. Parametric equation of a circle. Intersection of a line with a circle. Equation of common chord of two intersecting circles.

Conics : Definition, Directrix, Focus and Eccentricity, classification based on eccentricity.

Parabola : Standard equation. Reduction of the form $x = ay^2 + by + c$ or $y = ax^2 + bx + c$ to the standard form $y^2 = 4ax$ or $x^2 = 4ay$ respectively. Elementary properties and parametric equation of a parabola.

Ellipse and Hyperbola: Reduction to standard form of general equation of second degree when xy term is absent. Conjugate hyperbola. Simple properties. Parametric equations. Location of a point with respect to a conic.

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: Formulation and solution of differential equations of the forms.

- 1) $dy / dx = f(x).g(y)$
- 2) $dy / dx = f(y/x)$
- 3) $dy / dx = (ax+by) / (cx+dy)$
- 4) $dy / dx = (a_1x+b_1y+c_1) / (a_2x+b_2y+c_2)$, $(a_1/b_1) \neq (a_2/b_2)$
- 5) $dy / dx + p(x)y = Q(x)$
- 6) $d^2y / dx^2 + p_1 dy/dx + p_2 y = o$ with p_1 and p_2 constants.
- 7) $d^2y/dx^2 = f(x)$

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.

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, Sommerfelds 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.

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 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); Fajan's 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.

Double salts and complex salts, co-ordination compounds (examples only), co-ordination number (examples of co-ordination number 4 and 6 only).

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.

Dalton's Law of partial pressure, Graham's Law of gaseous diffusion. Deviations from ideal behavior.

Liquefaction of gases, real gases, van der Waal's 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 vapourization; Second law of thermodynamics; Entropy; Free energy; Criterion of spontaneity.

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). 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).

Solubility and Solubility Products

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 Gibb's equation: $\Delta G^\circ = -nF\Delta E^\circ$ (without derivation), no numerical problems.

Redox titrations with (examples); Nernst equations (Numerical problems).

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).

Halogen

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), interhalogen 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.

Chemistry in Industry

Large scale production (including physicochemical principles where applicable omitting technical details and uses of individual items).

Heavy Chemicals - Sulphuric acid (contact process), Ammonia (Haber's process), Nitric acid (Ostwald's process), sodium bi-carbonate and sodium carbonate (Solvey process).

Polymers, Polythene, Nylon-66, rubber from natural source, vulcanization.

Electrochemicals - sodium hydroxide, chlorine, bleaching powder as byproducts, Fuel Gases - LPG, CNG.

Silicon carbide and silicones.

Environmental Chemistry

Common modes of pollution of air, water and soil. Ozone layer, ozone hole - important chemical reactions. Green House effect; Smog; Pollution of water by domestic and industrial effluents; Pollutants-pesticides, fertilizers and plastics.

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 α -dicarbonyl compounds, acidity and basicity of simple organic compounds.

Aliphatic Compounds

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

Alkenes and Alkynes — Preparation from alcohols; 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.

Alkyl halides -- 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).

Alcohols — Preparation 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° , 2° and 3°

amines (Hinsberg method); Reaction with HNO_2 ; Carbyl amine reaction.

Aromatic Compounds

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

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 NO_2 ; diazocoupling and reduction.

Haloarenes — Nucleophilic substitution, cine substitution (excluding mechanism).

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^- , S^{2-} , SO_4^{2-} , NO_3^- , CO_3^{2-}

Basic Radicals: Cu^{2+} , Al^{3+} , Fe^{3+} , Fe^{2+} , Zn^{2+} , Ca^{2+} , Mg^{2+} , Na^+ , NH_4^+

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.

BIOLOGICAL SCIENCES

Unit of Life: Definition of life, Cell as the basic unit of life. Cell theory, Prokaryotic and Eukaryotic cell – structure and differences.

Ultrastructure and functions of cellular components: Cell wall, Plasma membrane, Plastid, Endoplasmic, reticulum, Golgi bodies, Mitochondria, Ribosomes, Lysosomes, Nucleus, Centrosomes, Cilia, Flagella.

Microscopy : Components and principles of Simple and Compound Microscope;

Electron Microscope: Basic functional principles.

Physical and chemical principles involved in maintenance of life processes: Diffusion, Osmosis, Absorption, Osmoregulation.

Biomolecules: Classification and structural properties of carbohydrates, lipids, aminoacids, proteins and nucleic acids.

Carbohydrates: Monosaccharides, digosaccharides, and polysaccharides (starch, glycogen, cellulose).

Proteins: Simple (albumins, globulins, collagen) and conjugated proteins (only examples).

Nucleic acids: Structure of DNA, RNA, types of RNA.

Enzymes: Definition & properties, Examples; Mechanism of Action, Allosterism and Regulation.

Chromosomes and Cell Division: Morphology of chromosomes; Euchromatin and Heterochromatin. Nucleic acid as genetic material (Examples: Bacterial Transformation and Viral Transduction).

Brief idea of Polytene chromosomes: Cell cycle and phases (excluding control mechanism). Characters of malignant cell; Process & significance of Meiosis.

Genetics: Laws of Heredity (Monohybrid and dihybrid crosses; Mendel's laws). Back cross, Test cross, Linkage, Crossing over, Sex linked inheritance – Colour blindness, Haemophilia.

Mutation – Definition and Types; Replication of DNA, Transcription and Translation (Brief idea).

Origin, Evolution and Diversity of Life: Haldane and Oparin's concept on origin of life. Modern concept of Natural selection, Biological Species concept. Human evolution – an outline.

Taxonomy and Classification: Definition; Importance of Taxonomy, Binomial Nomenclature, Law of Priority (Homonym & Synonym).

Concept of Biodiversity: Definition of Biodiversity; Genetic diversity; Species diversity and Ecosystem diversity. Five kingdom classification (only distinct characters). Salient features of major animal phyla with common examples, classification of Chordates (up to Sub Class) with distinctive characters only.

Population Biology: Concept of population growth (logistic and exponential) and population control.

Ecosystem: Concept of ecosystem and Biosphere, Wetland.

Brief idea of Ecological pyramids, Energy flow, Biogeochemical cycle (concept only).

Environmental pollution: Air, water and noise pollution – sources effects and probable control strategies;

Biomagnification and Bioaccumulation. Cause of Dyslexia, Minamata and Etai etai diseases. Green house effect, BOD, COD, Acid rain and Ozone hole.

Virus and Bacteria: Morphological characteristics of Bacteriophage (T₂), Plant virus (TMV); Animal virus (influenza), Bacterial cell (*E. coli*).

Staining: Gram staining for bacteria.

Biotechnological application of microbes: (a) Agricultural – *Rhizobium* and other Nitrogen fixing bacteria, Biofertilizers and Bio- pesticides ; (b) Industrial – Production of curd; tanning and brewery; synthesis of antibiotics, vitamin; (c) Cloning of microbial genes.

Tissue and tissue system: (a) Plant Tissues–Meristematic and permanent (types with characterization and function); (b) Animal Tissue – outline classification and examples.

Functions of life:

Photosynthesis:

Major photosynthetic pigments, outline concept of light and dark reaction phases, basic idea of bacterial photosynthesis, C₂, C₃, C₄ pathways, CAM (in brief), photorespiration.

Respiratory system :

- (a) Definition of respiration, Mechanisms of glycolysis, Kreb's cycle (Flow chart only; calculation for ATP, CO₂ & H₂O); Outline idea of Electron Transport system, Relationships of photosynthesis and respiration.
- (b) Respiratory system in human : Respiratory tract, Mechanism of breathing, Role of intercostals muscles and diaphragm;

Significance of physiological and anatomical dead space.

Tidal volume, inspiratory and expiratory reserve volumes, residual volume, vital capacity. Composition of inspired, expired and alveolar air. Common respiratory diseases – definition and causes – Asthma, Tuberculosis, Hypoxia, Anoxia, Apnoea, Dyspnoea.

Cardiovascular system & Blood:

Anatomy of Heart – junctional tissues of the heart; origin and propagation of cardiac impulse. Histological structures of arteries, veins and capillaries.

Cardiac cycle – Atrial and ventricular events only; cardiac cycle time, Heart sound.

Cardiac output – definition, Stroke and Minutes volume.

Blood pressure: Factors controlling & measurement.

Blood – Composition and functions of blood.

Blood coagulation and anticoagulants, Blood group and Rh factor, Blood Transfusion, Lymph and tissue fluid formation and functions, Portal circulation.

Nutrition and Digestive system: Basic constituents of food and their nutritional significance. Vitamins – dietary sources, functions and deficiency symptoms of water and fat soluble vitamins. Structure and functions of the alimentary canal and the digestive glands. Functions of the digestive juices (saliva, gastric juice, pancreatic juice, intestinal juice), biles.

Digestion and absorption of carbohydrates, lipids and proteins. Diseases – Peptic and Gastric ulcers,

Gastritis; fasting and obesity.

Metabolism: Definition; B.M.R. – Controlling factors; elementary idea of metabolic pathways; glycogenesis, glycogenolysis, gluconeogenesis, Oxidation of fatty acids, Ketone body formation and its significance.

Deamination, Transamination and Decarboxylation of aminoacids (definition only).

Excretory system: Histology and function of the nephron (brief idea)

Normal and abnormal constituents of urine.

Nervous and Muscular system: Brief outline of human brain structure.

Cranial nerves: Distribution and Function. Spinal cord – Structure and major functions, Reflex arc (types) and reflex action: Conditional and unconditional reflexes.

Autonomic: sympathetic and parasympathetic (definition only) nervous system.

Synapse: Structure and mechanism of synaptic transmission.

Different types of muscles and their structure, properties of muscles: (i) Excitability; (ii) Contractility; (iii) All or none law; (iv) Refractory period; (v) Summation of stimuli; (vi) Tetanus; (vii) Rigor mortis;

Mechanism of muscle contraction.

Endocrine system and animal hormones:

Definition of endocrine glands and hormones, functions of hormones released from (i) pituitary; (ii) thyroid; (iii) pancreas; (iv) adrenal; (v) gastrointestinal gland. An outline mechanism of action of protein & steroid hormones.

Causes and symptoms of Acromegaly, Diabetes insipidus, Diabetes mellitus, Goiter, Cushing's disease.

Growth, Reproduction, and Ageing:

A. In Plants:

Different parts of a typical flower (China rose). Types of flower: regular and irregular, actinomorphic, zygomorphic. Aestivation in Musaceae & Malvaceae. Floral formula: Definition, symbols used in floral formulae in Musaceae (e.g. Banana) and Malvaceae (eg. China rose); Pollination – Definition, self and cross pollination; Merits and demerits of self and cross pollination. Fertilization – Process of double fertilization. Dispersal of fruits and seeds – Types with examples. Phases and factors of Growth, Differences between growth and development, Abscission senescence, ageing and growth of seeding and the role of gibberellic acid.

B. In Animals:

Primary and secondary sex organs and secondary sex characters – Testis – Histology, Functions of Testosterone. Spermatogenesis (outline). Ovary – Histology : Functions of estrogen and progesterone;

Oogenesis (outline); structure of mature Graafian follicle.

Menstrual cycle (brief idea). Fertilization and Implantation.

Immunology: A brief idea of antigen and antibody. Elementary knowledge of inherited, acquired, humoral, cell mediated immunity. Active and passive immunity. Prevention of AIDS and Hepatitis B.

Medical, Agricultural and Economic zoology:

A. Outline idea of diseases, their causative organism, mode of infection, symptoms and preventive measures of :

(i) Malaria; (ii) Filariasis; (iii) Ascariasis

Distinguishing features of Culex, Anopheles and Aedes. Life cycle and comparative study of Culex and Anopheles. Causative agents of encephalitis and kalaazar and control of their vectors.

B. Characteristic features of major and minor carps and examples of exotic carps. Mechanism of induced breeding – hypophysation.

Composite culture of carps, common diseases of carp – Gillrot, fin rot and Dropsy. Definition of pest, Damage symptoms and control of *Scirpophaga incertulus* and *Leptocorisa acuta*.

C. Poultry – Types of poultry birds; high yielding varieties of poultry birds. Species of honey bees in India and different castes in a colony. Composition and uses of honey.

Chemical composition of silk, types of silk and silk worms. Life cycles of mulberry silk worm. Structure of silk gland. Symptoms of Flacherie, Muscardine, Grassarie and Pebrine.

Application of Biology:

Pesticides and Biological Pest Control – Benefit and hazards, Basic principles of *ex situ* and *in situ* conservation. Red Data Book, Green Data Book.

Role of phytohormones in horticulture and agriculture.

Hybridization in plants – Definition and techniques.

Idea about plant cell and tissue culture – Micropropagation.

Principles and application of transgenic plants and animal, Test tube baby.

Biomedical engineering:

Application - ECG & EEG

Imaging – USG, CT Scan, X-ray, MRI

Therapeutic - Pacemaker, Dialyzer.

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-2014, ii) Black / Blue Ball Point Pen.
3. Candidates must show on demand the Admit Card (WBJEEM-2014) for admission to the Examination Hall. A candidate not possessing the Downloaded Admit Card issued by the Board or a print out of the downloaded version along with the necessary documents as mentioned in section 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 allotted seats.
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 the date of birth correctly.
3.	Choose the District and examination zones correctly.
4.	Name of the candidate and complete mailing address with correct postal Pin Code No. should be filled up in designated place.
5:	Paste colour photographs with gum only in the Confirmation page properly so that it is not detached in any way.
5.	Candidate must put full signature in the specified places of the Confirmation Report.
6.	Retain a photocopy of the Confirmation Report positively.
7.	Staple the top sheet (page 2 of Confirmation Report) with photocopy (Xerox) of the testimonials.
8.	Send the duly filled in Confirmation Report and enclosures through Speed Post only.
9.	Enter the examination hall only with your Admit Card and blue/black ball point pens.
10.	Submit the OMR Answer Sheet to the Invigilator after completion of each session of Examination.
11.	Write the Question Booklet No. in the specified places on both the OMR Answer Sheet and Attendance Sheet.
<u>Don't</u>	
1.	Don't staple or pin the photographs.
2.	Don't attest both photographs.
3.	Don't tear any part of the Confirmation Report.
4.	Don't staple any document with the Confirmation Page.
5.	Don't staple the confirmation page with photocopy of the testimonials.
6.	Don't sign in capital letters.
7.	Don't over write anywhere in the Confirmation Page.
8.	Don't use different colours of ink during filling in of the Confirmation Report.
9.	Don't wrinkle or scribble or fold the Confirmation Report.
10.	Ensure that the Confirmation Report is not soiled / damaged in any way. If needed take a fresh printout.
11.	Don't send duly filled in Confirmation Report through ordinary post or through any other courier service or by hand. Send Confirmation Report only through SPEED POST.
12.	Don't bring Mobile Phone, Calculator or any other electronic gadget inside the Examination Hall.

APPENDIX –IV

Branch Names along with their Codes
(Applicable for Engineering & Technology/Pharmacy/Architecture Courses)

Sl. No.	Course / Branch Name	Branch Code
1	Aerospace Engineering	ARS
2	Agricultural Engineering	AGR
3	Apparel Production Management	APM
4	Applied Electronics & Instrumentation Engineering / Electronics & Instrumentation Engineering/Instrumentation & Electronics Engg.	EIE
5	Architecture	ARC
6	Automobile Engineering	ATE
7	Bio Medical Engineering	BMD
8	Bio Technology	BOT
9	Ceramic Engineering/Technology	CRM
10	Chemical Engineering	CHE
11	Civil Engineering	CIV
12	Computer Science& Engineering/Computer Sc. &	CSE
13	Construction Engineering	COE
14	Dairy Technology	DAT
15	Electrical & Electronics Engineering	EEE
16	Electrical Engineering	ELE
17	Electronics & Communication Engineering/Electronics & Telecommunication	ECE
18	Food Technology	FET
19	Information Technology	INT
20	Instrumentation and Control Engineering	ICE
21	Jute and Fiber Technology	JFT
22	Jute Technology	JUT
23	Leather Technology	LET
24	Marine Engineering	MRE
25	Mechanical Engineering	MEC
26	Metallurgical Engineering	MET
27	Mining Engineering	MIN
28	Pharmaceutical Engineering / Pharmaceutical Technology	PHE
29	Power Engineering	PWE
30	Printing Engineering / Printing Technology	PRT
31	Production Engineering	PRO
32	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.	BENGAL ENGINEERING AND SCIENCE UNIVERSITY,SHIBPUR	ARS,ARC,CIV,CSE,ECE,ELE,INT,MEC,MET,MIN	U
2.	BIDHAN CHANDRA KRISHI VISWAVIDYALAYA,KALYANI	AGR	U
3.	CALCUTTA UNIVERSITY- INSTITUTE OF JUTE TECHNOLOGY	JFT	U
4.	JADAVPUR UNIVERSITY, KOLKATA	ARC,CHE,CIV,CSE,COE,ECE,ELE,FET,INT,EIE,MEC,MET,PWE,PRO,PRT	U
5.	UNIVERSITY OF KALYANI – SCIENCE INSTRUMENTATION CENTRE, KALYANI	EIE,INT	U
6.	UNIVERSITY INSTITUTE OF TECHNOLOGY, BURDWAN UNIVERSITY, BURDWAN (Self Financing Courses)	EIE,CIV,CSE,ECE,ELE,INT	U
7.	UTTAR BANGA KRISHI VISWAVIDYALAYA,COOCHBEHAR	AGR	U
8.	WEST BENGAL UNIVERSITY OF ANIMAL & FISHERY SCIENCES,HARINGHATA, KALYANI	DAT	U
9.	WEST BENGAL UNIVERSITY OF TECHNOLOGY,SALT LAKE	CSE,INT	U
10.	GOVT. COLLEGE OF ENGINEERING & CERAMIC TECHNOLOGY, KOLKATA	CRM,CSE,INT	G
11.	GOVT. COLLEGE OF ENGINEERING & TEXTILE TECHNOLOGY-SERAMPUR	APM,CSE,INT,TEX	G
12.	GOVT. COLLEGE OF ENGG. & TEXTILE TECHNOLOGY-BERHAMPUR	CSE,ELE,MEC,TEX	G
13.	GOVERNMENT COLLEGE OF ENGINEERING AND LEATHER TECHNOLOGY, SALT LAKE	CSE,INT,LET	G
14.	INSTITUTE OF PHARMACY, JALPAIGURI	PHE	G
15.	JALPAIGURI GOVERNMENT ENGINEERING COLLEGE	CIV,CSE,ECE,ELE,INT,MEC	G
16.	KALYANI GOVERNMENT ENGINEERING COLLEGE	CSE,ECE,ELE,INT,MEC	G
17.	ABACUS INSTITUTE OF ENGINEERING & MANAGEMENT,MOGRA,HOOGLY	EIE,CSE,ECE,ELE,INT	P
18.	ACADEMY OF TECHNOLOGY,BANDEL,HOOGLY	EIE,CSE,ECE,ELE,INT,MEC	P
19.	ADMAS INSTITUTE OF TECHNOLOGY,BARASAT	CIV,CSE,ECE,ELE,INT,MEC	P
20.	ARYABHATTA INSTITUTE OF ENGINEERING & MANAGEMENT,PANAGARH,BURDWAN	CIV,CSE,ECE,ELE,EEE,INT,MEC	P
21.	ASANSOL ENGINEERING COLLEGE,ASANSOLE	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
22.	B.P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY, VIP ROAD, KOLKATA		P
23.	BANKURA UNNAYANI INSTITUTE OF ENGINEERING	EIE,CIV,CSE,ECE,ELE,INT,MEC	P
24.	BATANAGAR INSTITUTE OF ENGINEERING, MANAGEMENT & SCIENCE, BATANAGAR	CIV,CSE,ECE,ELE,MEC	P
25.	BENGAL COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN, DURGAPUR	CSE,ECE,ELE,EEE,INT	P
26.	BENGAL COLLEGE OF ENGINEERING & TECHNOLOGY, DURGAPUR	EIE,BOT,CIV,CSE,ECE,ELE,	P

Sl. No.	Institute Name	Available courses (Tentative)	Institute Type
		EEE,INT,MEC	
27.	BENGAL INSTITUTE OF TECHNOLOGY & MANAGEMENT, SHANTINIKETAN,BIRBHUM	EIE,CIV,CSE,ECE,ELE,INT, MEC	P
28.	BENGAL INSTITUTEL OF TECHNOLOGY, BANTALA,KOLKATA	BOT,CSE,ECE,INT,	P
29.	BIRBHUM INSTITUTE OF ENGINEERING & TECHNOLOGY,SURI	CIV,CSE,ECE,ELE,INT,MEC	P
30.	BRAINWARE GROUP OF INSTITUTIONS, BARASAT	CIV,CSE,ECE,ELE,INT,MEC	P
31.	BUDGE BUDGE INSTITUTE OF TECHNOLOGY, BUDGE BUDGE	CIV,CSE,ECE,ELE,MEC	P
32.	CALCUTTA INSTITUTE OF ENGINEERING & MANAGEMENT, TALLYGUNJ, KOLKATA	CIV,CSE,ECE,ELE,ICE,INT	P
33.	CALCUTTA INSTITUTE OF TECHNOLOGY, ULUBERIA, HOWRAH	CHE,CIV,CSE,ECE,ELE,MEC	P
34.	CAMELIA INSTITUTE OF ENGINEERING & TECHNOLOGY, BUD BUD, BURDWAN	CIV,CSE,ECE,ELE,MEC	P
35.	CAMELIA INSTITUTE OF ENGINEERING, BADU ROAD,MADHYAMGRAM	CIV,CSE,ECE,ELE,MEC	P
36.	CAMELIA INSTITUTE OF TECHNOLOGY & MANAGEMENT, BAINCHI,HOOGHLY	CIV,CSE,ECE,ELE,MEC	P
37.	CAMELIA INSTITUTE OF TECHNOLOGY, MADHYAMGRAM, 24-PGS- NORTH	EIE,CIV,CSE,ECE,ELE,EEE, INT,MEC	P
38.	CAMELIA SCHOOL OF ENGINEERING & TECHNOLOGY, BADU,MADHYAMGRAM,24-PGS-NORTH	CIV,CSE,ECE,ELE,EEE,INT, MEC	P
39.	COLLEGE OF ENGINEERING AND MANAGEMENT, KOLAGHAT, EAST MIDNAPUR	EIE,CSE,ECE,ELE,INT,MEC	P
40.	DR. B. C. ROY ENGINEERING COLLEGE, DURGAPUR	EIE,CIV,CSE,ECE,ELE,INT,M EC	P
41.	DR. SUDHIR CHANDRA SUR DEGREE ENGINEERING COLLEGE,DUM DUM, KOLKATA	ATE,CIV,CSE,ECE,ELE,MEC	P
42.	DREAM INSTITUTE OF TECHNOLOGY, NAHAZARI,24-PGS-SOUTH	EIE,CSE,CSE,ELE,MEC	P
43.	DUMKAL INSTITUTE OF ENGINEERING & TECHNOLOGY, DUMKAL,MURSHIDABAD	EIE,CIV,CSE,ECE,ELE,INT,M EC	P
44.	DURGAPUR INSTITUTE OF ADVANCED TECHNOLOGY & MANAGEMENT,PANAGARH	CHE,CSE,ECE,ELE,INT,MEC	P
45.	FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT,SONARPUR, KOLKATA	EIE,CSE,ECE,ELE,INT,MEC	P
46.	GARGI MEMORIAL INSTITUTE OF TECHNOLOGY, BARUIPUR, 24-PGS- SOUTH	CIV,CSE,ECE,ELE,MEC	P
47.	GLOBAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY, KRISHNANAGAR,NADIA	CIV,CSE,ECE,ELE,MEC	P
48.	GREATER KOLKATA COLLEGE OF ENGINEERING & MANAGEMENT, BARUIPUR, 24-PGS-SOUTH	EIE,CSE,ECE,ELE,INT	P
49.	HALDIA INSTITUTE OF TECHNOLOGY, EAST MIDNAPUR	EIE,BOT,CHE,CIV,CSE,ECE, ELE,FETINT,ICE,MEC,PRO	P
50.	HERITAGE INSTITUTE OF TECHNOLOGY, KOLKATA	EIE,BOT,CHE,CIV,CSE,ECE, ELE,INT,MEC	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	

Sl. No.	Institute Name	Available courses (Tentative)	Institute Type
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,PANAGARD, 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, HOGHLY	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,M RE	P
65.	NETAJI SUBHAS ENGINEERING COLLEGE, GARIA, KOLKATA	EIE,BME,CIV,CSE,ECE,ELE,I NT,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, GUPTIPARA,HOOGLY	EIE,CSE,ECE,ELE,INT,MEC	P
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, KHHIDIRPUR,KOLKATA	CSE,ECE,ELE,INT	P
76.	SUPREME KNOWLEDGE FOUNDATION GROUP OF INSTITUTIONS, MANKUNDU, HOOGLY	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	
81.	TECHNO INDIA COLLEGE OF TECHNOLOGY, RAJARHAT, SALT LAKE	EIE,CIV,CSE,ECE,ELE,INT,M	P

Sl. No.	Institute Name	Available courses (Tentative)	Institute Type
		EC	
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,I NT,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,**
P – Private (Self Financing) Institute, M – Minority Institutes

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 15.12.2013

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 15-12-2013.

Paste passport size
photograph of
applicant in this
box

Note:

- Photograph to be attested by the certifying authority.
- Candidates must submit the same photograph, as used in the confirmation page. The same photograph should be used during his/her admission through this system

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Phone No. _____ Mobile No: _____

ID No: _____

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

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 15.12.2013

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 2014 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 15-12-2013.

Paste passport size
photograph of
applicant in this box

Note:

- Photograph to be attested by the certifying authority.
- Candidates must submit the same photograph, as used in the confirmation page. The same photograph should be used during his/her admission through this system

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Phone No. _____ Mobile No: _____

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

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.
- Candidates must submit the same photograph, as used in the confirmation page. The same photograph should be used during his/her admission through this system

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

Phone No. _____ Mobile No: _____

ID No: _____

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 2012-2013

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 _____

Phone No. _____ Mobile No: _____

ID No: _____

APPENDIX - IX

District-wise list of zones for choosing examination centre

District	Zone1	Zone2	Zone3	Zone4	Zone5
Bankura	Bishnupur	Bankura	-	-	-
Birbhum	Suri	-	-	-	-
Burdwan	Bardhaman	Durgapur	Asansol	-	-
Coochbehar	Coochbehar	-	-	-	-
Darjeeling	Siliguri	Kurseong	-	-	-
Dinajpur Dakshin	Balurghat	-	-	-	-
Dinajpur Uttar	Raiganj	-	-	-	-
Hooghly	Chinsurah	Bandel	Srirampur	-	-
Howrah	Uluberia	Bally	Shibpur	Central	Domjur
Jalpaiguri	Jalpaiguri	Alipurduar	-	-	-
Kolkata	North	South	Central	East	West
Malda	Malda			-	-
Medinipur Paschim	Kharagpur	Medinipur	Jhargram	-	-
Medinipur Purbo	Tamluk	Haldia	Contai	-	-
Murshidabad	Berhampur	-	-	-	-
Nadia	Krishnanagar	Kalyani	-	-	-
Purulia	Purulia	-	-	-	-
24 Pgs North	Barrackpur	Dum Dum	Barasat	Habra	Bashirhat
24 Pgs South	Diamond Harbour	Budge Budge	Sonarpur		-

Other States					
Tripura	Agartala	-	-	-	-
Assam	Silchar	-	-	-	-

Appendix-X

Guidelines for filling up the online form

S.N.	Description of Field	Value	Remarks
1	Application Form For	---Select---	1- Engineering; 2- Medical; 3- Both courses
2	Candidate's Full Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
3	Father's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
4	Mother's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
5	Date of Birth	DD/MM/YYYY	See Section 5.2 for eligibility condition on date of birth
6	Nationality	---Select---	☐ Indian (eligible) ☐ Others (not eligible)
7	State of Domicile	---Select---	☐ W. B. (WB) ☐ Tripura (TR) ☐ Assam (AS) ☐ Others (OS)
8	District of Residence	---Select---	For W.B. , District code: 71-89 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	Category	---Select---	☐ GEN/SC/ST/OBC-A/OBC-B: for W.B candidates ☐ GEN: for Assam, Tripura and Others candidates
11	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.
12	Income Category	---Select---	1 – above 10 Lakhs ; 2 – between 10 Lakhs to 4.5 Lakhs 3 – between 4.5 Lakhs to 2.5 Lakhs ; 4 – below 2.5 Lakhs
13	Whether eligible for Tuition Fee Waiver (TFW) scheme	Auto-filled	If Income code above is 4 then TFW='YES' Else TFW='NO'
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 two choices from Howrah & Kolkata
19	Year of passing	---Select---	1971-2012

	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)

Payment through Allahabad Bank eChallan Details entry form

S.N.	Items	Value	Remarks
1.	Amount	Auto filled	as per course opted
2.	Branch Name	Type	Max 100 character (from challan details)
3.	Journal No.	Type	Must be of 7 character long and only numeric (challan details)
4.	Deposit Date	DD/MM/YYYY Y	As per challan details

APPENDIX – XI

Important dates

	Activity	Date
1.	Online form fill-up	18.12.13 to 20.01.14
2.	Fee payment	18.12.13 to 23.01.14
3.	Last date of Printing of Confirmation Page	27.01.2014
4.	Last date of Receipt of Confirmation Page	04.02.2014
5.	Status of receipt of confirmation page together with discrepancies, if any	10.01.2014 to 28.02.2014 (Continuous as available)
6.	Publication of entire data inclusive of photo, LTI, signature	10.02.14. To 04.03.14. (in three/four batches)
7.	Correction window dates Last date of sending correct testimonials if needed	05.03.14 to 10.03.14. 20.03.14.
8.	Publication of Downloadable Admit Card	02.04.2014
9.	Date of Examination	19.04.2014(Biological Sc.) 20.04.2014 (Maths, Physics, Chemistry)
10.	Publication of Results	By 10th June 2014