

# West Bengal Joint Entrance Examinations Board

AQ-13/1, Sector-V, Salt Lake City, Kolkata-700 091

Information Brochure (তথ্য সংকলন)

**WBJEE-2013**

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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*. This year, the Board has stepped into its Golden Jubilee year. Since last year, the endeavour of the Board has been to enhance the standard 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. Admission through *e-Counselling* was successfully implemented to admit candidates in the undergraduate level courses in the Engineering & Technological Institutes of the State for the academic year 2012 – 2013.

For the 2013 – 2014 academic session, the Board will conduct the Common Entrance Examination along with counselling for admission to Undergraduate Courses in 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.

For the Academic Year 2013 – 2014; the Board will conduct altogether six entrance examinations for admission to their respective participating institutes in the State as stated below:

Serial No.	Name of the Examination	Scope of Board's activities
A.	'WBJEE'	To conduct Entrance Examination and Counselling for admission to undergraduate degree level Engineering & Technology courses including Pharmacy and Architecture in different Universities / Government Colleges as well as Self Financing Institutes of West Bengal.
B.	'EVETS'	To conduct Entrance Examination for admission to undergraduate degree level course in Veterinary Science & Animal Husbandry in West Bengal University of Animal and Fishery Sciences.
C.	'JECA'	To conduct Entrance Examination and Counselling for admission to postgraduate level Master of Computer Application (MCA) course pursued in different Engineering & Technology Colleges as well as in different Universities of West Bengal.
D.	'JELET'	To conduct Entrance Examination and Counselling for direct admission into 2 <sup>nd</sup> Year (3 <sup>rd</sup> Semester) of 4-year undergraduate degree level Engineering & Technology / Pharmacy courses for the diploma holders in Engineering & Technology / Pharmacy and B.Sc. degree holders with Mathematics as one of the subjects in the graduation level in different Engineering & Technology Colleges as well as in different Universities of West Bengal.
E.	'JENPARH'	To conduct Entrance Examination for admission to undergraduate degree level courses of Ayurvedacharya, Homoeopathy, Unani, Nursing and Physiotherapy in different institutes of West Bengal.
F.	'JEHOM'	To conduct Entrance Examination and Counselling for admission to undergraduate degree level courses of Hotel Management & Catering Technology pursued by the self financing Hotel Management Institutions of West Bengal.

## 2. About “WBJEE - 2013”:

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

2.1 In “WBJEE-2013” Examination, candidates need to appear in 3 (three) papers in the form of written test, to be conducted physically at various Examination Centres with *Pen and Paper* i.e. as **OFFLINE Examination**. The subjects will be: **i) Mathematics, ii) Physics & iii) Chemistry**. The syllabus for WBJEE-2013 is given in **APPENDIX – I**.

## 2.2 Schedule of Examination “WBJEE - 2013”:

Date of Examination	9.30 a.m. to 11.30 a.m.	12.30 p.m. to 2.00 p.m.	3.00 p.m. to 4.30 p.m.
<b>21.04.2013 (Sunday)</b>	<b>Mathematics (100 marks)</b>	<b>Physics (75 marks)</b>	<b>Chemistry (75 marks)</b>

**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 WBJEE-2013 examination.

## 3. Pattern of Questions & Mode of Answering:

### 3.1 Question Pattern:

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
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:

- (a). Only one option is correct, correct response will yield one mark.
- (b). For each incorrect response, 33.33% of full mark (1/3) would be deducted and
- (c). For more than one answer indicated against a particular question in the OMR sheet; the said answer will be treated as incorrect response/answer. Marks will be deducted on the basis of rule enumerated in Clause (b) above.

### Category 2:

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

- (c). For more than one answer indicated against a particular question in the OMR sheet; the said answer will be treated as incorrect response/answer. Marks will be deducted on the basis of rule enumerated in Clause (b) above.

**Category 3:**

- (a). More than one option may be correct and marking of all correct options only will yield two marks.
- (b). For any combination of answers containing one or more incorrect responses, net mark awarded will be zero (0) and
- (c). For partially correct response without any incorrect marking:  
Marks awarded =  $2 \times (\text{no of correct responses}) / (\text{total no of correct options})$

3.2 **Mode of Answering:**

All questions will have to 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:**

For WBJEE-2013, 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

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 **Applicant must be a citizen of India.**

5.2 **Age Restriction:**

a) **For Engineering / Technology Courses other than Marine Engineering:**

Candidates **must be at least 17 (seventeen) years of age as on 31.12.2013**. There is no upper age limit.

b) **Marine Engineering course:**

Candidates **must be at least 17 (seventeen) years of age or above as on 31.12.2013 and must not be above 25 (twenty five) years of age as on 31.07.2013**; as per guidelines of appropriate authority.

5.3 **Residential/Domicile requirement:**

Type of institute	Domicile Requirement
State-Aided Universities	NO
Government Engg /Technical Colleges	YES
Self Financed Institutes	NO

**EXPLANATION FOR DOMICILE OF WEST BENGAL:**

**EITHER**

The candidate **MUST** have been residing in West Bengal continuously at least for last 10 (ten) years as on 31.12.2012.

**OR**

His/her parents **MUST** be permanent residents of West Bengal having their permanent home address within the State of West Bengal.

5.4 **Competent Authority to issue Residential/Domicile Certificate:**

In order to become eligible for admission to Government Engineering / Technology Colleges Residential/Domicile Certificate has to be submitted by the intending candidate in the **Proforma** as given in the **Appendix VII** of this Brochure. The proforma is to be downloaded and printed on an A4 size white paper and will be required to be filled in properly (as applicable). 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) 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; xi) Commissioner, Additional Commissioner, Joint Commissioner, Assistant Commissioner of Municipal Corporation; xii) Executive Officer of Municipality; xi) Commissioner, Additional Commissioner, Joint Commissioner, Deputy Commissioner, Assistant Commissioner of Police Commissionerate; xii) Assistant Secretary or above in the Secretariat

to the Government of West Bengal or Central Government; xiii) 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.'** No elected people's representative like municipal commissioner, councillor/alderman of Municipal Corporation, MLA or MP is entitled to issue such certificates.

5.5. **Reserved Categories:**

5.5.1 **SC/ST of West Bengal:**

The Scheduled Caste / Scheduled Tribe candidates **DOMICILED in the State of West Bengal**, as specified vide Government of West Bengal Order No. 1813-PCW/MR-94/11 dated 20.06.2011 are eligible for admission through West Bengal Joint Entrance Examinations 2013 for admission to undergraduate level courses in Engineering & Technology in all Government and Government aided Institutions and in such other Self Financing Institutions who provide consent to admit such SC/ST students as per State Government notification under such reserved categories up to the requisite percentage of total seats in the said institute. The Caste certificate is 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)** 1<sup>st</sup> 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.

**THE CERTIFICATE BEING SUBMITTED BY THE CANDIDATE FOR CLAIMING RESERVATION UNDER SC/ST QUOTA; MUST HAVE BEEN ISSUED BY THE COMPETENT AUTHORITY AS PER "A" AND "B" 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.**

5.5.2 **SC/ST of Other States:**

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

5.5.3 **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 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.

The list of competent authorities in this regard 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

**PwD CANDIDATES HAILING FROM STATES OTHER THAN WEST BENGAL ARE NOT ELIGIBLE FOR SUCH BENEFITS AND THEY WILL BE TREATED AS GENERAL CATEGORY CANDIDATES.**

#### 5.5.4 **Minority (Sikh & Christian):**

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.

#### 5.5.5 **Reservation of seats for SC/ST/PwD Candidates:**

In Government Engineering & Technology Colleges of the State as well as those Self Financing Private Engineering & Technology Colleges of the State, who have received some grants-in aid from the Government, reservation of seats for SC/ST/PwD candidates shall be governed by the State Govt. Reservation Rules.

For Self Financing Private Engineering & Technology Colleges of the State, reservation of seats under such categories is NOT a mandatory requirement. However, some of such colleges offer seats to reserved categories of students at the discretion of the concerned College Authority.

For Universities, reservation of seats for SC/ST/PwD candidates shall be governed by the rules of the concerned University in consonance with the State Government Rules.

Though availability of seats for aforesaid reserved categories of students shall be declared by the appropriate authority in due course, it is **presumably** in the following break-up.

For Scheduled Caste (SC) category: - 22 (twenty-two) percent of total Institutional Intake in the respective Course;

For Scheduled Tribe (ST) category: - 6 (six) percent of total Institutional Intake in the respective Course and

For Person with Disability (PwD) category: - 3 (three) percent of total Institutional Intake in the respective Course.

**It is important to note that such reserved categories of seats are ONLY offered to candidates DOMICILED IN THE STATE OF WEST BENGAL, as per Government rules.**

#### 5.5.6 **Reservation of seats for students under Defence Quota:**



Altogether 12 (twelve) seats 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:

<b>Name of the Govt. Engg./Technology College</b>	<b>No. of seats with branch available</b>
1. Jalpaiguri Govt. Engineering College	: 1 (Mechanical Engineering)
	: 1 (Information Technology)
2 . Govt. College of Engg. & Textile Tech.,Serampore	: 1 (Information Technology)
3 . Govt. College of Engg. & Textile Tech.,Berhampore	: 1 (Computer Science & Engg.)
4 . Govt. College of Engg. & Ceramic Tech., Kolkata	: 1 (Information Technology)
5 . Govt. College of Engg. & Leather Tech., Kolkata	: 1 (Leather Technology)
6. Kalyani Govt. Engineering College, Kalyani	: 1 (Electrical Engineering)

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 WBJEE - 2013 Admit Card. 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 counselling and allotment of seats.

5.5.7 **Reservation of seats for students Merit listed in JEE (Mains) 2013, 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) 2013 (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 counselling process conducted by the Competent Authority. The eligibility and other criteria as stipulated for WBJEE – 2013 candidates for admission to degree level Engineering / Technology / Pharmacy /Architecture courses, will also be applicable for JEE (Mains) 2013 merit listed candidates.

5.5.8 **Minority (Sikh & Christian):**

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

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

Self Financing Engineering & Technology Colleges of the State offering B. Tech / B. Pharm / B. Arch courses have been allowed to admit students directly by the Concerned Management from intending merit listed students fulfilling the required eligibility criteria as may be specified by the Higher Education Department of the State. Maximum number of seats available for such category is 10% of the approved intake. However, final status for availability of such seats may be notified in due course.

5.6 **Academic requirements [Please refer para – 1.1, page – 72 of AICTE Approval Process Handbook (2013 – 2014)]:**

**CANDIDATES APPLYING FOR WBJEE – 2013 MUST HAVE THE FOLLOWING MINIMUM ACADEMIC QUALIFICATIONS, SPECIFIED BY THE AICTE, DIFFERENT FOR DIFFERENT COURSES AS MENTIONED BELOW. CANDIDATES WHO ARE APPEARING FOR THE HIGHER SECONDARY EXAMINATION (10+2 LEVEL) OR ITS EQUIVALENT EXAMINATION IN 2013 BUT STANDING TO PASS THE SAME WITH THESE MINIMUM ACADEMIC QUALIFICATIONS, SPECIFIED BY THE AICTE; WILL BECOME ELIGIBLE DURING COUNSELLING AFTER THE DECLARATION OF RESULTS OF WBJEE – 2013. THE CANDIDATES FOUND TO POSSESS LOWER QUALIFICATIONS WILL BE DEBARRED FROM REGISTRATION FOR THE COUNSELLING PROCESS AND WILL NOT GET ADMISSION IN ANY OF THE INSTITUTES.**

5.6.1 **For Engineering/Technology & B. Pharm courses other than Marine Engineering:**

Candidates must pass Higher Secondary Examination (10+2 level) or its equivalent examination with a minimum of 45% marks in Physics, Chemistry and Mathematics taken together (40% for SC/ST/PwD candidates) and with at least 30% marks in English (for all categories of candidates) besides having individual pass marks in each of Physics, Chemistry, Mathematics, English and Vernacular (or any other fifth subject).

5.6.2 **For Marine Engineering Course:**

Candidates must pass Higher Secondary Examination (10+2 level) or its equivalent examination with a minimum of 60% marks in Physics, Chemistry and Mathematics taken together and with at least 50% marks in English either in 10<sup>th</sup> or in 12<sup>th</sup> Standard besides having individual pass marks in each of Physics, Chemistry, Mathematics, English and Vernacular (or any other fifth subject).

5.6.3 **For Architecture Course:** A candidate, besides satisfying the eligibility criteria as stated in Para 5.6.1 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.

6 **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 WBJEE – 2013 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. Fields 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.**

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.

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 or Post Office
- Entering e-Challan details after payment of fees
- Printing of the Confirmation Page as well as Top Sheet of enclosures

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

#### 6.1 **Application Fee Details:**

Irrespective of his/her category and gender, a candidate applying for WBJEE – 2013 has to pay Rs. 500/- (Rupees five hundred) only, as application fee, through ONLINE mode. An extra service charge of Rs. 6/- has to be paid by the candidates. 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 any one from the following modes of payment:

- (a). **Payment through Allahabad Bank e-Challan:** The candidate has to select “Allahabad Bank e-challan” to submit the application fee through bank. As soon as he selects it an **e-Challan** will be generated containing details of the candidate. The candidate has to take a printout of the same and take it to the nearest **Core Banking Service (CBS) facility enabled Branch of the Bank** for making **payment**. 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.
- (b). **Payment through e-Post Office:** The candidate has to select e-Post Office mode if he/she desires to submit the application fee through one of the **e-Post Office connectivity enabled Post Offices** in the State of West Bengal. As soon as he completes that a **RECEIPT** will be generated containing details of the Candidate which is required to be printed by the candidate and taken to the nearest **e-Post Office connectivity enabled Post Office** for making **payment**. After payment, the candidate has to login to the system and upload the details written on the receipt by the Post Office. When the details are uploaded, the **Confirmation Page** will be generated.

#### 6.2 **Confirmation Report and Its filling up:**

The **Confirmation Report** can be generated after successful payment of Application Fee. The candidate has to click on the available link “**PRINT CONFIRMATION PAGE & TOP SHEET**”. Its generation means that the candidate has been successfully **REGISTERED**. It contains **TWO PAGES**:

- (i) **Confirmation Page** and
- (ii) Another page that is to be stapled as the **Top Sheet** with 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 (refer Appendix V). 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 (Top Sheet of enclosures), 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 enlisted in the 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 with this enclosures.

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**

- (i). **TOP SHEET duly signed by the candidate**
- (ii). **SELF-ATTESTED BOARD COPY OF THE e-CHALLAN/RECEIPT**
- (iii). **SELF-ATTESTED COPY OF THE ADMIT CARD OF 10<sup>TH</sup> STANDARD EXAMINATION**

**Wherever applicable:**

- (iv). **SELF-ATTESTED COPY OF THE SC/ST CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE**
- (v). **SELF-ATTESTED COPY OF THE PwD CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE**
- (vi). **DULY FILLED UP DOMICILE CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE**
- (vii). **DULY FILLED UP TFW CERTIFICATE AS PER RULES GIVEN IN THE BROCHURE.**

## **7. 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.

### **7.1 Submission of Application Form:**

Refer to Appendix V for layout of the Confirmation Report, i.e. the Confirmation Page and the Top Sheet. 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.

### **7.2. 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 the following website for getting intimation regarding receipt of his/her Confirmation Report by the Board.

[www.wbjeeb.in](http://www.wbjeeb.in)

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

## 8. **Issue of Admit Card:**

After the last date of receipt of Confirmation Report and upon completion of verification of the same by the Board, an Admit Card will be generated indicating the allotted Examination Centre for WBJEE 2013 and a downloadable version of the admit card will be published on the respective domain of the candidate concerned in NIC website of the board. **An Examination Roll Number will be generated for each candidate.**

Furthermore, a physical copy of Admit Card will be sent to the applicant by Speed Post. However, the Board will not be held responsible for loss of Admit Card in transit.

In case the applicant does not receive the physical copy of the Admit Card sent by post, well before examination; he/she may download the soft copy of the same from the website and can appear in the examination at the concerned Examination Centre indicated in the downloaded Admit Card on production of the same along with the following documents-

a) Identical two copies of the original photographs (as pasted in the Confirmation page) duly attested by the Head of the recognized Institute last attended.

b) Photocopy of the filled-in Confirmation page of WBJEE-2013.

c) Postal slip for despatch of filled-in Confirmation page (by Speed Post).

d) e-Challan/Receipt for application fees (Candidate copy)

e) Original Admit Cards of Madhyamik (10th standard) or equivalent examination / H.S.(10+2 standard) or equivalent examination.

***Candidates must ensure that the photographs on the admit card are not mutilated / distorted / soiled even by accident and the hologram pasted on the photograph is not torn or taken out. Candidates with such mutilated / distorted / soiled admit cards will not be allowed to appear in WBJEE-2013.***

***Candidates must retain their admit cards carefully in secure place in undamaged condition in all respects as stated above till the completion of admission procedure.***

No duplicate Admit Card will be issued by the Board under any circumstances.

All applicants who appear to be prima facie eligible shall be provisionally permitted to sit for WBJEE-2013. 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 WBJEE-2013 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.

## 9. **Allocation of Examination Centre:**

The allotment of examination centre will be based on the choice 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 allotted centre will be entertained under any circumstances.

## 10. Evaluation and Declaration of Results of WBJEE – 2013:

### 10.1 Rules for scrutiny/review of Answer Sheet:

The Board does not communicate the results to any individual applicant. It does not have any provision for post publication scrutiny and /or review and hence will not entertain any such request after the examination. However, after the examination, suggested answers would be available for feedback from all concerned. Thereafter, the answers will be frozen by a set of reviewers not connected with the paper setting/moderation process. After publication of results, the response sheets of each candidate will be uploaded along with question wise mark(s) secured.

### 10.2 Declaration of the Results of 'WBJEE - 2013':

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.

## 11. Legal Jurisdiction:

11.1 All matters pertaining to conduct of WBJEE–2013 shall fall within the jurisdiction of Kolkata only.

11.2 The Board will not be a party pertaining to any dispute arising in the process of admission to any course of study through WBJEE – 2013.

## 12. Procedure for conduct of Examination:

Important procedures to be followed during the conduct of examination are specified in **APPENDIX - II**.

## 13. Counselling and Admission:

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 III**. The Universities/Institutions in West Bengal offering such courses are listed in **Appendix VI** 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.

## 14. Tuition Fee Waiver (TFW) Scheme:

Higher Education Department of W.B. Govt. has implemented the Tuition Fee Waiver Scheme (TFW) for all AICTE approved Govt. Engineering and Technology Colleges, Govt. aided self-financing Engineering and Technology Colleges, Engineering Departments of State-aided Universities as well as non-aided Self Financing Engineering and Technology Colleges of the State from the academic session of 2011-12 for economically backward meritorious students of the State of West Bengal.

### a) Eligibility:

Students who have been merit listed in the Joint Entrance Examination – 2013 (WBJEE-2013) conducted by West Bengal Joint Entrance Examinations Board and

- i) whose annual family income from all sources is less than Rs. 2.50 lakhs (Rupees two lakhs and fifty thousand) only
- ii) who are domiciled in West Bengal only

shall be eligible for seats under this scheme.

b) **Availability of seats under TFW Scheme along with other modalities:**

- i) Up to maximum 5% of sanctioned intake per course will be made available under this scheme.
- ii) These seats shall be supernumerary in nature.
- iii) The affiliating University shall allow requisite no. of seats over and above the sanctioned strength for each such affiliated college up to maximum 5% of sanctioned intake per course.
- iv) 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.
- v) The selection of candidates for the tuition fee waiver scheme shall be decided during the counselling process based on inter-se merit from amongst the eligible candidates.

The results of WBJEE 2013 conducted by West Bengal Joint Entrance Examinations Board will be the basis of the merit in this case.

- vi) In the event of non-availability of students in this category fulfilling all prescribed criteria, the seats shall not be allotted to any other category of applicants.

c) **Competent persons to issue annual family income from all sources:**

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.

It may be noted that aforesaid Income Certificate (refer **APPENDIX – VIII**) issued by any other person will not be entertained in this regard. *No elected people's representative like municipal commissioner, councillor/alderman of Municipal Corporation, MLA or MP is entitled to issue such certificates.*



## 15. **West Bengal Freeship (WBFS) Scheme:**

Since 2011, Govt of West Bengal has come up with a scheme about awarding of Half-tuition fee waiver or Half-freeship and Full-tuition fee waiver or Full-freeship 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 and Technological Institutes besides Engineering Departments of state-aided Universities of the State of West Bengal after featuring among the selected candidates through the counselling conducted by the WBJEEB. The scheme has been named as West Bengal Free-ship Scheme (WBFS) for all AICTE approved Government Engineering & Technology Colleges, Self Financing Engineering & Technology Colleges as well as all Engineering Departments of state-aided Universities of the State. This scheme runs parallel with the AICTE approved Tuition Fee Waiver Scheme. The certificate used to apply for TFW scheme (refer **APPENDIX – VIII**) will be applicable for WBFS as well.

Procedure for implementation of WBFS for economically backward meritorious students:

### **Eligibility:**

Students domiciled in the State of West Bengal, whose Annual family income is less than Rs. 2.50 Lakhs from all sources shall only be eligible for seats under this scheme. The waiver is limited to the Tuition fee only for all the Institutions concerned. All other fees except tuition fees will have to be borne by the beneficiary.

### **Preconditions for implementation of the West Bengal Free-ship Scheme:**

1. The authority for admission shall be the same as for regular admissions and
  - a) 20% of sanctioned intake per course shall be made available for these admissions under Full-fee waiver or Full-freeship and Half-fee waiver or Half-freeship categories in equal proportion i.e. 10% in each of the above categories.
  - b) For the Non Aided Self Financing Engineering & Technology Colleges of the State, only if the concerned College chooses to admit students under Management Quota (MQ) of 10% of the total intake for that specific academic year; this scheme will be applicable. For six (6) Government Engineering & Technology Colleges of the State as well as for the Engineering Departments of state-aided Universities too this scheme will be applicable.
2. The competent authority for implementing this Scheme shall be the Registration and Enrolment authority of the concerned University i.e. the REGISTRAR (viz. Registrar of the West Bengal University of Technology for the Government and Self-Financing Engineering & Technology Colleges of the State or respective Registrars of the Universities like; Jadavpur University, Bengal Engineering & Sciences University etc. for Engineering Departments of those Universities).
3. The Registrar of WBUT, after finalization of enrolment and registration of all students in aforementioned Engineering & Technology colleges, both Government as well as Self-Financing ones; shall check, verify and approve the Priority List prepared by those respective colleges based on the annual income of all such students taking admission in such colleges considering “Means” as the determining Criterion.



4. Similarly the Registrars of the other Universities for their respective Engineering Departments shall check, verify and approve the Priority List prepared by those Engineering Departments based on the annual income of all such students taking admission in such Engineering Departments considering "Means" as the determining Criterion.
5. The selection of students under this category shall be made by the aforementioned competent authority once the registration is complete for each such eligible college / institution after the last date of registration notified by the WBUT and for each of the Engineering Departments of other state-aided Universities once their registration is over.
6. Thereafter the competent authority shall prepare a list of students thus admitted under this category who stand to become eligible to receive Full and Half Free-ship for the respective colleges as well as the Engineering Departments of state-aided Universities and shall send the same to the concerned colleges / institutions as well as the Engineering Departments of state-aided Universities to which they are admitted; for further action including informing concerned students.
7. For the purpose of determining the Annual Income of the parents / guardians of the students, all competent authorities mentioned in Clause 14(c), are eligible.
8. The Colleges as well as each of such Engineering Departments of state-aided Universities shall provide the particulars of each beneficiary including name, rank, annual family income from all sources etc; who have been granted the benefit under the WBFS, in a discipline-wise manner to the State Government through the Director of Technical Education, for continuous supervision and monitoring of the Scheme. The formats for submission of various reports as enumerated hereinabove shall be notified in due course.
9. The name and details of the students receiving benefits of Free-ship shall be displayed on the Notice Board and Website of the respective institutions and each of the Engineering Departments of state-aided Universities.

**APPENDIX –I**  
**SYLLABUS FOR WBJEE - 2013**

**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
- (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), conservation of linear momentum, rocket motion, centre of mass, impulsive forces, friction.
- (v) Work, Power and Energy, conservative and non-conservative forces, conservation of energy, collision (elastic and inelastic).
- (vi) Rotational motion : Torque, angular momentum and 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:** Laws 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 in 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.

**Vibrations:** Simple Harmonic Motion, 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: Kirchoff's law, Wien's law, Stefan's law, Newton's law of cooling, Kinetic theory: mean free path, pressure of an ideal gas, mean and rms velocity 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: defects and remedies.

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

**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 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.

Kirchoffs laws, Wheat stone bridge, Metre bridge, potentiometer.

Heating effect of current, thermoelectricity, see beck and Peltier effect.

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

**Electromagnetism:** Magnetic effects of Current, Biot Savart's law, magnetic field due to an infinite line charge, circular coil and 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 : Dia, para and ferromagnet, permeability, susceptibility.

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

Qualitative idea of electromagnetic wave and its 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, photo-electric effect .

Constituents of atoms, isotopes, mass defect, mass-energy equivalence, binding energy. radioactivity –  $\alpha$ ,  $\beta$ ,  $\gamma$  radiation, half life, mean life, fission, fusion.

Energy bands in solids, intrinsic and doped semiconductors, p-n junction diode, rectifier, pnp and npn transistors, common emitter characteristics.

Binary number, 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 arithmetico-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; D'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  $2^{2^n} - 1$  is divisible by 3 ( $n \geq 1$ ), 7 divides  $3^{2^{n+1}} + 2^{n+2}$  ( $n \geq 1$ )

**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, derivatives of implicit functions and of 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)  $dy / dx = (a_1x+b_1y+c_1) / (a_2x+b_2y+c_2)$ , ( $a_1/a_2 = b_1/b_2$ )
- 5)  $dy / dx + p(x)y = Q(x)$
- 6)  $d^2y / dx^2 + p_1 dy/dx + p_2y = 0$  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  $E = hv$ ); Bohr's model of hydrogen atom and its limitations, Sommerfeld's modifications (elementary idea); The four quantum numbers, ground state electronic configurations of many electron atoms and mono-atomic ions; The Aufbau Principle; Pauli's Exclusion Principle and Hund's Rule.

Uncertainty principle; The concept of atomic orbitals, shapes of s, p and d orbitals (pictorial approach)

### **Radioactivity and Nuclear Chemistry**

Radioactivity —  $\alpha$ -,  $\beta$ -,  $\gamma$ -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 electro negativity, 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 ( $\Delta E$ ) and Enthalpy change ( $\Delta H$ ) 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  $\Delta G$  and  $\Delta G^\circ$ .

**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 ( $E^\circ$ ), 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 CO, production, properties and uses.

Nitrogen and Phosphorus — occurrence, isotopes, allotopes, isolation from natural sources and purification, reactivity of the free elements. Preparation, properties, reactions of  $\text{NH}_3$ ,  $\text{PH}_3$ ,  $\text{NO}$ ,  $\text{NO}_2$ ,  $\text{HNO}_2$ ,  $\text{HNO}_3$ ,  $\text{P}_4\text{O}_{10}$ ,  $\text{H}_3\text{PO}_3$  and  $\text{H}_3\text{PO}_4$ .

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 -  $\sigma$ - and  $\pi$ -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  $\alpha$ -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; Formation of Grignard reagents and their synthetic applications for the preparation of alkanes, alcohols, aldehydes, ketones and acids;  $S_N1$  and



$S_N2$  reactions (preliminary concept).

Markownikoff's and anti-Markownikoff's additions; Hydroboration; Oxymercuration — demercuration, reduction of alkenes and alkynes ( $H_2$ /Lindler catalyst and Na in liquid  $NH_3$ ), metal acetylides.

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  $1^\circ$ ,  $2^\circ$  and  $3^\circ$  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 noninterfering Acid and Basic Radicals by dry and wet tests from among:

(a) Acid Radicals :  $Cl^-$ ,  $S^{2-}$ ,  $SO_4^{2-}$ ,  $NO_3^-$ ,  $CO_3^{2-}$

(b) Basic Radicals:  $\text{Cu}^{2+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Na}^+$ ,  $\text{NH}_4^+$

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.

**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) Admit card (WBJEE-2013), ii) Black / Blue Ball Point Pen.
3. Candidates must show on demand the Admit Card (WBJEE-2013) for admission to the Examination Hall. A candidate not possessing the 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**  
**Branch Names along with their Codes**

SI No	Course / Branch Name	Branch Code
1	Aerospace Engineering	ARS
2	Agricultural Engineering	AGR
3	Apparel Production Management	APM
4	Applied Electronics/Electronics Instrumentation Engineering	EIE
5	Architecture	ARC
6	Automobile Engineering	ATE
7	Bio Medical Engineering	BMD
8	Bio Technology	BOT
9	Ceramic Engineering	CRM
10	Chemical Engineering	CHE
11	Civil Engineering	CIV
12	Computer Science and Engineering/Computer Sc. and Technology	CSE
13	Construction Engineering	COE
14	Dairy Technology	DAT
15	Electrical & Electronics Engineering	EEE
16	Electrical Engineering	ELE
17	Electronics & Communication Engineering/ Electronics and Telecommunication Engineering	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	PHE
29	Power Engineering	PWE
30	Printing Technology	PRT
31	Production Engineering	PRO
32	Textile Engineering	TEX

## **APPENDIX – IV**

### **DOs AND DON'Ts**

#### **Dos**

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 correctly.
4. Fields are mandatory in nature and details should be correctly filled up.
5. Paste colour photographs with gum only in the Confirmation Page properly so that it does not get detached in any way.
6. Candidate must put full signature in the specified places of the Confirmation Report.
7. Retain a photocopy (Xerox) of the Confirmation Report positively.
8. Staple the Top Sheet (page 2 of Confirmation Report) with photocopy (Xerox) of the testimonials.
9. Send the duly filled in Confirmation Report and enclosures through Speed Post only.
10. Enter the examination hall only with your Admit Card and blue/black ball point pens.
11. Submit the OMR Answer Sheet to the Invigilator after completion of each session of Examination.
12. Write the Question Booklet No. in the specified places on both the OMR Answer Sheet as well as the Attendance Sheet.

#### **Don'ts**

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 (xerox) 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. Don't soil or damage the Confirmation Report 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.
12. Don't bring Mobile Phone, Calculator or any other electronic gadget inside the Examination Hall.



**Staple With Testimonials**  
**WEST BENGAL JOINT ENTRANCE EXAMINATIONS BOARD**  
TOP SHEET OF ENCLOSURES - WBJEE 2013 (STAPLE WITH CREDENTIALS)



**Application No.: 3000027**

Application Form For:	WBJEE-2013	Location of Examination:	Near School from where passed/appearing 10+2
Candidate's Name:	SATADAL MAHATO	Date of Birth:	29/02/1984
Father's Name:	CHITTA RANJAN MAHATO	Gender:	MALE
Mother's Name:	CHITRA MAHATO	Category:	General
Nationality:	INDIAN	Person with Disability:	No
State of Domicile:	WEST BENGAL	Tuition Fee Waiver(TFW):	Yes
District:	Paschim Medinipur	Mobile No.:	6549873218
Email Id:	abc@gmail.com	Land Line No.:	03221-123456
Religion:	OTHERS		
Communication Address:	NEAR BELPAHARI BLOCK OFFICE, P.S. BELPAHARI, PASCHIM MEDINIPUR-732113		
Permanent Address:	NEAR BELPAHARI BLOCK OFFICE, P.S. BELPAHARI, PASCHIM MEDINIPUR-732113		

Full signature of the Candidate

Countersigned by guardian

**This is Top Sheet of enclosures. All enclosures are to be stapled/attached with this Top Sheet and send to AQ-13/1, Salt Lake, Sector V, Kolkata – 91, West Bengal, India alongside Confirmation Page in the same envelope by Speed Post only.**

List of enclosures (to be attached with this page):

1. Photocopy of Admit Card/Registration Certificate of qualifying (10+2) examination duly attested by a Class 1 Gazetted Officer for Date-of-Birth proof.
2. Board copy of the e-challan.
3. Domicile/Residential Certificate (Self-attested).
4. TFW Certificate (Self-attested).

**Details of India Post(ePost Office) eChallan**

Amount :506 /-	Receipt No. :121212121212134	Deposit Date :09/01/2013
Pincode :723123	Post Office Name :MEDINIPUR POST OFFICE	

**PLEASE TICK THE BOXES AS PER ENCLOSURES ATTACHED**

Photo, Signature and LTI	e-challan receipt	Date of Birth	Domicile	Verifier's Initials
SC/ST	PH	TFW		

## APPENDIX – VI

### List of Universities / Colleges offering B.E. / B. Tech. / B.Pharm. / B. Arch. Courses

Sr No.	Institute Code	Institute Name	Institute Type
1.	U001	BENGAL ENGINEERING & SCIENCE UNIVERSITY,SHIBPUR	U
2.	U002	BIDHAN CHANDRA KRISHI VISWAVIDYALAYA	U
3.	U003	JADAVPUR UNIVERSITY	U
4.	U004	UNIVERSITY OF KALYANI	U
5.	U005	UNIVERSITY INSTITUTE OF TECHNOLOGY, BURDWAN	U
6.	U006	UTTAR BANGA KRISHI VISWAVIDYALAYA	U
7.	U007	WEST BANGAL UNIVERSITY OF ANIMAL & FISHERY SCIENCES	U
8.	U008	WEST BANGAL UNIVERSITY OF TECHNOLOGY	U
9.	G001	GOVT. COLLEGE OF ENGINEERING & CERAMIC TECHNOLOGY	G
10.	G002	GOVT. COLLEGE OF ENGINEERING & TEXTILE TECHNOLOGY	G
11.	G003	GOVT. COLLEGE OF ENGG. & TEXTILE TECHNOLOGY	G
12.	G004	GOVERNMENT COLLEGE OF ENGINEERING AND LEATHER TECHNOLOGY	G
13.	G005	INSTITUTE OF PHARMACY	G
14.	G006	JALPAIGURI GOVERNMENT ENGINEERING COLLEGE	G
15.	G007	KALYANI GOVERNMENT ENGINEERING COLLEGE	G
16.	P001	INSTITUTE OF JUTE TECHNOLOGY	P
17.	P002	NATIONAL POWER TRAINING INSTITUTE	P
18.	P003	ASANSOL ENGINEERING COLLEGE	P
19.	P004	ARYABHATTA INSTITUTE OF ENGINEERING & MANAGEMENT	P
20.	P005	ABACUS INSTITUTE OF ENGINEERING & MANAGEMENT	P
21.	P006	ACADEMY OF TECHNOLOGY	P
22.	P007	ADMAS INSTITUTE OF TECHNOLOGY	P
23.	P008	BANKURA UNNAYANI INSTITUTE OF ENGINEERING	P
24.	P009	BENGAL COLLEGE OF ENGINEERING & TECHNOLOGY	P
25.	P010	BENGAL COLLEGE OF PHARMACEUTICAL SCIENCE & RESEARCH	P
26.	P011	BENGAL COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN	P
27.	P012	BENGAL INSTITUTE OF TECHNOLOGY & MANAGEMENT	P
28.	P013	BENGAL INSTITUTE OF PHARMACEUTICAL SCIENCES, KALYANI	P
29.	P014	BENGAL SCHOOL OF TECHNOLOGY	P
30.	P015	BIRBHUM INSTITUTE OF ENGINEERING & TECHNOLOGY	P
31.	P016	BUDGE BUDGE INSTITUTE OF TECHNOLOGY	P
32.	P017	BCDA COLLEGE OF PHARMACY & TECHNOLOGY, HRIDAYPUR	P
33.	P018	BENGAL INSTITUTEL OF TECHNOLOGY	P
34.	P019	B.P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY	P
35.	P020	BHARAT TECHNOLOGY	P
36.	P021	BRAINWARE GROUP OF INSTITUTIONS	P
37.	P022	COLLEGE OF ENGINEERING AND MANAGEMENT, KOLAGHAT	P
38.	P023	CALCUTTA INSTITUTE OF ENGINEERING & MANAGEMENT	P



Sr No.	Institute Code	Institute Name	Institute Type
39.	P024	CALCUTTA INSTITUTE OF TECHNOLOGY	P
40.	P025	CALCUTTA INSTITUTE OF PHARMACEUTICAL TECH. AND ALLIED HEALTH SCIENCES	P
41.	P026	CAMELIA INSTITUTE OF TECHNOLOGY	P
42.	P027	CAMELIA SCHOOL OF ENGINEERING & TECHNOLOGY	P
43.	P028	CAMELIA INSTITUTE OF TECHNOLOGY & MANAGEMENT	P
44.	P029	CAMELIA INSTITUTE OF ENGINEERING & TECHNOLOGY	P
45.	P030	CAMELIA INSTITUTE OF ENGINEERING	P
46.	P031	DR. B. C. ROY ENGINEERING COLLEGE	P
47.	P032	DR. B. C. ROY COLLEGE OF PHARMACY AND ALLIED HEALTH SCIENCES	P
48.	P033	DURGAPUR INSTITUTE OF ADVANCED TECHNOLOGY & MANAGEMENT	P
49.	P034	DUMKAL INSTITUTE OF ENGINEERING & TECHNOLOGY	P
50.	P035	DREAM INSTITUTE OF TECHNOLOGY	P
51.	P036	DR. SUDHIR CHANDRA SUR DEGREE ENGINEERING COLLEGE	P
52.	P037	FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT	P
53.	P038	GARGI MEMORIAL INSTITUTE OF TECHNOLOGY	P
54.	P039	GLOBAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY	P
55.	P040	GUPTA COLLEGE OF TECHNOLOGICAL SCIENCE	P
56.	P043	GREATER KOLKATA COLLEGE OF ENGINEERING & MANAGEMENT	P
57.	P044	HALDIA INSTITUTE OF TECHNOLOGY	P
58.	P045	HERITAGE INSTITUTE OF TECHNOLOGY	P
59.	P046	HOOGHLY ENGINEERING & TECHNOLOGY COLLEGE	P
60.	P047	IMPS COLLEGE OF ENGINEERING & TECHNOLOGY	P
61.	P048	INSTITUTE OF ENGINEERING & MANAGEMENT	P
62.	P049	INSTITUTE OF TECHNOLOGY & MARINE ENGINEERING	P
63.	P050	INSTITUTE OF SCIENCE AND TECHNOLOGY	P
64.	P051	IERCEM INSTITUTE OF INFORMATION TECHNOLOGY	P
65.	P052	IDEAL INSTITUTE OF ENGINEERING	P
66.	P054	KANKSA ACADEMY OF TECHNOLOGY & MANAGEMENT	P
67.	P055	KANAD INSTITUTE OF ENGINEERING & MANAGEMENT	P
68.	P056	MURSHIDABAD COLLEGE OF ENGINEERING & TECHNOLOGY	P
69.	P057	MEGHNAD SAHA INSTITUTE OF TECHNOLOGY	P
70.	P058	MALLABHUM INSTITUTE OF TECHNOLOGY	P
71.	P059	MCKV INSTITUTE OF ENGINEERING	P
72.	P060	MODERN INSTITUTE OF ENGINEERING & TECHNOLOGY	P
73.	P062	NETAJI SUBHASH CHANDRA BOSE INSTITUTE OF PHARMACY	P
74.	P063	N.S.H.M. COLLEGE OF PHARMACEUTICAL TECHNOLOGY	P
75.	P064	NETAJI SUBHAS ENGINEERING COLLEGE	P
76.	P065	NSHM KNOWLEDGE CAMPUS, DURGAPUR	P

Sr No.	Institute Code	Institute Name	Institute Type
77.	P066	OM DAYAL GROUP OF INSTITUTIONS	P
78.	P067	PAILAN COLLEGE OF MANAGEMENT & TECHNOLOGY	P
79.	P068	REGENT EDUCATION AND RESEARCH FOUNDATION	P
80.	P069	RCC INSTITUTE OF INFORMATION TECHNOLOGY	P
81.	P070	SILIGURI INSTITUTE OF TECHNOLOGY	P
82.	P071	SAROJ MOHAN INSTITUTE OF TECHNOLOGY	P
83.	P072	ST. THOMAS COLLEGE OF ENGINEERING & TECHNOLOGY	P
84.	P073	SEACOM ENGINEERING COLLEGE	P
85.	P074	SANAKA EDUCATION TRUSTS GROUP OF INSTITUTIONS	P
86.	P075	SURENDRA INSTITUTE OF ENGINEERING & MANAGEMENT	P
87.	P076	SUPREME KNOWLEDGE FOUNDATION GROUP OF INSTITUTIONS	P
88.	P077	SWAMI VIVEKANANDA INSTITUTE OF SCIENCE & TECHNOLOGY	P
89.	P078	ST. MARYS TECHNICAL CAMPUS, KOLKATA	M
90.	P079	TECHNO GLOBAL-BALURGHAT	P
91.	P080	TECHNO INDIA	P
92.	P081	TECHNO INDIA COLLEGE OF TECHNOLOGY	P
93.	P061	NARULA INSTITUTE OF TECHNOLOGY	M
94.	P053	JIS COLLEGE OF ENGINEERING	M
95.	P041	GURU NANAK INSTITUTE OF TECHNOLOGY	M
96.	P042	GURU NANAK INSTITUTE OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY	M

**Legend: U – University**

**G – Govt College**

**P – Private (Self Financing) Institute**

**M – Minority Institutes**

**APPENDIX – VII**

**Proforma for Residential/Domicile Certificate**

(Strike out whichever is not necessary)

Certified that \_\_\_\_\_ son/daughter/father/mother 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 for the last ten (10) years as on 31-12-2012.

Paste passport size colour photo (3 cm X 4 cm) TO BE ATTESTED
--

Date: \_\_\_\_\_ Signature of Certifying Authority \_\_\_\_\_

Place: \_\_\_\_\_ Designation with Official Seal \_\_\_\_\_

Full Name of Certifying Authority  
\_\_\_\_\_

Address \_\_\_\_\_

Phone No. \_\_\_\_\_

**APPENDIX – VIII**

**Proforma for TFW (as well to be considered for WBFS) 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 2011-2012

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

Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ )

Paste passport  
size colour  
photo  
(3 cm X 4 cm)  
TO BE ATTESTED

Date: \_\_\_\_\_ Signature of Certifying Authority \_\_\_\_\_

Place: \_\_\_\_\_ Designation with Official Seal \_\_\_\_\_

Full Name of Certifying Authority \_\_\_\_\_

Address \_\_\_\_\_

Phone No. \_\_\_\_\_

## IMPORTANT DATES RELATED TO CONDUCT OF WBJEE – 2013

Serial No.	<b>Activity</b>	Begins on	Ends on
01	Online form submission at <a href="http://www.wbjeeb.nic.in">http://www.wbjeeb.nic.in</a>	11 <sup>th</sup> January 2013	16 <sup>th</sup> February 2013
02	Fee payment through Allahabad Bank / India Post Office by e-Challan	11 <sup>th</sup> January 2013	19 <sup>th</sup> February 2013
03	Generation of Confirmation Page & Top Sheet	11 <sup>th</sup> January 2013	21 <sup>st</sup> February 2013
04	Date of receipt of SINGLE ENVELOPE <u>containing</u> : duly filled-in Confirmation Page (loose, not to be stapled) along with Top Sheet (attached/stapled with enclosures) by the Board at its Office by Speed Post	11 <sup>th</sup> January 2013	28 <sup>th</sup> February 2013
05	Status of receipt and disposal of Application Form to be ascertained by applicant from website <a href="http://www.wbjeeb.in">http://www.wbjeeb.in</a>	01 <sup>st</sup> March 2013	31 <sup>st</sup> March 2013
06	Publication of Admit Card (downloadable) in website <a href="http://www.wbjeeb.nic.in">http://www.wbjeeb.nic.in</a>	01 <sup>st</sup> April 2013	21 <sup>st</sup> April 2013
07	Despatch of Printed Admit Card to candidate by the Board through India Post	01 <sup>st</sup> April 2013	10 <sup>th</sup> April 2013
08	Date of Examination	21 <sup>st</sup> April 2013	
09	Publication of Results	By 10 <sup>th</sup> June 2013	
10	e-Counselling and e-Admission	To be announced <b>LATER</b>	

\*\*\*\*\* ABOVE DATES MAY CHANGE DUE TO UNAVOIDABLE CIRCUMSTANCES.