

# INFORMATION BULLETIN

## WEST BENGAL JOINT ENTRANCE EXAMINATION-2019

(WBJEE-2019)

### Date of Examination

**26.05.2019 (Sunday)**

(Tentative and may be changed in extraordinary circumstances)



### West Bengal Joint Entrance Examinations Board

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

Toll free phone Nos.: 1800-1023-781, 1800-3450-050

Release date: 12<sup>th</sup> December 2018

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<b>IMPORTANT INSTRUCTIONS FOR ON LINE APPLICATION</b>	
<p><b>Candidates are required to go through the Information Bulletin carefully before applying for the examination.</b></p> <p>Once an application is received, it will be construed that the candidate agrees to all terms &amp; conditions, rules &amp; regulations stipulated in the Information Bulletin and notices published by the Board for the said purpose.</p> <p><b>Any application not in compliance with the conditions specified in the Information Bulletin is liable to be rejected.</b></p>	
<b>1.</b>	Application for WBJEE-2019 must be done online only. There is no printed application form available.
<b>2.</b>	Ensure filling genuine application form available on line at <a href="http://www.wbjeeb.nic.in">www.wbjeeb.nic.in</a>
<b>3.</b>	<p><b>It is essential to have a mobile number and a unique email ID.</b></p> <p>All future communications will be sent to the registered mobile number and email ID. WBJEEB will not be responsible for non-receipt of any communication by the candidates if the mobile number and/or the email ID are wrong/non-existing/non-functional/changed.</p>
<b>4.</b>	<p>Once the registration details i.e. <b>name, father's name, mother's name, gender and date of birth</b> are entered and submitted, they <b>cannot be changed/modified/edited under normal circumstances.</b></p> <p>Also the information must match exactly with the school admit cards, mark sheets, certificates, photo identity cards, caste/category certificates etc. which a candidate has to produce at the time of entering the examination hall, during counselling, during admission and during registration with the University.</p>
<b>5.</b>	Do not attempt to make any duplicate application.
<b>6.</b>	Do not share your application number; pass word, security question/answer with anyone.
<b>7.</b>	Upload <b>scanned</b> copy of photograph and signature as instructions provided in the Information Bulletin.
<b>8.</b>	If any information <b>other than</b> name, father's name, mother's name and date of birth given in the application needs to be corrected then do the correction within the given period of correction. The Board will not allow any correction thereafter.
<b>9.</b>	If any candidate receives any SMS/email regarding discrepancy in photograph/signature uploaded by him/her, he/she must take corrective action immediately <b>within one day.</b>
<b>10.</b>	<p>Application fees for <b>WBJEE-2019</b> is <b>₹500 (Rupees five hundred only) plus the Bank's Service Charges</b>, as applicable, payable by Net Banking/ Debit Card/ Credit Card.</p> <p>Payment status is updated automatically and hence should show 'OK' immediately after the payment. But in some rare cases it may be delayed due to</p>

	<p>delay/failure in the Bank's network or transaction failure at the Electronic Payment Gateway (EPG). If the payment status does not show 'OK' immediately after making the payment, then the candidates are advised to make payment once again.</p> <p><b>Do not wait for the last day to make fee payment in order to avoid payment failure by Bank or EPG.</b></p>
<b>11.</b>	Keep copies of <b>confirmation page, admit card</b> in safe custody. It is not possible to generate any duplicate copy.
<b>12.</b>	<p>For any query regarding the examination, contact:</p> <p><b>Controller of Examinations</b> <b>West Bengal Joint Entrance Examinations Board</b> <b>AQ-13/1, Sector -V, Salt Lake City, Kolkata-700091</b> <b>Examination Helpdesk: -1800-1023-781, 1800-3450-050</b> <b>Email: Link &lt;Contact Us&gt; in <a href="http://www.wbjeeb.in">www.wbjeeb.in</a></b></p>

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1.0	<b>Introduction:</b>
	<p><b>The West Bengal Joint Entrance Examinations Board</b></p> <p>The West Bengal Joint Entrance Examinations Board (WBJEEB) was established in 1962 by Government of West Bengal in exercise of the powers conferred under article 162 of the Constitution of India in pursuant to No. 828-Edn(T), dated 02.03.1962. Subsequently, the Board was recognised as a Statutory Body vide West Bengal Act XIV of 2014 and was authorised for conducting the Joint Entrance Examination in respect to admission to various institutions in West Bengal imparting education in Medical, Engineering and Technological courses.</p> <p>The Board has been empowered to conduct Common Entrance Examinations for admission to Undergraduate and Postgraduate Professional and Vocational Courses both in the Undergraduate and Post graduate level. As such, it always endeavours to advocate transparency and implement effective state-of-the-art technology in conducting such examinations. WBJEEB has been instrumental in conducting the admission process through online application and allotment through e-Counselling since 2012.</p> <p>For the academic session of 2019-20, the Board is going to conduct the Common Entrance Examination for admission to Undergraduate Courses in Engineering &amp; Technology, Pharmacy and Architecture Courses in Universities, Government Colleges as well as Self Financing Engineering &amp; Technological Institutes in the State of West Bengal.</p>
2.0	<b>The West Bengal Joint Entrance Examination-2019 (WBJEE-2019)</b>
2.1	<p><b>The mode of Examination</b></p> <p>It is the Common Entrance Examination in offline mode (OMR based examination).</p>
2.2	<p><b>Subjects of Examination:</b></p> <p>Candidates are required to appear for two papers in WBJEEB-2019</p> <ol style="list-style-type: none"> <li><b>1. Paper-I – Mathematics</b></li> <li><b>2. Paper-II - Physics &amp; Chemistry (combined).</b></li> </ol> <p>Candidates appearing in <b>both Paper-I and Paper-II</b> and who are awarded GMR ranks will be eligible for admission in Engineering/ Technology/ Architecture/ Pharmacy Courses in all institutes</p> <p>Candidates appearing in <b>Paper-II only</b> and who are awarded PMR ranks will be eligible for admission only in Pharmacy Courses (except in Jadavpur University)</p>

2.3

Syllabus of Examination: The subject wise Syllabus for the WBJEE-2019 is available in **APPENDIX-7**

2.4

Schedule of WBJEE-2019

Date of Examination	Paper/ Subject	Time schedule
26.05.2019 (Sunday)  (Tentative and may be changed in extraordinary circumstances)	Paper-I (Mathematics)  Paper-II (Physics & Chemistry)	11:00 a.m. to 1.00 p.m.  2:00 p.m. to 4:00 p.m.

No further examination shall be held under any circumstances for those who will not be able to appear on the above date and time of WBJEE-2019 examination.

2.5

Pattern of Question Papers in WBJEE-2019

Questions will be based on the Syllabus for WBJEE-2019 as is given in **APPENDIX – 7**.

All questions will be of **Multiple-Choice Questions (MCQ)**, with four options against each of the questions. There will be three categories of questions in each of the subjects. The number of questions as well as maximum marks for each are given in the following table:

	Category-I Full Marks-1	Category-II Full Marks-2	Category-III Full Marks-2	Total Number of Questions	Total Marks
	No. of Questions	No. of Questions	No. of Questions		
Mathematics	50	15	10	75	100
Physics	30	5	5	40	50
Chemistry	30	5	5	40	50

2.6

Mode of answering in the examination

a)

Questions are to be answered on specially designed optical machine-readable response **(OMR)** sheet, which will be evaluated by Optical Mark Recognition method. Thus, it is very important to follow the correct method of marking.

- b) There will be four alternative answers for each question. Candidates will indicate response to the questions by **darkening the appropriate circle completely with blue/black ball point pen.**
- c) Any other kind of marking e.g. filling the bubble incompletely, filling with pencil, cross mark, tick mark, dot mark, circular mark, over writing, scratching, erasing, white ink, marking outside the bubble etc. may lead to wrong/partial/ambiguous reading of the response. **WBJEEB will be, in no way, responsible for such eventuality.**
- d) Response marking cannot be edited/changed/erased/modified. Hence it is advised that the candidate should be sure about the answer before marking and should not put any stray mark on which he/she does not want to attempt.

**2.7****Scoring Methodology****Question type:****Scoring methodology****Category-I:**

- a) Only one option is correct.
- b) Correct response will yield 1 (one) mark.
- c) Incorrect response will yield -1/4 (25% negative) marks.
- d) For any combination of response with more than one option, the said answer will be treated as incorrect and will yield -1/4 (25% negative) marks.
- e) Not attempting the question will fetch zero mark.

**Category-II:**

- a) Only one option is correct.
- b) Correct response will yield 2(two) marks.
- c) Incorrect response will yield -1/2 (25% negative) marks.
- d) For any combination of response with more than one option, the said answer will be treated as incorrect and will yield -1/2 (25% negative) marks.
- e) Not attempting the question will fetch zero mark.

**Category-III:**

- a) **One or more** options may be correct.
- b) Only all Correct response will yield 2(two) marks.
- c) Any combination of correct and wrong response will be treated as incorrect and will yield 0 (zero) mark.
- d) For partially correct response, marks awarded will

	<p><math display="block">\text{be} = 2 \times (\text{no. of correct options marked} \div \text{total no. of correct options}).</math></p> <p>e) Not attempting the question will fetch zero mark.</p>
2.8	<p><b>Ranking Methodology and publication of Merit Lists</b></p> <p>Based on the papers (subjects) appeared in the WBJEE-2019 followed by marks scored there-of, two separate Merit Ranks shall be generated by the Board as per the following method:</p> <p><b>A. General Merit Rank: (GMR)</b></p> <ol style="list-style-type: none"> <li>This list shall be prepared based on the total score obtained in paper-I and paper-II taken together.</li> <li><b>GMR</b> shall be applicable for admission to all Engineering / Technology / Architecture Courses and to the Pharmacy Course in Jadavpur University.</li> <li>Ranking shall be done in the descending order of total marks scored in all the subjects. In case of ties, tie-breaking rules as given in 2.9 shall be applicable.</li> <li>Separate reserved category merit position will also be indicated for respective category of students e.g. SC Rank, ST Rank, OBC-A Rank, OBC-B Rank, PwD Rank, TFW Rank.</li> <li><b>Counselling/allotment of seat/admission will be done based on GMR only</b> (not on category ranks). Category ranks are only for information to candidates.</li> <li>Category ranks are generated based on the birth category information given by the candidates during online application. If during verification, any candidate's claim is found invalid, his/her category rank will be cancelled and the candidate will be considered in general category with his/her GMR. Category ranks of other candidates will not be revised.</li> </ol> <p><b>B. Pharmacy Merit Rank: (PMR)</b></p> <ol style="list-style-type: none"> <li>This list shall be prepared based on the score in paper-II only, i.e. physics and chemistry.</li> <li><b>PMR</b> shall be applicable for admission to all Pharmacy Courses <b>except in Jadavpur University</b>.</li> <li>Ranking shall be done in the descending order of marks scored in paper-II. In case of ties, tie-breaking rules as given in 2.9 shall be applicable.</li> <li>Counselling and admission will be done based on <b>PMR only</b>.</li> <li>Separate reserved category merit position will also be indicated for respective category of students e.g. SC Rank, ST Rank, OBC-A Rank, OBC-B Rank, PwD Rank, TFW Rank.</li> </ol>

	<p>f. <b>Counselling/allotment of seat/admission will be done based on PMR only</b> (not on category ranks). Category ranks are only for information to candidates.</p> <p>g. Category ranks are generated based on the birth category information given by the candidates during online application. If during verification, any candidate's claim is found invalid, his/her category rank will be cancelled and the candidate will be considered in general category with his/her PMR. Category ranks of other candidates will not be revised.</p> <p><b>C. Papers and ranks</b></p> <p>a. Candidates appearing in both paper-I and paper-II are eligible for both GMR and PMR. Such candidates are considered for admission in all courses.</p> <p>b. Candidates appearing only in paper-II are eligible for PMR only. Such candidates are considered for admission in to pharmacy courses only (except in Jadavpur University)</p> <p>c. Candidates appearing only in paper-I are on eligible for any rank</p>
<b>2.9</b>	<b>Tie-breaking Methodology in determination of Merit Rank</b>
<b>2.9.1</b>	<p><b>Tie breaking Rule for GMR</b></p> <p>a) Less negative marks in Mathematics, Physics and Chemistry taken together</p> <p>b) More positive marks in Mathematics and Physics taken together</p> <p>c) More positive marks in Mathematics and Chemistry taken together</p> <p>d) Less negative marks in Mathematics and Physics taken together</p> <p>e) Less negative marks in Mathematics and Chemistry taken together</p> <p>f) More positive marks in Mathematics for only the 2 marks questions</p> <p>g) More positive marks in Physics for only the 2 marks questions</p> <p>h) More positive marks in Chemistry for only the 2 marks questions</p> <p>i) Less negative marks in Mathematics for only the 2 marks questions</p> <p>j) Less negative marks in Physics for only the 2 marks questions.</p>
<b>2.9.2</b>	<p><b>Tie breaking Rule for PMR</b></p> <p>a) Less negative marks in Physics &amp; Chemistry</p> <p>b) More positive marks in Chemistry</p> <p>c) Less negative marks in Chemistry</p> <p>d) More positive marks in Chemistry for only the 2 marks questions</p>

	<ul style="list-style-type: none"> <li>e) Less negative marks in Chemistry for only the 2 marks questions</li> <li>f) More positive marks in Physics for only the 2 marks questions</li> <li>g) Less negative marks in Physics for only the 2 marks questions.</li> </ul>
<b>2.9.3</b>	<p><b>Final Tie-breaking rule for GMR and PMR</b></p> <p>After application of the Tie-breaking Rules as applicable if there be still ties, the same will be broken by the date of birth (DOB) of the candidates, with the older candidate having preference over the younger one.</p>
<b>2.10</b>	<p><b>Rules of the examination (WBJEE-2019):</b> Rules to be followed during the examination is given in APPENDIX-8</p>
<b>3.0</b>	<p><b>Eligibility and academic qualification</b></p>
<b>3.1</b>	<p><b>Eligibility criteria for appearing in the WBJEE-2019</b></p> <ul style="list-style-type: none"> <li>a) Citizenship: Applicant must be a citizen of India.</li> <li>b) Age Restriction: <ul style="list-style-type: none"> <li>(i) The lower age limit is 17 (seventeen) years as on 31.12.2019. A candidate should have been born on or before 31.12.2002. There is no upper age limit in appearing in the WBJEE-2019.</li> <li>(ii) However, for admission to the degree level Marine Engineering Course the lower age limit is 17 (seventeen) years as on 31.12.2019 and the upper age limit is 25 Years as on 31.12.2019.</li> </ul> </li> </ul>
<b>3.2</b>	<p><b>General Academic Qualifications for admission to Engineering/Pharmacy Courses</b> (As per latest communications from the concerned universities. In case of any revision by any university/ authority, the same will be notified by the Board)</p>
<b>3.2.1</b>	<p><b>For admission to Engineering courses</b></p> <ul style="list-style-type: none"> <li>a) Candidate must have passed the Qualifying Examination i.e. the '<b>10+2</b>' examination with <b>Physics and Mathematics</b> along with any one of <b>Chemistry / Biotechnology / Biology / Computer Science / Computer Application/Technical Vocational Subject</b> as compulsory subjects with individual pass marks (in both theory and practical wherever applicable) in all the three subjects as stated above in <b>regular class mode</b>.</li> <li>b) Must have obtained at least 45% marks (40% in case of candidates belonging to reserved category e.g. SC, ST, OBC-A, OBC-B, PwD) in the above three subjects <b>taken together</b>.</li> </ul>

	<ul style="list-style-type: none"> <li>c) Must have passed English in the '10+2' examination with at least 30% marks.</li> <li>d) The Board of the said Qualifying Examination must be recognized by the Central Government or State Government concerned.</li> </ul>
<b>3.2.2</b>	<p><b>For admission to Pharmacy courses</b></p> <ul style="list-style-type: none"> <li>a) Candidate must have passed '10+2' examination with <b>Physics, Chemistry, Mathematics / Biology</b> as compulsory subjects with individual pass marks (in both theory and practical wherever applicable) in all the three subjects as stated above in <b>regular class</b> mode.</li> <li>b) Must have obtained at least 45% marks (40% in case of candidates belonging to reserved category e.g. SC, ST, OBC-A, OBC-B, PwD) in the above three subjects taken together.</li> <li>c) Must have passed English in the '10+2' examination with at least 30% marks.</li> <li>d) The Board of the said Qualifying Examination must be recognized by the Central Government or State Government concerned. However, the students possessing 10+2 qualification from non-formal and non-class rooms based schooling such as National Institute of Open Schooling, open school systems of States etc. shall not be eligible for admission to B. Pharm. Course.</li> <li>e) <b>The criteria for admission into Bachelor of Pharmacy course in Jadavpur University is given in section 3.3.1.2-a</b></li> </ul>
<b>3.2.3</b>	<p><b>Important consideration in terms of academic qualification</b></p> <p>A candidate appearing in the Qualifying Examination i.e. <b>the '10+2' Examination in 2019</b> may sit in the <b>WBJEE-2019</b> but shall not be eligible for allotment of seat for admission if he/she does not pass the Qualifying Examination with the required minimum eligibility criteria.</p>
<b>3.2.4</b>	<p><b>Important information regarding eligibility</b></p> <p>WBJEEB do neither verify the information provided by any candidate during on line application nor verify any certificate of date of birth, domicile, income, reservation category, academic qualification etc. for deciding the eligibility of the candidate. Admit cards are issued only on the basis of the information provided by the candidate. Also, normally there is no scope of changing/correcting any information after the last date of online application.</p> <p>All verifications are done during counselling and subsequent admission and registration with the university. If at any stage after examination it is found on scrutiny that the applicant is otherwise ineligible, his/her candidature shall be treated as cancelled even if he/she secured a Merit Rank in the WBJEE-2019 and/or a seat has been allotted to the candidate.</p>

	Hence, securing a Rank in the WBJEE-2019 does not constitute a right/guarantee in favour of a candidate for his/her claim for admission if he/she fails to comply with the specified norms and standards.
<b>3.3</b>	<b>Special eligibility criteria</b> in terms of academic qualifications for admission to some specific Universities/ University Departments/ Institutions or for admission to some specific courses as per norms and standards of the regularity authorities are given in this section. For all other institutes and courses the criteria are given above in section 3.2 above.
<b>3.3.1</b>	<b>Institute specific special eligibility criteria</b>
<b>3.3.1.1</b>	<p><b>University of Calcutta</b></p> <p>a) <b>All available Courses except Jute &amp; Fibre Technology</b></p> <p>Pass '10+2' or equivalent Examination from a recognised Council/ Board in regular class mode with <b>Mathematics, Physics and Chemistry</b> as compulsory subjects with at least 60% (55% for Reserve Category students e.g. SC, ST, OBC-A, OBC-B, PwD) marks in the above three subjects taken together, individual pass marks (both in theory &amp; practical where ever applicable) in each of the subjects and pass marks in English with a minimum of 30% in the said qualifying examination.</p> <p>b) <b>Jute &amp; Fibre Technology</b></p> <p>The must pass '10+2' or equivalent examination from any recognised Council/ Board in regular class mode with <b>Physics, Mathematics and Chemistry/ Biotechnology/ Biology</b> as compulsory subjects with at least 60% (50% for Reserve Category students e.g. SC, ST, OBC-A, OBC-B, PwD) marks in the above three subjects taken together and with at least 30% marks in English.</p>
<b>3.3.1.2</b>	<p><b>Jadavpur University (Faculty of Engineering &amp; Technology)</b></p> <p>a) <b>All available courses including Bachelor of Pharmacy and five-Year degree course in Architecture</b></p> <p>Pass '10+2' or equivalent Examination from a recognised Council/ Board in regular class mode with <b>Mathematics, Physics and Chemistry</b> as compulsory subjects with at least 60% (45% for Reserve Category Students e.g. SC, ST, OBC-A, OBC-B, PwD) marks in above three subjects taken together. Individual pass marks (both in theory &amp; practical where ever applicable) in each of the above three subjects. Minimum 60% (45% for Reserve Category Students e.g. SC, ST, OBC-A, OBC-B, PwD) marks in Mathematics and at least pass marks in English with a minimum of 30% in the said qualifying examination.</p> <p>b) <b>Additional requirement for Five Year Degree Course in Architecture</b></p>



	Besides the same academic qualifications as stated above, candidates must qualify either in NATA (National Aptitude Test in Architecture) conducted by the COA (Council of Architecture) or in the Paper-II of JEE-Main, 2019.
<b>3.3.1.3</b>	<p><b>West Bengal University of Animal and Fishery Sciences</b></p> <p><b>B. Tech (Dairy Technology) course</b></p> <ol style="list-style-type: none"> <li>Candidate must have passed the Qualifying Examination i.e. the '<b>10+2</b>' examination with <b>Physics, Chemistry and Mathematics</b> as compulsory subjects with individual pass marks (in both theory and practical wherever applicable) in all the three subjects as stated above in <b>regular Class mode</b> from any recognized Council/ Board.</li> <li>Must have obtained at least 50% marks (40% in case of candidates belonging to reserved category e.g. SC, ST, OBC-A, OBC-B) in Physics, Chemistry, Mathematics and English taken together.</li> <li>Candidates of other Boards/ Councils (10+2) level passed from institutions in West Bengal will be considered provided that he/ she is a domicile in West Bengal.</li> </ol>
<b>3.3.1.4</b>	<p><b>Neotia University</b></p> <p><b>a) B. Tech courses in Computer Science &amp; Engineering and Robotic Engineering:</b></p> <p>Pass '10+2' or equivalent Examination with <b>Mathematics, Physics and Chemistry/ Computer Sc.</b> as compulsory subjects with at least 60% marks in the above three subjects taken together.</p> <p><b>b) B. Tech courses in other branches:</b></p> <p>Pass '10+2' or equivalent Examination with <b>Mathematics, Physics and Chemistry</b> as compulsory subjects with at least 60% marks in the above three subjects taken together.</p> <p><b>c) B. Tech course in Marine Engineering:</b></p> <p>Pass '10+2' or equivalent Examination with <b>Mathematics, Physics and Chemistry</b> as compulsory subjects with at least 60% marks in the above three subjects taken together and at least 50% marks in English.</p>
<b>3.3.1.5</b>	<p><b>Aliah University</b></p> <ol style="list-style-type: none"> <li>Candidate must have taken Mathematics, Physics and Chemistry having at least 100 Marks in total in each subject of the final examination (10+2)</li> <li>Candidate has to secure at least 60% overall in Physics, Chemistry and Mathematics taken together in 12<sup>th</sup> level with individual pass marks in all three subjects in regular class mode.</li> </ol>
<b>3.3.2</b>	<b>Course specific special eligibility criteria</b>

3.3.2.1	<p><b>The degree course in Marine Engineering</b></p> <p>As per the norms and standards of the Director General of Shipping, Government of India: Candidates must pass Higher Secondary (10+2) Examination of West Bengal Council of Higher Secondary Education or equivalent examination from a recognized Council/Board in regular class mode with:</p> <ul style="list-style-type: none"> <li>a) 60% marks in Physics, Chemistry and Mathematics taken together with individual pass marks (both in theory and practical where ever applicable) in each of the said subjects;</li> <li>b) Minimum of 50% marks in English as subject in either in '10' standard or in '10+2' standard.</li> <li>c) <b>These requirements are applicable for the Marine Engineering Course in any of the participating Institution.</b></li> </ul>
3.3.2.2	<p><b>The Five Year Degree Course in Architecture</b></p> <ul style="list-style-type: none"> <li>a) As per the norms and standards of the Council of Architecture (COA) No candidate shall be admitted to architecture course unless she/he has passed an examination at the end of the 10+2 scheme of examination with 50% marks in Physics, Chemistry and Mathematics and also 50% marks in aggregate of the 10+2 level examination.</li> <li>b) Candidate must also qualify either in the NATA (National Aptitude Test in Architecture) conducted by the Council of Architecture, New Delhi or in Paper 2 of JEE Mains.</li> <li>c) These requirements are applicable for the five year degree course in Architecture in any of the participating Institutions <b>except the Jadavpur University, for which the academic eligibility criteria is given in 3.3.1.2-b above.</b></li> </ul>
3.4	<p><b>Requirements in terms of Residential/Domicile Criteria</b></p> <ul style="list-style-type: none"> <li>a) There is no Residential/Domicile requirement <b>to appear</b> in the WBJEE-2019.</li> <li>b) However, the State (West Bengal) Residential/Domicile requirement is applicable for admission to any Government aided Engineering / Technology / Pharmacy College.</li> <li>c) Also, the State (West Bengal) Residential/Domicile requirement is applicable for admission in any reserved category seat (SC, ST, OBC-A, OBC-B, PwD, TFW) in any course in any institute.</li> <li>d) The candidate needs to download the required proforma as per the detail given in section 3.4.1 and keep the certificate ready to be produced during counseling, admission etc.</li> <li>e) If the certificate is then found to be invalid, the candidate will lose the opportunity of admission in institutes / seats given in Para a) and b)</li> </ul>

	above.
3.4.1	<p><b>Criteria to be treated as domicile of West Bengal and applicable proforma of certificate</b></p> <p>Only those candidates will be treated as domicile of West Bengal who are either,</p> <p>a) residing in West Bengal continuously at least for last 10 (ten) years as on 31.12.2018;</p> <p style="text-align: center;">OR</p> <p>b) whose parent(s) is/are permanent resident(s) of West Bengal having permanent address within the State of West Bengal.</p> <p>In case of a) above, a certificate is to be obtained as per form 'a1' or proforma 'a2'.</p> <p>In case of b) above, a certificate is to be obtained in pro forma 'b' or the candidate has to produce in original any two of Voter ID card/ Adhaar card/ Passport/ Ration card belonging to his/her parents. <b>The said documents must justify that the residential address of parent(s) is in West Bengal.</b></p> <p>Proforma 'a1' and 'b' are to be certified by Government Officials as detailed below and proforma 'a2' is to be certified by the Head of the Institution, wherefrom the candidate has passed or appeared 10+2 level examination.</p> <p>The domicile certificate must be issued on or after 31.12.2018.</p> <p><b>For candidates possessing valid SC/ST/OBC-A/OBC-B certificates issued by competent officials of the Govt. of West Bengal, a separate domicile certificate is not necessary.</b></p>
3.4.2	<p><b>Competent authority to issue domicile certificate</b></p> <p>A. <b>Proforma 'a1' or 'b'</b> must be signed and certified by any of the following competent authorities from Central Government or State Government <i>having local jurisdiction over the place of the permanent residence of the concerned candidate or his/her parents viz.</i></p> <ol style="list-style-type: none"> <li>District Magistrate, Additional District Magistrate, Deputy Magistrate, Deputy Collector, Sub – Divisional Officer, Block Development Officer.</li> <li>Superintendent of Police, Additional Superintendent of Police, Sub Divisional Police Officer, Deputy Superintendent of Police,</li> <li>Commissioner, Additional Commissioner, Joint Commissioner, Deputy Commissioner, Assistant Commissioner of Police Commissionerate.</li> <li>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.</li> </ol>

	<p>e. Corporation Area - Commissioner, Additional Commissioner, Joint Commissioner, Assistant Commissioner.</p> <p>f. Assistant Secretary or above in the Secretariat to the Government of West Bengal (including GTA) or Central Government.</p> <p>g. Deputy Director or above in the Directorate to the Government of West Bengal or Central Government.</p> <p><b>B. Officials issuing domicile certificates MUST provide his/her FULL NAME, DESIGNATION, PLACE OF POSTING with ADDRESS, LANDLINE/ MOBILE NUMBER. He/she should also provide his/her IDENTITY CARD NUMBER if available.</b></p> <p><b><i>C. CERTIFICATES FROM ANY AUTHORITY OTHER THAN THOSE LISTED ABOVE 'WILL NOT BE ACCEPTED.'</i></b></p> <p><b><i>D. Note: Domicile certificates issued by any elected people's representative such as municipal commissioner, Councillor of Municipal Corporation/ Municipality, Member of three-tier Panchayat system or GTA, MLA or MP are not acceptable for WBJEE-2019.</i></b></p> <p><b>E. Proforma 'a2'</b> must be signed and certified by the Head of the Institution from which the candidate has passed or will appear in 10+2 examination. Such certificate must be issued after verification of the school education record of the candidate.</p>
<b>4.0</b>	<b>Category of participating institutions and scope of admission</b>
<b>4.1</b>	<p>There are four (4) <b>Categories of Institutions</b> participating (PI) in the admission system through the WBJEE-2019.</p> <p>Their list and the list of available courses (branches) for admission as of 2018 are given as reference in <b>APPENDIX-5. Revised list for 2019 will be published before counselling.</b></p> <p>The quantum of seats available in such institutes for admission through the WBJEE-2019 and corresponding Tuition Fee-Structure are given below:</p>
<b>4.2</b>	<p><b>State funded/State aided Universities / University Departments (U)</b></p> <p>a) 100% seats in respect of all available courses shall be admitted through the WBJEE-2019.</p> <p>b) The fees for study in such Institutions shall be guided by relevant Fee-Structure of respective Universities.</p>
<b>4.3</b>	<p><b>Government Engineering &amp; Technology Colleges (G)</b></p> <p>a) 100% seats in respect of all available courses shall be admitted through the WBJEE-2019.</p> <p>b) The fees for study in such Institutions shall be guided by relevant</p>

	Fee-Structure as may be defined by the Department of H. E., Govt. of W. B.							
<b>4.4</b>	<b>Private &amp; Self-Financing Universities (PU)</b> <ul style="list-style-type: none"> <li>List of private Universities offering Degree Level Engineering/ Technology/ Pharmacy/ Architecture Courses run on self-financing basis along with the list of courses offered is given in <b>APPENDIX-5</b>.</li> <li>Number of seats available for admission in such courses through WBJEE-2019 will be given in the Seat Matrix to be published before counselling and admission.</li> </ul> <p>Separate Fee-Structures are available for study in such Private &amp; Self-Financing Universities as may be defined by the respective Universities or by the State Government in the Higher Education Department through relevant Government Orders.</p>							
<b>4.5</b>	<b>Private &amp; Self-Financing Engineering &amp; Technology Colleges (P)</b> <p>90% of the Seats shall be available for admission through the WBJEE-2019 and remaining 10% seats shall be available for admission through the All India Engineering Entrance Examination-2019 i.e. the JEE-Main-2019.</p> <p>However, there may be some institutes allowed to admit students under management quota. Admission to such seats is not through WBJEEB-2019.</p> <p>Separate Fee-Structures are available for study in such Private &amp; Self-Financing Institutions as may be defined by the Department of H. E., Govt. of W. B.</p>							
<b>4.6</b>	<b>Private &amp; Self-Financing Engineering &amp; Technology Colleges-Minority Institutions</b> <p>50% of approved seats shall be open to all categories of candidates and is available for admission through the WBJEE-2019.</p>							
<b>5.0</b>	<b>Reservation of seats for students under Reserved Category</b>							
<b>5.1</b>	<b>Reservation of Seats for SC/ST/OBC-A/OBC-B/PwD category of students</b> <p>Depending on the category of participating institutions, reservation of seats for such category of students shall be available following the guidelines as provided below:</p> <table border="1"> <thead> <tr> <th></th><th>Nature of Institutions</th><th>Applicability of Reservation Rules</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td></tr> </tbody> </table>			Nature of Institutions	Applicability of Reservation Rules			
	Nature of Institutions	Applicability of Reservation Rules						

	<table><tr><td>1</td><td>State University/University Departments</td><td>Reservation rules of concerned University</td></tr><tr><td>2</td><td>Government Engineering/ Technology / Pharmacy Colleges</td><td>Reservation rules of the State Government</td></tr><tr><td>3</td><td>Private &amp; Self-Financing Engineering / Technology / Pharmacy Colleges</td><td>As per the decision of the concerned Institution</td></tr><tr><td>4</td><td>Private &amp; self-Financing Universities</td><td>As per decision of the concerned Authority</td></tr></table>	1	State University/University Departments	Reservation rules of concerned University	2	Government Engineering/ Technology / Pharmacy Colleges	Reservation rules of the State Government	3	Private & Self-Financing Engineering / Technology / Pharmacy Colleges	As per the decision of the concerned Institution	4	Private & self-Financing Universities	As per decision of the concerned Authority
1	State University/University Departments	Reservation rules of concerned University											
2	Government Engineering/ Technology / Pharmacy Colleges	Reservation rules of the State Government											
3	Private & Self-Financing Engineering / Technology / Pharmacy Colleges	As per the decision of the concerned Institution											
4	Private & self-Financing Universities	As per decision of the concerned Authority											
	<p>a) However, availability of such reserved category seats shall be restricted to students domiciled in West Bengal only.</p> <p>b) Candidates claiming such seats must submit relevant Certificate issued from either of the competent Authorities as enlisted below.</p> <p>f) The certificate is to be produced during counselling, admission etc. If the certificate is then found to be invalid, the candidate will lose the opportunity of admission in reserve category. The system will automatically put him in general category and the facility will be available from 2<sup>nd</sup> round of counseling onward.</p>												
5.1.1	<p><b>Competent Authorities for the issuance of SC/ST Certificate for candidates claiming under such reserve category of seats</b></p> <p>SC/ST Certificates are to be issued by any of the following authorities:</p> <ul style="list-style-type: none"><li>(i) Sub-Divisional Officers for all districts except Kolkata</li><li>(ii) District Welfare Officer, Kolkata &amp; Ex-Officio Joint Director, B.C.W. in case of Kolkata Municipal Area (as defined in clause (9) of Section 2 of K.M.C Act, 1980</li></ul>												
5.1.2	<p><b>Competent Authorities for the issuance of OBC-A / OBC-B Certificate for candidates claiming under such reserve category of seats:</b></p> <p>As per Notification vide No. 374(71)-TW/EC/MR-103/94 dated 27/7/1994, read with Memorandum No. 1204-SBCW/MR-67/10 dated 27/7/2015 issued by Backward Classes Welfare Department. Govt. of W.B., the Sub Divisional Officer of a Sub- Division in a District is the certificate issuing authority. In Kolkata such certificate is issued by such an officer as the State Government by modification authorizes. Accordingly, the District Welfare Officer, Kolkata and Ex-officio Joint Director, BCW has been notified to act as the certificate issuing authority in respect of Kolkata covering the jurisdiction of the Kolkata Municipal Corporation.</p>												
5.1.3	<p><b>Reservation of seats for PwD candidates</b></p> <p>Reservation will be available for candidates with <b>40% to 70%</b> disabilities of following types, subject to the condition that the candidate can carry out</p>												

all activities related to theory and practical work as applicable to B.E/B. Tech/B. Arch/B. Pharm courses without any special concession and exemption.

- A. Locomotor disability
- B. Visual Impairment
- C. Hearing impairment
- D. Speech and language disability

**PwD certificates are to be issued by any of the following authorities**

Officer-in-Charge/ Head of Department/ Head of the institute of Sub-Divisional Hospitals, District Hospitals, Govt. Medical Colleges run by the Govt. of West Bengal.

**5.1.3.1 Special concessions to PwD candidates**

- a) PwD candidates are eligible for 40% reduction on application fees. To avail the same, the candidate must formally apply in writing (enclosing a copy of his/her confirmation page and PwD certificate) to the Chairman, WBJEEB and send/submit the application to the Board office by 31.01.2019.
- b) PwD candidates are entitled for 20 minutes extra time in each paper, for which the candidate must sit for the examination in the Board's office in Kolkata. To avail the concession, the candidate must formally apply in writing (enclosing a copy of his/her confirmation page and PwD certificate) to the Chairman, WBJEEB and send/submit the application to the Board office by 31.01.2019.
- c) Visually impaired PwD candidates are entitled to use a scribe/writer having less/lower academic qualification than the candidate. Highest qualification of such scribe/writer will be passed/appeared in 10<sup>th</sup> standard examination in 2019. To avail such facility, the candidate must sit for the examination in the Board's office in Kolkata. The candidate must formally apply in writing (enclosing a copy of his/her confirmation page and PwD certificate) to the Chairman, WBJEEB and send/submit the application to the Board office by 31.01.2019.
- d) The Board's decision in this regard will be final and binding on the candidate.

**5.2 Reservation of Seats for admission of the wards of Defense Personnel (Defense Quota Seats)**

As per the Govt. Order vide No. 406(T), Dated, 09.06.2016 of the Higher Education Department, Govt. of West Bengal 13(thirteen) seats are available for admission of the wards of Defense Personnel through WBJEE-2019.

Those seats are supernumerary in nature and separate allotment is done by the West Bengal Joint Entrance Examinations Board as per the following guidelines:

- A. For consideration under Defense Quota, intending candidates registered for the WBJEE-2019 will **have to apply** to the Rajya Sainik Board, Home Department, Government of West Bengal, Writers' Buildings, Kolkata – 700001 through the concerned Zila Sainik Board, W.B. (for ex-servicemen) and Units (for serving soldiers) in the prescribed form with an attested copy of WBJEE - 2019 Admit Card.
- B. Based on the recommendation of the said Rajya Sainik Board, a separate list shall be published by the WBJEEB for subsequent offline counselling and allotment of seats inter-se merit basis. Securing a General Merit Rank (GMR) is mandatory for such category of seat.
- C. **Allotment of seats under Defense Quota is not through e-counseling.**
- D. Institution-wise and course-wise availability of such seats under Defense Quota for 2018 is given below. List for 2019 shall be published before counseling.

Sl. No.	Name of the Institution	Name of the available course(s)	No. of seats
1.	Jadavpur University	As decided by the University Authority	2
2.	Jalpaiguri Govt. Engg. College	1. Mechanical Engg. 2. Information Tech.	1 1
3.	Kalyani Govt. Engg. College	Electrical Engineering	1
4.	Purulia Govt. Engg. College	1. Comp. Sc. & Engg. 2. Electronics & Comm. Enggg.	1 1
5.	Coochbehar Govt. Engg. College	1. Comp. Sc. & Engg. 2. Electronics & Comm. Engg.	1 1
6.	Govt. College of Engg & Leather Tech., Kolkata	Leather Technology	1
7.	Govt. College of Engineering & Ceramic Tech., Kolkata	Information Tech.	1
8.	Govt. College of Engineering & Textile	Information Tech.	1



	<table><tr><td></td><td>Tech., Serampur</td><td></td><td></td></tr><tr><td>9.</td><td>Govt. College of Engineering &amp; Textile Tech., Berhampur</td><td>Comp. Sc. &amp; Engg.</td><td>1</td></tr></table>		Tech., Serampur			9.	Govt. College of Engineering & Textile Tech., Berhampur	Comp. Sc. & Engg.	1
	Tech., Serampur								
9.	Govt. College of Engineering & Textile Tech., Berhampur	Comp. Sc. & Engg.	1						
5.3	<b>Seats for admission through JEE (Main) 2019</b> <p>Seats are available for student's merit listed in <b>JEE (Main) 2019</b> up to the extent of 10% of the approved seats in all <b>Self-Financed Engineering &amp; Technology Colleges</b> of West Bengal.</p> <p>Allotment of seats shall be strictly based on merit and preference of students through the counselling process conducted by the WBJEEB.</p> <p>The eligibility and other criteria described in section 3 for admission to degree level Engineering / Technology /Pharmacy / Architecture courses, will be applicable for JEE (Main) 2019 merit listed candidates also.</p>								
6.0	<b>Tuition Fee Waiver (TFW) Scheme</b>								
6.1	<b>Availability of seats under the Tuition Fee Waiver (TFW) Scheme</b> <p>a) The Tuition Fee Waiver Scheme (TFW) has been implemented by the Government of West Bengal for <b>meritorious and economically backward students domiciled in West Bengal</b> for admission to all the participating universities/university departments / government colleges as well as private and self-financing colleges offering Engineering / Technology /Pharmacy/ Architecture Courses. However, for Universities/University Departments, quantum of availability of such seats is under the discretion of the University Authorities.</p> <p>b) For all the government as well as private &amp; self-financing Engineering /Technology /Pharmacy colleges, <b>a maximum of 5%</b> of sanctioned intake per course is available <b>on supernumerary basis</b> (over and above the sanctioned seats) for admission under TFW scheme.</p> <p>c) Selection of candidates for the <b>TFW</b> scheme shall be decided based on merit and preference of eligible students in WBJEE-2019.</p> <p>d) The student must be <b>domiciled in West Bengal</b> and the domicile certificate has to be produced during counseling and admission.</p> <p>e) Total annual <b>Family Income</b> of the student from <b>all sources</b> must be less than <b>Rs. 2.50 lakhs</b> (Rupees two lakhs and fifty thousand only).</p> <p>f) The <b>waiver</b> is limited to the Tuition Fee only. All other fees will have to be paid by the beneficiary.</p>								

6.2	<p><b>Submission of Income Certificate in availing seat under the TFW Scheme</b></p> <ol style="list-style-type: none"> <li>Candidates must produce the <b>Income Certificate</b> as per the proforma provided in <b>APPENDIX-4</b> of this Information Bulletin.</li> <li>The certificate is to be produced during counseling, admission etc. If the certificate is then found to be invalid, the candidate will lose the opportunity of admission in TFW category. The system will automatically put him in general category and the facility will be available from 2<sup>nd</sup> round of counseling onward.</li> <li>Candidates claiming such seats must submit relevant Certificate issued by the competent authorities as enlisted below. <ol style="list-style-type: none"> <li>An officer in the rank of Assistant Secretary or above in State or Central Govt.</li> <li>District Magistrate</li> <li>Additional District Magistrate</li> <li>Sub-Divisional Officer</li> <li>Block Development Officer</li> </ol> </li> </ol> <p><b>Note: Income certificate issued by any elected people's representative such as municipal commissioner, councillor of Municipal Corporation/Municipality, member of three-tier Panchayat system or GTA, MLA or MP are not acceptable for WBJEE-2019</b></p>
7.0	<p><b>Legal jurisdiction</b></p> <ol style="list-style-type: none"> <li>All matters pertaining to conduct of WBJEE-2019 shall fall within the jurisdiction of Kolkata only.</li> <li>The Board will not be a party pertaining to any dispute arising in the process of admission to any course of study through WBJEE-2019.</li> </ol>
8.0	<p><b>Procedure for submission of application form, payment of examination fees and downloading/printing of the confirmation page</b></p>
8.1	<p>Application for <b>WBJEE-2019</b> has to be made <b>ONLINE</b> only through the web-portal <b><a href="http://wbjeeb.nic.in">http://wbjeeb.nic.in</a></b> .</p> <p><b>Candidates need to have a working mobile number and an email ID. All future communications by the Board will be sent to this mobile number and an email ID only.</b></p> <p>The application procedure is interactive in nature. Detail guideline is given in</p>

	<b>APPENDIX-11.</b> The steps are briefly described below.
<b>8.2</b>	<p><b>Registration</b></p> <p>The candidate will enter registration details such as, name, father's name, mother's name, date of birth, gender, identification type and number.</p> <p><b>Candidates must be careful while entering registration details. It cannot be changed/edited/modified under normal circumstances. Also, the information must match exactly with the school admit cards, mark sheets, certificates, photo identity cards, caste/category certificates etc. which the candidate has to produce to enter the examination hall, during counselling, during admission and during registration with the University.</b></p> <ol style="list-style-type: none"> <li>Thereafter candidates will enter contact details such as, address, state, district, PIN, email ID, mobile number and land line number or alternate mobile number, if available.</li> <li>Then the candidate has to choose password and security question/answer</li> <li>At this stage the candidate can review the registration details and make changes if necessary.</li> <li>The candidate will then be asked to <b>submit</b> the registration details.</li> <li>An application number will be generated and will appear on the screen. Also, SMS/email will be sent to the candidate.</li> <li>Candidate has to remember his/her application number, password and security question/answer. If the candidate forgets the password, he/she has to recover it through "Forgot Password" option. <b>There is no other way to recover the password even by the Board if it is lost.</b></li> <li>It is not possible for any person/agency to change/edit/input any information without knowing the password. Hence candidates must not share their password with anybody. <b>The Board will not be responsible for any change resulting from sharing/ divulging of the password.</b></li> <li>At this stage candidates may logout or continue to next step to fill up the application form.</li> </ol>
<b>8.3</b>	<p><b>Application</b></p> <ol style="list-style-type: none"> <li>At this stage the candidate needs to fill up various personal information such as, domicile, category, PwD status, home district, family income status, religion nationality etc. If the candidate has also applied for JEE(Main) 2019 he/she need to enter JEE(Main) application number.</li> <li>Thereafter the candidate needs to choose any three zones of examinations in order of his/her choice and submit the application.</li> <li>At this stage candidates may logout or continue to next step to upload</li> </ol>

images.

#### 8.4

#### Uploading of images

The candidate is required to upload **scanned** images of his/her recent colour photograph and signature all in one go.

#### Essential features of the photograph

- a) The Photograph must be recently taken so that it matches with the candidate's physical features.
- b) Low quality images (such as pictures taken by mobile phones) are not acceptable and are likely to be rejected automatically.
- c) Background of the photograph must be of very light colour.
- d) The face of the candidate should occupy at least 50% of the entire space for photograph looking straight to the camera.
- e) Spectacles of dark or tinted glasses are not acceptable.
- f) **Copy of same photograph need to be produced for entering the examination centre, during counseling, admission, registration with the university etc.**

In case the images do not conform to the specified requirement, **it will not be possible to issue the admit card**. In which case, only the candidate will remain responsible. WBJEEB does not check the images. However, if any discrepancy comes to its notice, a SMS will be sent to the candidate's registered mobile number. The candidate then must log in and upload corrected image (**do not upload the same image rejected earlier**). It's not possible to make any such correction by anybody other than the candidate. Hence the Board will not entertain any request to make such corrections on behalf of the candidate.

**Format, storage size and physical dimension of the images must be as under:**

Image	Format	Storage size	Dimension
Photograph	JPG/JPEG	3 kB to 100 kB.	4 cm x 3 cm
Signature	JPG/JPEG	3 kB to 30 kB.	4 cm x 1.5 cm

There could be many methods to prepare an image matching the above specification. One easy method is described here.

1. Take a photograph of 3 cm x 4 cm size
2. Scan it at 300 dpi

	<ol style="list-style-type: none"> <li>3. Crop the scanned output page to the size of the photograph</li> <li>4. Resize the image to "Email small"</li> <li>5. Save</li> </ol>
<b>8.5</b>	<p><b>Payment of Examination Fees</b></p> <p>After up-loading of images candidates will be directed automatically to the fee-payment step.</p> <ol style="list-style-type: none"> <li>a) The Examination Fees can be paid by Net Banking/ Debit Card/ Credit Card only.</li> <li>b) Application fees for WBJEE-2019 is <b>₹500 (Rupees five hundred only) plus the Bank's Service Charges</b> as applicable.</li> <li>c) <b>The fee once paid is not refundable under any circumstances.</b></li> </ol>
<b>8.6</b>	<p><b>Confirmation Page</b></p> <p>On successful completion of all the above steps, candidate shall automatically be directed to the option for downloading the 'Confirmation Page' which means that the application is <b>complete</b>.</p> <p>APPLICATION IS <b>NOT COMPLETE</b> UNTIL THE CONFIRMATION PAGE IS GENERATED.</p> <p>The confirmation page contains information as given by the candidate. As such, the Board is in no way responsible for any mistake in it. Also, the same information will be repeated in the admit card and the rank card.</p> <p>Candidate should take a Print-out of the Confirmation Page and should preserve the same carefully till the completion of admission process. <b>The confirmation page cannot be regenerated after completion of the declared e-counselling and admission process conducted by the Board. Hence it is the responsibility of the candidate to preserve it safely.</b></p> <ol style="list-style-type: none"> <li>a) If any candidate loses his/her confirmation page, a duplicate can be provided by the Board, but only till 31/08/2019. In order to get a duplicate confirmation page, the candidate must apply to the Board and pay a processing fee of Rs. 500/- by a bank draft in the name of "West Bengal Joint Entrance Examinations Board" payable in Kolkata.</li> </ol>
<b>8.7</b>	<p><b>Correction of application form</b></p> <ol style="list-style-type: none"> <li>a) It is not possible to correct any primary registration data i.e. <b>Name, Father's Name, Mother's name, gender and Date of birth</b> of any candidate.</li> <li>b) If any candidate intends to correct any other information in his/her application, he/she can do so during the given <b>correction window period</b> using the edit mode. <b>The Board cannot entertain any request for any correction under any circumstances beyond the correction</b></li> </ol>

	<p><b>window period.</b></p> <p>c) <b>Also, the Board will not make any correction on behalf of any candidate.</b></p> <p>d) Confirmation page, admit card, rank card etc. will be issued with the personal detail as is given by the candidate. In case of any problem to the candidate during admission or thereafter due to any mistake committed by him/her, <b>the Board is not able to render any help e.g. issuing any letter of correction.</b> The candidate must take corrective actions at his/her end with the institute, where he/she takes admission.</p>
9.0	<p><b>Admit Card</b></p> <p>a) Admit cards will be generated on the notified date for the student to download and take a print. Candidate must carry a printed hard copy of the admit card to the examination centre.</p> <p><b>b) Candidates must ensure that the admit card is not mutilated/ distorted/ soiled even by accident. Candidates with such mutilated/ distorted/ soiled admit cards will not be allowed to appear in the examination.</b></p> <p>c) Candidates themselves can generate duplicate admit cards but only till the date of examination. Hence, candidates are advised to retain their admit cards carefully in secured place to avoid any damage to the document.</p> <p>d) If a candidate needs a duplicate admit card after the examination, the same can be provided by the Board, but only till 31/08/2019. In order to get a duplicate, the candidate must apply to the Board and pay a processing fee of Rs. 500/- by a bank draft in the name of “West Bengal Joint Entrance Examinations Board” payable in Kolkata.</p> <p>e) WBJEEB does not verify any information provided by the candidate during on-line application. Admit cards are issued only based on the information provided by the candidate. All applicants, who appear to be prima facie eligible, will be issued admit cards and will be provisionally permitted to sit for WBJEE-2019.</p> <p>f) All verifications are to be done during counseling, admission, registration with the university etc. If at any stage after examination it is found on scrutiny that the applicant is otherwise ineligible, his/her candidature shall be treated as cancelled even if he/she had appeared in and secured a Merit Rank. Hence, appearing in the examination and securing a rank does not constitute a right/guarantee in favour of a candidate for his/her claim for admission.</p>
10.0	<p><b>Allocation of examination center</b></p> <p>Allocation of examination centre will be based on the choices given by the candidate during online form fill-up. However, <b>discretion of the Board in allocation of examination centre shall be final.</b> No request for change of</p>

allocated centre will be entertained under normal circumstances. List of district-wise examination zones is given in **APPENDIX-9**.

- a) **Candidates from West Bengal, Assam and Tripura must select any three zones in order of preference.**
- b) **Candidates from other states must select any three zones from Kolkata/ Howrah/ North 24 Parganas/South 24 Parganas in order of preference.**

**Any examination zone may be dropped if adequate numbers of candidates are not available or under any unavoidable circumstance. In such case the candidate will be allocated alternative examination zone.**

## 11.0

### **Evaluation and declaration of result**

- a) The **Model Answer Keys** will be published in [www.wbjeeb.nic.in](http://www.wbjeeb.nic.in) shortly after the examination. For this purpose, candidates are advised to regularly follow the web site after the examination.
- b) Any candidate can challenge any model answer key by logging in with his/her password.
- c) Challenges of the model answer keys will be accepted on line through the link to be given for the purpose in [www.wbjeeb.nic.in](http://www.wbjeeb.nic.in) on payment of **₹500 per question** plus the bank's service charges. The amount is payable by net banking/debit card/ credit card. The fee once paid is **non-refundable**.
- d) The Board will review the challenges and publish Final and Frozen Answer Keys. The Board's decision in this regard will be final and no further communication will be entertained.
- e) Images of OMRs and machine read responses will be uploaded in [www.wbjeeb.nic.in](http://www.wbjeeb.nic.in) two to three weeks (tentatively) after the examination.
- f) Any candidate can view the images of his/her OMRs and machine read responses by logging in with his/her password.
- g) The candidates, who are not satisfied with the captured responses can challenge on line through the link to be given for the purpose in [www.wbjeeb.nic.in](http://www.wbjeeb.nic.in) on payment of **₹500 per question** plus bank's service charges. The amount is payable by net banking/debit card/ credit card. The fee once paid is **non-refundable**.
- h) The Board will review the challenges and take final decision. The Board's decision on the challenges will be final and no further communication will be entertained.
- i) Challenges by letter, fax, telephone etc. other than through online mode will not be accepted or entertained.
- j) Candidates may download and preserve images of their OMRs. Such documents will not be available online after publication of result. If any

	<p>candidate fails to download his/her documents in time and requires any of them after publication of result, he/she will have to apply to the Board with a demand draft of Rs. 500/- in favour of 'West Bengal Joint Entrance Examinations Board' payable at Kolkata for each document. But this facility will be available only till 31.08.2019</p> <p>k) A candidate can calculate his/her score from his/her machine read response and published answer keys. However, if any candidate needs a calculation sheet from the Board, he/she will have to apply to the Board with a demand draft of Rs. 500/- in favour of 'West Bengal Joint Entrance Examinations Board' payable at Kolkata. But this facility will be available only till 31.08.2019</p> <p>l) Result will be published in the form of Rank Card, which will contain all relevant ranks, total score and component scores in paper-I (Mathematics) and paper-II (physics &amp; Chemistry). The Board never publishes rank list.</p> <p>m) Candidates can view and download their rank card by logging in with their password.</p> <p>n) Duplicate rank cards cannot be generated at any later stage after completion of counselling and admission conducted by the Board. Hence candidates are advised to retain their rank cards carefully in a secured place for all future purpose.</p> <p>o) If a candidate needs a duplicate rank card even after completion of counselling and admission conducted by the Board, the same can be provided, but only till 31/08/2019. In order to get a duplicate rank card, the candidate must apply to the Board and pay a processing fee of Rs. 500/- by a bank draft in the name of "West Bengal Joint Entrance Examinations Board" payable in Kolkata</p> <p>p) Ranks cards with scores will be issued to all candidates, who appeared in WBJEE-2019. But all <b>may not be awarded a rank and hence may not be eligible for counseling</b>, for which a cut off rank and/or a cut off score will be decided by the board.</p>
12.0	<p><b>Counselling/seat allotment and admission</b></p> <p>a) A separate notification with details of counseling/seat allotment and admission will be published in <b>www.wbjeeb.in</b> and <b>www.wbjeeb.nic.in</b> shortly after publication of result.</p> <p>b) Course-wise and institute wise availability of seats as to be provided by the Competent Authorities will also be published before counseling and allotment.</p>



## APPENDIX -1

**PROFORMA a1****Residential/Domicile Certificate for candidates residing in the State of West Bengal  
continuously for at least last ten (10) years as on 31.12.2018**

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 31-12-2018.

Paste 4 cmx3 cm  
size recent colour  
photograph in this  
box

Candidate's signature

**Candidate must sign here in front of the certifying  
authority**

**(Candidate's photograph)**

Signature of Certifying Authority \_\_\_\_\_

Designation with Official Seal \_\_\_\_\_

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

Office Address \_\_\_\_\_

Office Phone No. \_\_\_\_\_ Mobile No: \_\_\_\_\_ (optional)

ID No: \_\_\_\_\_ (optional)

*Note: Photograph is to be attested by the certifying authority.*

*The Certifying Authority should preserve a duplicate copy of this Certificate.*

## APPENDIX -2

**PROFORMA a2****Residential/Domicile Certificate for candidates residing in the State of West Bengal continuously for at least last ten (10) years as on 31.12.2018**

Certified that \_\_\_\_\_ son / daughter of \_\_\_\_\_ has passed the '10+2' Examination in the year \_\_\_\_\_ / will appear in the Final '10+2' Examination in 2019 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 and studying in the State of West Bengal continuously / uninterruptedly at least for the last ten (10) years as on 31-12-2018.

Paste 4 cmx3 cm  
size recent colour  
photograph in this  
box

Candidate's signature

**Candidate must sign here in front of the certifying authority**

**(Candidate's photograph)**

Signature of Certifying Authority \_\_\_\_\_

Designation with Official Seal \_\_\_\_\_

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

Office Address \_\_\_\_\_

Office Phone No. \_\_\_\_\_ Mobile No: \_\_\_\_\_ (optional)

ID No: \_\_\_\_\_ (optional)

*Note: Photograph is to be attested by the certifying authority.*

*The Certifying Authority should preserve a duplicate copy of this Certificate.*

## APPENDIX -3

**PROFORMA b**

**Residential/Domicile Certificate 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 West Bengal**

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 4 cmx3 cm  
size recent colour  
photograph of the  
candidate in this  
box

Paste 4 cmx3 cm  
size recent colour  
photograph of  
father/ mother of  
the candidate in  
this box

Father's/ Mother's Signature

Candidate's Signature

**Candidate must sign here in front of  
the certifying authority**

**(Candidate's Photograph) (Father's/ Mother's Photograph)**

Signature of Certifying Authority \_\_\_\_\_

Designation with Official Seal \_\_\_\_\_

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

Office Address \_\_\_\_\_

Office Phone No. \_\_\_\_\_ Mobile No: \_\_\_\_\_ (optional)

ID No: \_\_\_\_\_ (optional)

*Note: Photographs are to be attested by the certifying authority.*

*The Certifying Authority should preserve a duplicate copy of this Certificate.*

## APPENDIX – 4

## Proforma for Income Certificate

Certified that the TOTAL ANNUAL FAMILY INCOME FROM ALL SOURCES of  
 \_\_\_\_\_ GUARDIAN \_\_\_\_\_, guardian of \_\_\_\_\_ CANDIDATE \_\_\_\_\_  
 residing at \_\_\_\_\_ Post Office \_\_\_\_\_  
 Police Station \_\_\_\_\_ in the district of \_\_\_\_\_  
 in the state of West Bengal for the year 2018-2019 is less than Rs. 2.50 lakhs ( Rupees two  
 lakhs and fifty thousand only) and stands at Rs. \_\_\_\_\_ (Rupees  
 \_\_\_\_\_).

Paste 4 cmx3 cm  
size recent colour  
photograph of the  
candidate in this  
box

Candidate's signature

**Candidate must sign here in front of the certifying  
authority**

**(Candidate's Photograph)**

Signature of Certifying Authority \_\_\_\_\_

Designation with Official Seal \_\_\_\_\_

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

Office Address \_\_\_\_\_

Office Phone No. \_\_\_\_\_ Mobile No: \_\_\_\_\_ (optional)

ID No: \_\_\_\_\_ (optional)

*Note: Photographs are to be attested by the certifying authority.  
 The Certifying Authority should preserve a duplicate copy of this Certificate.*

## APPENDIX: 5

List of Participating Institutes, branches and availability of seats through e-counselling in 2018.

Revised list of 2019 will be published during counselling for 2019

Code	Institute Name	Branch Code	Branch Name	Seats
P001	ABACUS INSTITUTE OF ENGINEERING & MANAGEMENT, MOGRA, HOOGHLY	117	CSE	63
		114	CIV	60
		121	ELE	60
		122	ECE	60
		132	MEC	60
P002	ACADEMY OF TECHNOLOGY, ADISAPTAGRAM, HOOGHLY	103	EIE	63
		117	CSE	114
		121	ELE	114
		122	ECE	114
		126	INT	57
		132	MEC	126
P003	ARYABHATTA INSTITUTE OF ENGINEERING & MANAGEMENT, PANAGAR, BURDWAN	117	CSE	60
		114	CIV	60
		121	ELE	90
		122	ECE	120
		120	EEE	30
		126	INT	30
		132	MEC	60
P004	ASANSOL ENGINEERING COLLEGE, ASANSOL, BURDWAN	103	EIE	63
		117	CSE	114
		114	CIV	63
		121	ELE	126
		122	ECE	114
		126	INT	95
		132	MEC	126
P005	B.P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY, KOLKATA	117	CSE	114
		121	ELE	57
		122	ECE	114
		126	INT	57
P006	BANKURA UNNAYANI INSTITUTE OF ENGINEERING, BANKURA	103	EIE	30
		114	CIV	60
		117	CSE	63
		121	ELE	60
		122	ECE	63
		126	INT	30
		132	MEC	60
P007	BCDA COLLEGE OF PHARMACY & TECHNOLOGY, HRIDAYPUR	107	PHE	57
P008	BENGAL COLLEGE OF ENGINEERING &	117	CSE	126

Code	Institute Name	Branch Code	Branch Name	Seats
	TECHNOLOGY, DURGAPUR	114	CIV	63
		121	ELE	63
		120	EEE	63
		122	ECE	126
		126	INT	126
		132	MEC	63
P009	BENGAL COLLEGE OF ENGINEERING, DURGAPUR	117	CSE	95
		121	ELE	60
		122	ECE	90
P010	BENGAL COLLEGE OF PHARMACEUTICAL SCIENCE & RESEARCH, DURGAPUR	107	PHE	105
P011	BENGAL INSTITUTE OF TECHNOLOGY & MANAGEMENT, SANTINIKETAN	114	CIV	120
		117	CSE	60
		122	ECE	60
		121	ELE	60
		126	INT	60
		132	MEC	180
P012	BENGAL INSTITUTE OF TECHNOLOGY, DHAPA, KOLKATA	109	BOT	32
		117	CSE	57
		122	ECE	63
		126	INT	63
P013	BENGAL SCHOOL OF TECHNOLOGY, SUGANDHA, HOOGHLY	107	PHE	95
P014	BHARAT TECHNOLOGY, ULUBERIA, HOWRAH	107	PHE	0
P015	BIRBHUM INSTITUTE OF ENGINEERING & TECHNOLOGY, SURI, BIRBHUM	117	CSE	63
		114	CIV	120
		121	ELE	60
		122	ECE	60
		132	MEC	120
P069	BRAINWARE GROUP OF INSTITUTIONS-SAVITA DEVI EDUCATION TRUST, BARASAT	117	CSE	63
		114	CIV	63
		121	ELE	63
		122	ECE	63
		132	MEC	63
P016	BUDGE BUDGE INSTITUTE OF TECHNOLOGY, BUDGE-BUDGE	117	CSE	126
		114	CIV	120
		121	ELE	63
		122	ECE	126
		132	MEC	126
P017	CALCUTTA INSTITUTE OF ENGINEERING & MANAGEMENT, TOLLYGUNGE, KOLKATA	117	CSE	63
		114	CIV	63
		121	ELE	126
		122	ECE	63
		126	INT	63

Code	Institute Name	Branch Code	Branch Name	Seats
		127	ICE	60
P018	CALCUTTA INSTITUTE OF PHARMACEUTICAL TECH. & ALLIED HEALTH SCIENCES, ULUBERIA	107	PHE	63
P019	CALCUTTA INSTITUTE OF TECHNOLOGY, ULUBERIA, HOWRAH	114	CIV	60
		117	CSE	63
		111	CHE	60
		121	ELE	60
		122	ECE	60
		132	MEC	60
P020	CAMELLIA INSTITUTE OF ENGINEERING AND TECHNOLOGY, BUDBUD, BURDWAN	117	CSE	60
		114	CIV	60
		121	ELE	60
		122	ECE	60
		132	MEC	60
P021	CAMELLIA INSTITUTE OF TECHNOLOGY & MANAGEMENT, BAINCHI, HOOGHLY	114	CIV	120
		117	CSE	60
		122	ECE	60
		121	ELE	60
		132	MEC	120
P022	CAMELLIA INSTITUTE OF TECHNOLOGY, BADU ROAD, MADHYAMGRAM	117	CSE	63
		114	CIV	60
		121	ELE	60
		122	ECE	60
		132	MEC	120
P023	CAMELLIA SCHOOL OF ENGINEERING & TECHNOLOGY, BARASAT	114	CIV	90
		117	CSE	45
		122	ECE	45
		121	ELE	90
		126	INT	45
		132	MEC	90
P024	COLLEGE OF ENGINEERING AND MANAGEMENT, KOLAGHAT	103	EIE	60
		117	CSE	126
		121	ELE	63
		122	ECE	63
		126	INT	63
		132	MEC	63
P025	DR. B. C. ROY COLLEGE OF PHARMACY AND ALLIED HEALTH SCIENCES	107	PHE	105
P026	DR. B. C. ROY ENGINEERING COLLEGE, DURGAPUR	103	EIE	60
		117	CSE	120
		114	CIV	126
		121	ELE	125
		122	ECE	125
		126	INT	63

Code	Institute Name	Branch Code	Branch Name	Seats
		132	MEC	125
P027	DR. SUDHIR CHANDRA SUR DEGREE ENGINEERING COLLEGE, DUM-DUM	105	ATE	42
		114	CIV	42
		117	CSE	45
		121	ELE	42
		122	ECE	90
		132	MEC	84
P028	DREAM INSTITUTE OF TECHNOLOGY, BISHNUPUR, 24-PARGANAS-SOUTH	114	CIV	54
		117	CSE	57
		121	ELE	108
		122	ECE	108
		132	MEC	54
P029	DUMKAL INSTITUTE OF ENGINEERING & TECHNOLOGY, DUMKAL, MURSHIDABAD	114	CIV	30
		117	CSE	30
		121	ELE	30
		122	ECE	30
		132	MEC	30
P030	DURGAPUR INSTITUTE OF ADVANCED TECHNOLOGY & MANAGEMENT, DURGAPUR	111	CHE	60
		117	CSE	95
		121	ELE	120
		122	ECE	90
		126	INT	60
		132	MEC	120
P031	ELITTE COLLEGE OF ENGINEERING, MAHISPOTA, SODEPUR	114	CIV	60
		117	CSE	60
		121	ELE	60
		132	MEC	120
P032	FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT, SONARPUR	103	EIE	63
		117	CSE	114
		121	ELE	57
		122	ECE	114
		126	INT	57
		132	MEC	57
P033	FUTURE INSTITUTE OF TECHNOLOGY, BORAL, GARIA	117	CSE	57
		114	CIV	63
		121	ELE	63
		122	ECE	57
		132	MEC	63
P034	GARGI MEMORIAL INSTITUTE OF TECHNOLOGY, BARUIPUR, KOLKATA	117	CSE	50
		114	CIV	48
		121	ELE	50
		122	ECE	51
		132	MEC	51



Code	Institute Name	Branch Code	Branch Name	Seats
P035	GLOBAL INSTITUTE OF MANAGEMENT AND TECHNOLOGY, KRISHNANAGAR, NADIA	117	CSE	63
		114	CIV	120
		121	ELE	60
		122	ECE	60
		132	MEC	60
P036	GREATER KOLKATA COLLEGE OF ENGINEERING & MANAGEMENT, BARUIPUR	117	CSE	45
		114	CIV	45
		122	ECE	45
		121	ELE	45
		132	MEC	45
P037	GUPTA COLLEGE OF TECHNOLOGICAL SCIENCES, ASANSOL, BURDWAN	107	PHE	105
P038	GURU NANAK INSTITUTE OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY, SODEPUR	107	PHE	55
P039	GURU NANAK INSTITUTE OF TECHNOLOGY, PANIHATI, SODEPUR	103	EIE	33
		117	CSE	66
		121	ELE	66
		122	ECE	66
		126	INT	33
		124	FET	33
P040	HALDIA INSTITUTE OF TECHNOLOGY, HALDIA, PURBA MEDINIPUR	103	EIE	57
		109	BOT	57
		117	CSE	114
		114	CIV	114
		111	CHE	57
		121	ELE	114
		122	ECE	114
		124	FET	57
		126	INT	57
		127	ICE	57
		132	MEC	114
		141	PRO	57
P041	HEMNALINI MEMORIAL COLLEGE OF ENGINEERING, HARINGHATA	117	CSE	60
		114	CIV	60
		113	CVE	60
		132	MEC	60
		124	FET	60
P042	HERITAGE INSTITUTE OF TECHNOLOGY, KOLKATA	103	EIE	57
		109	BOT	57
		117	CSE	171
		114	CIV	114
		111	CHE	57
		121	ELE	57
		122	ECE	171

Code	Institute Name	Branch Code	Branch Name	Seats
		126	INT	57
		132	MEC	114
P043	HOOGHLY ENGINEERING & TECHNOLOGY COLLEGE, HOOGHLY	117	CSE	63
		114	CIV	63
		122	ECE	63
		121	ELE	63
		132	MEC	63
P044	IDEAL INSTITUTE OF ENGINEERING, KALYANI	117	CSE	48
		114	CIV	48
		122	ECE	48
		121	ELE	48
		132	MEC	48
P045	IMPS COLLEGE OF ENGINEERING & TECHNOLOGY, MALDA	117	CSE	30
		114	CIV	30
		122	ECE	30
		121	ELE	30
P046	INSTITUTE OF ENGINEERING & MANAGEMENT, SALT LAKE	117	CSE	171
		122	ECE	171
		126	INT	114
		121	ELE	114
		120	EEE	57
		132	MEC	57
P047	INSTITUTE OF SCIENCE AND TECHNOLOGY, PASCHIM MEDINIPUR	103	EIE	60
		117	CSE	60
		114	CIV	120
		121	ELE	60
		122	ECE	60
		120	EEE	60
		126	INT	60
		132	MEC	60
P048	JIS COLLEGE OF ENGINEERING, KALYANI, NADIA	108	BMD	45
		117	CSE	90
		114	CIV	84
		121	ELE	90
		122	ECE	90
		126	INT	45
		132	MEC	90
P049	JLD ENGINEERING AND MANAGEMENT COLLEGE, BARUIPUR	114	CIV	60
		121	ELE	60
		132	MEC	60
		117	CSE	60
		122	ECE	60
P050	KANAD INSTITUTE OF ENGINEERING &	117	CSE	42

Code	Institute Name	Branch Code	Branch Name	Seats
	MANAGEMENT, MANKAR, BURDWAN	114	CIV	42
		121	ELE	42
		132	MEC	84
P051	MALLABHUM INSTITUTE OF TECHNOLOGY, BISHNUPUR, BANKURA	114	CIV	60
		117	CSE	60
		121	ELE	60
		122	ECE	60
		132	MEC	120
P052	MCKV INSTITUTE OF ENGINEERING, LILUAH, HOWRAH	105	ATE	57
		117	CSE	57
		121	ELE	57
		122	ECE	57
		126	INT	57
		132	MEC	57
P053	MEGHNAD SAHA INSTITUTE OF TECHNOLOGY, KOLKATA	114	CIV	114
		117	CSE	57
		121	ELE	120
		122	ECE	57
		126	INT	57
		132	MEC	60
P054	MODERN INSTITUTE OF ENGINEERING & TECHNOLOGY, BANDEL, HOOGHLY	114	CIV	54
		117	CSE	57
		121	ELE	54
		122	ECE	54
		132	MEC	54
P055	MURSHIDABAD COLLEGE OF ENGINEERING & TECHNOLOGY, MURSHIDABAD	114	CIV	60
		117	CSE	63
		121	ELE	60
		122	ECE	60
P056	NARULA INSTITUTE OF TECHNOLOGY, AGARPARA, KOLKATA	103	EIE	33
		117	CSE	66
		114	CIV	66
		121	ELE	66
		122	ECE	66
		126	INT	33
		132	MEC	33
P058	NEOTIA INSTITUTE OF TECHNOLOGY MANAGEMENT AND SCIENCE (ITME), D. H. ROAD	117	CSE	63
		122	ECE	60
P059	NETAJI SUBHAS ENGINEERING COLLEGE, GARIA, KOLKATA	103	EIE	63
		108	BMD	32
		114	CIV	120
		117	CSE	114
		121	ELE	120

Code	Institute Name	Branch Code	Branch Name	Seats
		122	ECE	114
		126	INT	86
		132	MEC	120
P060	NETAJI SUBHASH CHANDRA BOSE INSTITUTE OF PHARMACY, CHAKDAH. NADIA	107	PHE	63
P061	NSHM KNOWLEDGE CAMPUS, DURGAPUR GROUP OF INSTITUTIONS	117	CSE	63
		114	CIV	60
		121	ELE	60
		122	ECE	60
		132	MEC	60
P062	NSHM KNOWLEDGE CAMPUS, KOLKATA GROUP OF INSTITUTIONS	107	PHE	95
P063	OM DAYAL GROUP OF INSTITUTIONS, ULUBERIA, HOWRAH	104	ARC	42
		106	AID	42
		117	CSE	63
		114	CIV	60
		121	ELE	63
		132	MEC	60
P064	PAILAN COLLEGE OF MANAGEMENT & TECHNOLOGY, PAILAN PARK	117	CSE	63
		114	CIV	60
		122	ECE	60
		120	EEE	60
P065	RCC INSTITUTE OF INFORMATION TECHNOLOGY, KOLKATA	103	EIE	63
		117	CSE	126
		121	ELE	63
		122	ECE	126
		126	INT	126
P066	REGENT EDUCATION AND RESEARCH FOUNDATION, BARASAT, KOLKATA	117	CSE	57
		114	CIV	108
		121	ELE	57
		122	ECE	57
		120	EEE	57
		132	MEC	57
P067	SANAKA EDUCATION TRUSTS GROUP OF INSTITUTIONS, DURGAPUR, BURDWAN	104	ARC	21
		117	CSE	63
		114	CIV	60
		121	ELE	60
		122	ECE	60
		120	EEE	60
		132	MEC	60
P068	SAROJ MOHAN INSTITUTE OF TECHNOLOGY, GUPTIPARA, HOOGHLY	114	CIV	60
		117	CSE	95
		122	ECE	90
		103	EIE	30

Code	Institute Name	Branch Code	Branch Name	Seats
		121	ELE	60
		126	INT	30
		132	MEC	60
P070	SEACOM ENGINEERING COLLEGE, SANKRAIL, HOWRAH	114	CIV	60
		117	CSE	63
		122	ECE	90
		121	ELE	60
		126	INT	60
		132	MEC	90
		131	MRE	30
P071	SILIGURI INSTITUTE OF TECHNOLOGY, SILIGURI	117	CSE	95
		114	CIV	63
		121	ELE	126
		122	ECE	95
		126	INT	63
P072	ST. MARY'S TECHNICAL CAMPUS, KOLKATA	117	CSE	60
		120	EEE	30
		122	ECE	30
		132	MEC	90
		114	CIV	60
P073	ST. THOMAS COLLEGE OF ENGINEERING & TECHNOLOGY, KHIDIRPUR, KOLKATA	117	CSE	57
		121	ELE	57
		122	ECE	57
		126	INT	57
P074	SUPREME KNOWLEDGE FOUNDATION GROUP OF INSTITUTIONS, MANKUNDU, HOOGHLY	114	CIV	30
		117	CSE	63
		121	ELE	63
		122	ECE	60
		132	MEC	30
P075	SURENDRA INSTITUTE OF ENGINEERING & MANAGEMENT, SILIGURI	117	CSE	63
		114	CIV	63
		122	ECE	60
		121	ELE	60
		132	MEC	60
P076	SWAMI VIVEKANANDA INSTITUTE OF SCIENCE & TECHNOLOGY, SONARPUR	117	CSE	57
		114	CIV	57
		120	EEE	57
		123	ECI	86
		132	MEC	114
P077	TECHNO INTERNATIONAL -WEST KOLKATA	114	CIV	60
		117	CSE	63
		121	ELE	63
		122	ECE	63

Code	Institute Name	Branch Code	Branch Name	Seats
		132	MEC	60
P078	TECHNO INTERNATIONAL NEW TOWN	103	EIE	63
		114	CIV	120
		117	CSE	86
		121	ELE	120
		122	ECE	86
		126	INT	57
		132	MEC	120
P079	TECHNO INDIA-BALURGHAT, BALURGHAT, SOUTH DINAJPUR	117	CSE	0
		114	CIV	0
		122	ECE	0
		121	ELE	0
		126	INT	0
P080	TECHNO INDIA-BANIPUR, 24 PARGANAS-NORTH	103	EIE	30
		117	CSE	63
		120	EEE	30
		122	ECE	126
		126	INT	30
		132	MEC	63
P081	TECHNO INDIA-DURGAPUR, KANKSA, PANAGAR	114	CIV	0
		117	CSE	0
		121	ELE	0
		122	ECE	0
		126	INT	0
		132	MEC	0
P082	TECHNO INDIA-SALT LAKE, SECTOR-V, SALT LAKE	103	EIE	57
		114	CIV	114
		117	CSE	114
		121	ELE	114
		122	ECE	114
		124	FET	57
		126	INT	114
		132	MEC	114
P083	BIRBHUM PHARMACY SCHOOL,	107	PHE	52
P084	EMINENT COLLEGE OF PHARMACEUTICAL TECHNOLOGY, BARASAT	107	PHE	48
P085	GLOBAL COLLEGE OF PHARMACEUTICAL TECHNOLOGY	107	PHE	60
P086	P.G. INSTITUTE OF MEDICAL SCIENCES, CHANDRAKONA	107	PHE	53
G001	COOCH BEHAR GOVERNMENT ENGINEERING COLLEGE, COOCH BEHAR	114	CIV	63
		117	CSE	63
		122	ECE	63
		121	ELE	63

Code	Institute Name	Branch Code	Branch Name	Seats
		132	MEC	63
G002	GOVERNMENT COLLEGE OF ENGINEERING AND LEATHER TECHNOLOGY, KOLKATA	117	CSE	56
		126	INT	42
		130	LET	32
G003	GOVT. COLLEGE OF ENGG. & TEXTILE TECHNOLOGY, BERHAMPORE	117	CSE	46
		121	ELE	32
		132	MEC	32
		144	TEX	46
G004	GOVT. COLLEGE OF ENGINEERING & CERAMIC TECHNOLOGY, KOLKATA	110	CRM	42
		117	CSE	42
		126	INT	42
G005	GOVT. COLLEGE OF ENGINEERING & TEXTILE TECHNOLOGY, SERAMPORE	102	APM	38
		117	CSE	38
		126	INT	38
		144	TEX	38
G006	INSTITUTE OF PHARMACY, JALPAIGURI	107	PHE	0
G007	JALPAIGURI GOVERNMENT ENGINEERING COLLEGE, JALPAIGURI	114	CIV	63
		117	CSE	63
		122	ECE	63
		121	ELE	63
		126	INT	63
		132	MEC	63
G008	KALYANI GOVERNMENT ENGINEERING COLLEGE, KALYANI, NADIA	117	CSE	63
		122	ECE	63
		121	ELE	63
		126	INT	63
		132	MEC	63
G009	RAMKRISHNA MAHATO GOVERNMENT ENGINEERING COLLEGE, PURULIA	114	CIV	63
		117	CSE	63
		122	ECE	63
		121	ELE	63
		132	MEC	63
G010	GHANI KHAN CHOUDHURY INSTITUTE OF ENGINEERING & TECHNOLOGY	121	ELE	32
		132	MEC	32
		124	FET	32
U001	BIDHAN CHANDRA KRISHI VISWA VIDYALAYA	101	AGR	27
U002	DEPARTMENT OF JUTE AND FIBRE TECHNOLOGY, CALCUTTA UNIVERSITY	129	JFT	63
U003	JADAVPUR UNIVERSITY	104	ARC	40
		111	CHE	116
		114	CIV	144
		118	COE	50
		117	CSE	86

Code	Institute Name	Branch Code	Branch Name	Seats
		122	ECE	86
		121	ELE	145
		125	FTB	42
		128	IEE	57
		126	INT	86
		132	MEC	145
		135	MTE	42
		107	PHE	83
		139	PWE	57
		140	PNT	37
		141	PRO	57
U004	MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL	117	CSE	40
		126	INT	40
U005	UNIVERSITY INSTITUTE OF TECHNOLOGY, BURDWAN (SELF FINANCING COURSE)	114	CIV	63
		117	CSE	63
		122	ECE	63
		103	EIE	63
		121	ELE	63
		126	INT	63
U006	UNIVERSITY OF CALCUTTA	111	CHE	26
		112	CHT	26
		117	CSE	26
		122	ECE	29
		121	ELE	14
		128	IEE	14
		126	INT	14
		136	OPE	14
		137	PST	19
U007	UNIVERSITY OF KALYANI, SCIENCE INSTRUMENTATION CENTRE	103	EIE	30
		126	INT	30
U008	UTTAR BANGA KRISHI VISWA VIDYALAYA	101	AGR	18
U009	WEST BENGAL UNIVERSITY OF ANIMAL & FISHERY SCIENCES	119	DAT	43
U010	ALIAH UNIVERSITY, NEW TOWN	117	CSE	6
		121	ELE	6
		122	ECE	6
		132	MEC	6
		114	CIV	6
PU01	ADAMAS UNIVERSITY	117	CSE	120
		132	MEC	60
		121	ELE	30
		122	ECE	60
		114	CIV	60



Code	Institute Name	Branch Code	Branch Name	Seats
		109	BOT	15
		107	PHE	60
PU02	SCHOOL OF PHARMACY, TECHNO INDIA UNIVERSITY	107	PHE	54
PU03	TECHNO INDIA UNIVERSITY	132	MEC	57
		114	CIV	57
		117	CSE	57
		121	ELE	57
		122	ECE	57
PU04	THE NEOTIA UNIVERSITY	131	MRE	40
		142	RMT	30
		138	ENE	30
		134	MEA	30
		115	CSS	30
		116	CSD	30
PU05	BRAINWARE UNIVERSITY	117	CSE	63
PU06	JIS UNIVERSITY	117	CSE	108
		107	PHE	54
PU07	SEACOM SKILLS UNIVERSITY SCHOOL OF ENGINEERING	114	CIV	40
		117	CSE	40
		121	ELE	40
		132	MEC	40
PU08	SISTER NIVEDITA UNIVERSITY	117	CSE	126
		122	ECE	126
		121	ELE	63

## APPENDIX -6

## List of branches in 2018.

Revised list of 2019 will be published during counselling for 2019

S. No.	Branch Code	Acronym	Branch Name
1.	101	AGR	AGRICULTURAL ENGINEERING
2.	102	APM	APPAREL & PRODUCTION MANAGEMENT
3.	103	EIE	APPLIED ELECTRONICS & INSTRUMENTATION ENGINEERING/ ELECTRONICS & INSTRUMENTATION ENGINEERING
4.	104	ARC	ARCHITECTURE
5.	105	ATE	AUTOMOBILE ENGINEERING
6.	106	AID	B. ARCH (GENERAL)
7.	107	PHE	B. PHARM/PHARMACEUTICAL TECHNOLOGY
8.	108	BMD	BIOMEDICAL ENGINEERING
9.	109	BOT	BIOTECHNOLOGY
10.	110	CRM	CERAMIC ENGINEERING AND TECHNOLOGY
11.	111	CHE	CHEMICAL ENGINEERING
12.	112	CHT	CHEMICAL TECHNOLOGY
13.	113	CVE	CIVIL AND ENVIRONMENTAL ENGINEERING
14.	114	CIV	CIVIL ENGINEERING
15.	115	CSS	COMPUTER SCIENCE & ENGINEERING (CYBER SECURITY)
16.	116	CSD	COMPUTER SCIENCE & ENGINEERING (DATA ANALYSIS)
17.	117	CSE	COMPUTER SCIENCE & ENGINEERING/ COMPUTER SCIENCE & TECHNOLOGY
18.	118	COE	CONSTRUCTION ENGINEERING
19.	119	DAT	DAIRY TECHNOLOGY
20.	120	EEE	ELECTRICAL & ELECTRONICS ENGINEERING
21.	121	ELE	ELECTRICAL ENGINEERING
22.	122	ECE	ELECTRONICS & COMMUNICATION ENGINEERING/ELECTRONICS & TELECOMMUNICATION ENGINEERING
23.	123	ECI	ELECTRONICS & COMMUNICATION ENGINEERING (INDUSTRY INTEGRATED)
24.	124	FET	FOOD TECHNOLOGY
25.	125	FTB	FOOD TECHNOLOGY AND BIO CHEMICAL ENGINEERING
26.	126	INT	INFORMATION TECHNOLOGY
27.	127	ICE	INSTRUMENTATION AND CONTROL ENGINEERING
28.	128	IEE	INSTRUMENTATION ENGINEERING/INSTRUMENTATION & ELECTRONICS ENGINEERING
29.	129	JFT	JUTE & FIBRE TECHNOLOGY

30.	130	LET	LEATHER TECHNOLOGY
31.	131	MRE	MARINE ENGINEERING/MARINE TECHNOLOGY
32.	132	MEC	MECHANICAL ENGINEERING
33.	134	MEA	MECHANICAL ENGINEERING (AUTOMOBILE MANUFACTURING)
34.	135	MTE	METALLURGICAL ENGINEERING
35.	136	OPE	OPTICS & OPTOELECTRONICS
36.	137	PST	POLYMER SCIENCE & TECHNOLOGY
37.	138	ENE	ENERGY ENGINEERING
38.	139	PWE	POWER ENGINEERING/POWER PLANT ENGINEERING
39.	140	PNT	PRINTING ENGINEERING/PRINTING TECHNOLOGY
40.	141	PRO	PRODUCTION ENGINEERING
41.	142	RMT	ROBOTIC ENGINEERING
42.	144	TEX	TEXTILE TECHNOLOGY

**Syllabus for WBJEE-2019****APPENDIX: 7****MATHEMATICS:****Algebra**

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

Logarithms: Definition; General properties; Change of base.

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

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

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

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

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

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

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

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

Statistics and Probability:

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

**Trigonometry**

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

**Coordinate geometry of two dimensions**

Distance formula, section formula, area of a triangle, condition of collinearity of three points in a plane. Polar co-ordinates, transformation from Cartesian to polar coordinates and vice versa. Parallel transformation of axes.

Concept of locus, locus problems involving all geometrical configurations,

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. Angle bisector

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

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

### **Co-ordinate geometry of three dimensions**

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

### **Calculus**

Differential calculus: Functions, domain and range set of functions, composition of two functions and inverse of a function, limit, continuity, derivative, chain rule and derivative of functions in various forms. Concept of differential.

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

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

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

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

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

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

## **PHYSICS:**

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

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

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

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

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

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

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

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

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

Oscillations & Waves: Periodic motion – time period, frequency, time-displacement equation, Simple harmonic motion (S.H.M) & its equation; phase; SHM in different systems, restoring force & force constant, energy in S.H.M. – KE & PE, free, forced & damped oscillations (introductory ideas), resonance wave motion, equation for progressive wave, longitudinal & transverse waves, sound waves, Newton's formula & Laplace's correction, factors affecting the velocity of sound in air, principles of superposition of waves, reflection of waves, standing waves in strings & organ pipes, fundamental mode, harmonics & overtones, beats, Doppler effect.

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

Current Electricity:

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

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

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

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

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

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

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

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

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

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

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

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

## CHEMISTRY:

Atoms, Molecules and Chemical Arithmetic:

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

Atomic Structure:

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

Radioactivity and Nuclear Chemistry:

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

The Periodic Table and Chemical Families:

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

Chemical Bonding and Molecular Structure:

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

Coordination Compounds:

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

Solid State:

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

Liquid State:

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

Gaseous State:

Measurable properties of gases. Boyle's Law and Charles Law, absolute scale of temperature, kinetic theory of gases, ideal gas equation – average, root mean square and most probable velocities and their relationship with temperature. Daltons Law of partial pressure, Grahams Law of gaseous diffusion. Deviations from ideal behavior. Liquefaction of gases, real gases, van der Waals equation; Numerical problems.

Chemical Energetics and Chemical Dynamics:

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

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



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

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

Physical Chemistry of Solutions:

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

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

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

Ionic and Redox Equilibria:

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

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

Redox Equilibria: Oxidation – Reduction reactions as electron transfer processes, oxidation numbers, balancing of redox reactions by oxidation number and ion-electron methods. Standard electrode potentials ( $E^\circ$ ), 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).

Hydrogen:

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

Chemistry of Non-Metallic Elements and their Compounds:

Carbon – occurrence, isotopes, allotropes (graphite, diamond, fullerene); CO and CO<sub>2</sub> 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 NH<sub>3</sub>, PH<sub>3</sub>, NO, NO<sub>2</sub>, HNO<sub>2</sub>, HNO<sub>3</sub>, P<sub>4</sub>O<sub>10</sub>, H<sub>3</sub>PO<sub>3</sub> and H<sub>3</sub>PO<sub>4</sub>.

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

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

Chemistry of Metals:

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

Principles of chemistry involved in electroplating, anodizing and galvanizing. Preparation and properties of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> and KMnO<sub>4</sub>.

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

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

Chemistry in Industry:

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

Polymers:

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

Surface Chemistry:

Adsorption – physisorption and chemisorption, factors affecting adsorption of gases on solids, catalysis, homogenous and heterogeneous activity and selectivity; enzyme catalysis colloidal state distinction between true solutions, colloids and suspension; lyophilic, lyophobic multimolecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation, emulsion – types of emulsions.

Environmental Chemistry:

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

Chemistry of Carbon Compounds:

Hybridization of carbon:  $\sigma$  – and  $\pi$  – bonds. Isomerism – constitutional and stereoisomerism; Geometrical and optical isomerism of compounds containing up to 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  $\beta$ -dicarbonyl compounds, acidity and basicity of simple organic compounds.

Compounds:

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

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

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

Haloalkanes and Haloarenes:

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

Alcohols:

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

Ethers – Preparation by Williamson's synthesis; Cleavage with  $HCl$  and  $HI$ . Aldehydes and Ketones – Preparation from esters, acid chlorides, gem-dihalides, Ca-salt of carboxylic acids. Reaction – Nucleophilic

addition with HCN, hydrazine, hydroxyl amines, semi carbazides, alcohols; Aldol condensation, Clemmensen and Wolff – Kishner reduction, haloform, Cannizzaro and Wittig reactions.

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

Aliphatic Amines – Preparation from nitro, cyano and amido compounds. Distinction of 1<sup>o</sup>, 2<sup>o</sup> and 3<sup>o</sup> amines (Hinsberg method); Reaction with HNO<sub>2</sub>; Carbyl amine reaction.

Aromatic Compounds:

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

Amines – Preparation from reduction of nitro compounds; Formation of diazonium salts and their stability; Replacement of diazonium group with H, OH, X (halogen), CN and NO<sub>2</sub>, diazocoupling and reduction.

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

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

Application Oriented chemistry:

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

Introduction to Bio-Molecules:

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

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

Principles of Qualitative Analysis:

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

Acid Radicals: Cl<sup>-</sup>, S<sub>2</sub><sup>2-</sup>, SO<sub>4</sub><sup>2-</sup>, NO<sub>3</sub><sup>-</sup>, CO<sub>3</sub><sup>2-</sup>. Basic Radicals: Cu<sup>2+</sup>, Al<sup>3+</sup>, Fe<sup>3+</sup>, Fe<sup>2+</sup>, Zn<sup>2+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Na<sup>+</sup>, NH<sub>4</sub><sup>+</sup>.

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 –8

**Rules of the Examination**

1. Candidates are advised to enter the examination centres at least 30 minutes before commencement of the test.
2. Be sure about the exact location of your examination centre and means of commuting, in order to avoid any inconvenience on the day of examination.
3. No candidate will be allowed to seat for the test in any centre other than the one allotted to him/her and as is mentioned in the admit card.

Any candidate found to occupy a seat other than the one allotted to him/her will be **reported against** & his/her paper will be cancelled.

4. Carry the following documents to enter the examination centre.
  - a. A hard copy of admit card of WBJEE-2019
  - b. A copy of colour photograph as was uploaded during online application.
  - c. Any photo identity card in original such as Aadhaar card/ Pan card / Passport/ voter card/ 10<sup>th</sup> standard admit card/ School – ID card.
5. Frisking may be carried out while entering the centre for checking prohibited objects.
6. Candidates are advised to take their seats at least 15 minutes before the test.
7. No candidate will be allowed to enter the examination hall **beyond the scheduled time of commencement of the test under any circumstance**.
8. Candidates are not allowed to carry any written or printed material, calculator, pen, docu-pen, log table, wristwatch, any communication device like mobile phones etc. inside the examination hall. Any candidate found with such items will be **reported against** & his/her candidature will be summarily cancelled.
9. Question booklets will be distributed well before commencement of the test. Take out the OMR sheet without breaking seals of the question booklet and check that your OMR number & question booklet number are same. If not, ask the invigilator to replace the whole set from same series.
10. Put your signature on the top of question booklet.
11. Read the instructions given on OMR & on the cover page of question booklet very carefully.
12. Write question booklet number & roll number at the appropriate places on the OMR. **(See APPENDIX-13)**. Wrong entry of question booklet number & roll number may lead to rejection of the OMR or wrong scoring, for which the Board will not remain responsible. If any candidate makes any mistake, he/she must not over write. Request the invigilator to strike it out & rewrite the correct numbers and put his/her signature.
13. Darken appropriate bubbles of question booklet number & Roll number.

14. Write your name in BLOCK LETTERS, name of the centre & put your signature in appropriate places on the OMR. Do not put any stray mark anywhere else; it may lead to rejection of OMR.
15. Check that your Roll number, photograph, spelling of your name in the attendance sheet (see **APPENDIX-14**) matches with those given in your admit card. If any correction is needed, bring it to the notice of the invigilator.
16. Question booklet seals can be opened only at the time of commencement of test and as will be announced by the invigilator. Check all the pages of question booklet. If there is any damage or missing page or any difficulties to read the question booklet, ask your invigilator to replace the whole set from the same series.
17. Maintain silence during the test. Any conversation/gesticulation or creation of disturbances will be deemed as misdemeanor. If any candidate is found adopting any unfair means, his/her candidature will be cancelled, and / or he/she will be debarred either permanently or for a period of time as is deemed fit by the Centre- in- Charge.
18. No discussion will be allowed with the invigilator regarding any question.
19. Candidates may do rough work in the space provided in the question booklet.
20. No candidate will leave his/her seat without permission of the invigilator until the test is over.
21. No candidate will leave the hall till the end of the test & all OMRs are collected & tallied by the invigilator.
22. Candidates can take his/her question booklet after the test.
23. If any Examinee is found impersonating, he/she will be **handed over to the police** & candidature of the original candidate will be cancelled outright.

## APPENDIX –9

**District-wise list of examination zones**

<b>Districts of W B.</b>	<b>Zones</b>			
Alipurduar	Alipurduar (671)			
Bankura	Bankura (681)	Bishnupur (682)		
Birbhum	Bolpur (691)	Suri (692)		
Paschim Burdwan	Asansol (701)	Durgapur (702)		
Purba Burdwan	Burdwan (711)			
Coochbihar	Coochbihar (721)			
Darjeeling	Kurseong (731)	Siliguri (732)		
Dakshin Dinajpur	Balurghat (741)			
Uttar Dinajpur	Raiganj (751)			
Hooghly	Arambagh (761)	Bandel, Chinsurah (762)	Srirampur (763)	
Howrah	Bally, Uttarpara (771)	Central Howrah, Shibpur (772)	Domjur (773)	Uluberia (774)
Jalpaiguri	Jalpaiguri (781)			
Jhargram	Jhargram (791)			
Kalimpong	Kalimpong (801)			
Kolkata	Central Kolkata (811)	North Kolkata / Salt Lake (812)	South Kolkata (813)	
Malda	Malda (821)			
Paschim Medinipur	Garbeta (831)	Kharagpur (832)	Medinipur (833)	
Purba Medinipur	Contai (841)	Haldia (842)	Tamluk (843)	
Murshidabad	Berhampur (851)	Jiaganj (852)	Raghunathganj (853)	
Nadia	Kalyani (861)	Krishnanagar (862)	Nabadwip (863)	
Purulia	Purulia (871)			
North 24 Parganas	Barrackpur, Barasat (881)	Basirhat (882)	Bongaon (883)	
South 24 Parganas	Diamond Harbour (891)	Jainagar (892)	Sonarpur, Baruipur (893)	
<b>Other States</b>				
Assam	Silchar (900)			
Tripura	Agartala (910)			

WBJEEB attempts to allocate the examination centre at the candidate's 1<sup>st</sup> choice. But it may not be possible in all cases. **Discretion of the Board shall be final in this regard. No request for change of allocated centre will be entertained under normal circumstances.** Also, any examination zone may be dropped in unavoidable circumstances.

**APPENDIX –10****Important dates**

	<b>Activity</b>	<b>Date (with time)</b>
1	Online application with payment of fees	<b>26/12/2018 (Wednesday)</b> <b>to</b> <b>22/01/2019 (Tuesday) (5:00 p.m.)</b>
2	Online correction and downloading revised confirmation page	<b>23/01/2019 (Wednesday)</b> <b>to</b> <b>25/01/2019 (Friday)</b>
4	Publication of Downloadable Admit Card	<b>14/05/2019 (Tuesday)</b> <b>(tentative)</b>
5	Date of Examinations: Paper-I (Mathematics) Paper-II (Physics & Chemistry)	<b>26/05/2019 (Sunday)</b> (Tentative and may be changed in extraordinary circumstances) <b>11:00 a.m. to 1.00 p.m.</b> <b>2:00 p.m. to 4:00 p.m.</b>
6	Publication of Results	<b>02/07/2019 (Tuesday)(tentative)</b>

**Note: All schedules are subject to change under unavoidable circumstances.**

## APPENDIX –11

**Guidelines for filling up the online application form**

Description of Field		Input	Remarks
		<b>Registration</b>	
1.	Candidate's Name	<input type="text"/>	<ul style="list-style-type: none"> <li>• Max length 46 characters</li> <li>• Only characters are allowed</li> <li>• As registered in class 12 or equivalent Examination</li> </ul>
2.	Father's Name	<input type="text"/>	<ul style="list-style-type: none"> <li>• Maximum 46 characters</li> <li>• Only characters are allowed</li> <li>• As registered in class 12 or equivalent Examination.</li> <li>• Salutations like Late, Mr., Ms., Mrs., Dr., Prof. should not used</li> </ul>
3.	Mother's Name	<input type="text"/>	<ul style="list-style-type: none"> <li>• Maximum 46 characters</li> <li>• Only characters are allowed</li> <li>• As registered in class 12 or equivalent Examination.</li> <li>• Salutations like Late, Mr., Ms., Mrs., Dr., Prof. should not used</li> </ul>
4.	Date of Birth	<input type="text" value="---Select---"/>	<ul style="list-style-type: none"> <li>• DD/MM/YYYY</li> <li>• (See section 3.1 of Information Bulletin)</li> </ul>
5.	Identification Type	<input type="text" value="---Select---"/>	<ul style="list-style-type: none"> <li>• Student ID</li> <li>• Voter ID</li> <li>• Passport No.</li> <li>• Bank A/c No.</li> <li>• Other</li> </ul>
6.	Identification No.	<input type="text"/>	<ul style="list-style-type: none"> <li>• Input</li> </ul>
7.	Gender	<input type="text" value="---Select---"/>	<ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> <li>• Transgender</li> </ul>
		<b>Contact Details</b>	
8.	Premises No./ Name	<input type="text"/>	<ul style="list-style-type: none"> <li>• Input</li> </ul>
9.	Locality (Optional)	<input type="text"/>	<ul style="list-style-type: none"> <li>• Input</li> </ul>
10.	Sub locality	<input type="text"/>	<ul style="list-style-type: none"> <li>• Input</li> </ul>
11.	State	<input type="text" value="---Select---"/>	
12.	District	<input type="text" value="---Select---"/>	



13.	PIN Code	<input type="text"/>	• Input
14.	Email ID	<input type="text"/>	• Input
15.	Mobile No.	<input type="text"/>	• Input
16.	Land Line No. (Optional)	<input type="text"/>	• Input
		<b>Choose Password</b>	
17.	Password	<input type="text"/>	• Input
18.	Confirm Password	<input type="text"/>	• Input
19.	Security Question	---Select---▼	
20.	Security Answer	<input type="text"/>	• Input
21.	Enter Security PIN	<input type="text"/>	• Input
		<b>Submit</b>	
		<b>Application Form</b>	
22.	Domicile	---Select---▼	
23.	Category	---Select---▼	For domiciles of W.B. only • General • SC • ST • OBC-A • OBC -B
24.	Person with Disability (PwD)	---Select---▼	• Yes • No
25.	Type of Disability	---Select---▼	If PwD = Yes • Locomotor disability • Visual Impairment • Hearing impairment • Speech and language disability
26.	Percentage of Disability	<input type="text"/>	If PwD = Yes • Percentage of Disability
27.	Home District	---Select---▼	

28.	Annual Family Income	---Select---	<ul style="list-style-type: none"> <li>Above 10 lakhs</li> <li>From 6.0 lakhs to below 10 lakhs</li> <li>From 2.5 lakhs to below 6.0 lakhs</li> <li>Below 2.5 lakhs</li> </ul>
29.	Do you belong to TFW	---Select---	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>
30.	Religion	---Select---	<ul style="list-style-type: none"> <li>Hindu</li> <li>Muslim</li> <li>Christian</li> <li>Buddhist</li> <li>Sikh</li> <li>Other</li> </ul>
31.	Nationality	---Select---	<ul style="list-style-type: none"> <li>Indian</li> </ul>
32.	Have you Applied in JEE (Main) 2019?	---Select---	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>
33.	Enter Application No of JEE (Main) 2019	<input type="text"/>	<ul style="list-style-type: none"> <li>Input</li> </ul>
34.	Apply For	---Select---	<ul style="list-style-type: none"> <li>Engineering/Architecture/Pharmacy</li> </ul>
35.	1 <sup>st</sup> Choice of Exam City:	---Select---	
36.	2 <sup>nd</sup> Choice of Exam City:	---Select---	
37.	3 <sup>rd</sup> Choice of Exam City:	---Select---	
		<b>Education Details</b>	
38.	Qualification	---Select---	<ul style="list-style-type: none"> <li>12<sup>th</sup> or equivalent</li> </ul>
39.	Pass Status	---Select---	<ul style="list-style-type: none"> <li>Passed</li> <li>Appearing</li> </ul>
40.	Course/Stream Name	---Select---	<ul style="list-style-type: none"> <li>Class 12<sup>th</sup> or equivalent</li> </ul>
41.	Board/University Name	---Select---	
42.	Year of Passing	---Select---	
43.	Result Mode	---Select---	<ul style="list-style-type: none"> <li>CGPA</li> <li>%</li> </ul>
44.	Marks Detail	<input type="text"/>	Input
45.	Roll No.	<input type="text"/>	Input
46.	Institute Name and address	<input type="text"/>	Input

47.	Institute Pin code	<input type="text"/>	Mandatory
48.	Enter Security PIN	<input type="text"/>	• Input
		<b>Submit</b>	
		<b>Image Uploading</b>	
49.	At this stage the candidate is required to upload scanned images of his/her recent colour photograph and signature all in one go. For detail instruction, see <b>section 8.3</b> of the Information Bulletin.		
		<b>Fee Payment</b>	
50.	At this stage, the candidate is required to pay the requisite fees. For detail instruction, see <b>section 8.4</b> of the Information Bulletin.		
		<b>Confirmation Page</b>	
51.	Once the fee payment is made, the candidate will be directed to download the confirmation page. Download the confirmation page and preserve the same.		

**Recognized Boards****APPENDIX –12**

<b>Sl No</b>	<b>Board / Council</b>
1	A Level of General Certificate of Education, Cambridge University (Igse)
2	Aligarh Muslim University, Aligarh
3	Andhra Pradesh Open School Society
4	Assam Higher Secondary Education Council
5	Assam Sanskrit Board
6	Banasthali Vidyapith
7	Bhutan Higher Secondary Education Certificate
8	Bihar Board of Open Schooling and Examination
9	Bihar Intermediate Education Council, Patna
10	Bihar Sanskrit Shiksha Board
11	Bihar School Examination Board
12	Bihar State Madrasa Education Board, Patna
13	Board of High School and Intermediate Education, Uttar Pradesh
14	Board of Higher Secondary Examinations Tamil Nadu
15	Board of Intermediate Education, Andhra Pradesh
16	Board of School Education Uttarakhand
17	Board of School Education, Haryana
18	Board of Secondary Education, Orissa
19	Board of Secondary Education, Andhra Pradesh
20	Board of Secondary Education, Rajasthan
21	Board of Secondary Education, Assam
22	Board of Secondary Education, Manipur
23	CBSE I (CBSE International)
24	Central Board of Secondary Education
25	Chhattisgarh Sanskrit Board, Raipur
26	Chhattisgarh State Open School
27	Chhattisgarh Board of Secondary Education
28	Chhattisgarh Madrasa Board
29	Council for the Indian School Certificate Examination
30	Council of Higher Secondary Education, Manipur
31	Council of Higher Secondary Education, Odisha
32	Dayalbagh Educational Institute (Deemed University)
33	Edexcel, London (Uk)
34	Goa Board of Secondary & Higher Secondary Education
35	Government of Karnataka Dept. Of Pre-University Education
36	Gujrat Secondary & Higher Secondary Education Board
37	Haryana Open School, Bhiwani
38	Himachal Pradesh Board of School Education
39	Indian School Certificate
40	International Baccalaureate
41	Jamia Milia Islamia, New Delhi
42	Jammu & Kashmir State Board of School Education
43	Jharkhand Academic Council, Ranchi
44	Karnataka Board of the Pre-University Education
45	Karnataka Open School
46	Karnataka Secondary Education Examination Board
47	Kerala Board of Higher Secondary Education
48	Kerala Board of Public Examination
49	Kerala State open School, Thiruvananthapuram
50	Madhya Pradesh Board of Secondary Education

- 51 Madhya State Open School Education Board
- 52 Maharashtra State Board of Secondary & Higher Secondary Education
- 53 Maharishi Patanjali Sanskrit Sansthan
- 54 Meghalaya Board of School Education
- 55 Mizoram Board of School Education
- 56 Nagaland Board of School Education
- 57 National Institute of Open Schooling (Not eligible for Pharmacy course)
- 58 Punjab School Education Board
- 59 Rajasthan State Open School, Jaipur
- 60 Rajiv Gandhi University of Knowledge Technologies, Hyderabad
- 61 Rastriya Sanskrit Sansthan
- 62 School Education Department, Govt of Tamil Nadu
- 63 Telangana Pradesh Open School Society
- 64 Telengana State Board of Intermediate Education
- 65 The Haryana Open School
- 66 The Jammu & Kashmir State Open School
- 67 The Kerala State Higher Education Council
- 68 The West Bengal Council of Rabindra Open Schooling
- 69 Tripura Board of Secondary Education
- 70 U. P. Sec. Sanskrit Education Council
- 71 Uttar Pradesh State Open School Board
- 72 Uttranchal Siksha evam Pariksha Parisad
- 73 Vishwa Bharti University, Shantiniketan, Birbhum, Wb
- 74 Vocational Higher Secondary Education Department, Govt of Kerala
- 75 West Bengal Board of Madrasa Education
- 76 West Bengal Council of Higher Secondary Education
- 77 West Bengal State Council of Vocational Education & Training

## Sample OMR

## APPENDIX -13

82041693

TO BE FILLED IN BY THE CANDIDATE USING BLACK/BLUE BALL POINT PEN ONLY

1. QUESTION BOOKLET NO.

82041693

2. ROLL NUMBER

7630100221

3. SUBJECT

PHYSICS  
&  
CHEMISTRY

4. NAME OF THE CANDIDATE (In Block Letters)

BHASKAR DEY

5. NAME OF THE CENTRE

SERAMPORE RAMES CHANDRA  
GIRLS HIGH SCHOOL

6. SIGNATURE OF THE CANDIDATE

Bhaskar Dey

7. SIGNATURE OF THE INVIGILATOR

Debjani Ghosh 22/04/18

**INSTRUCTIONS FOR CANDIDATES**

- Please do not make any stray /extraneous mark on this sheet. Rough work must not be done on this sheet.
- Do not damage this sheet by using eraser or white ink etc.
- Do not write your name or roll number or put any identification on right hand side of this sheet. Violation of this will lead to invalidation of candidature.
- How to darken the bubbles:

Correct Method

(A) ● (C) ● (D) ●

Wrong Methods

(A) ● (C) ● (D) ●

(A) ● (C) ● (D) ●

(A) ● (C) ● (D) ●

(A) ● (C) ● (D) ●

If a candidate tampers with the BARCODE, he / she will be disqualified.

**PHYSICS**

CATEGORY I: Q1-Q30

1	(A) ●	(B) ●	(C) ●	(D) ●
2	(A) ●	(B) ●	(C) ●	(D) ●
3	(A) ●	(B) ●	(C) ●	(D) ●
4	(A) ●	(B) ●	(C) ●	(D) ●
5	(A) ●	(B) ●	(C) ●	(D) ●
6	(A) ●	(B) ●	(C) ●	(D) ●
7	(A) ●	(B) ●	(C) ●	(D) ●
8	(A) ●	(B) ●	(C) ●	(D) ●
9	(A) ●	(B) ●	(C) ●	(D) ●
10	(A) ●	(B) ●	(C) ●	(D) ●
11	(A) ●	(B) ●	(C) ●	(D) ●
12	(A) ●	(B) ●	(C) ●	(D) ●
13	(A) ●	(B) ●	(C) ●	(D) ●
14	(A) ●	(B) ●	(C) ●	(D) ●
15	(A) ●	(B) ●	(C) ●	(D) ●
16	(A) ●	(B) ●	(C) ●	(D) ●
17	(A) ●	(B) ●	(C) ●	(D) ●
18	(A) ●	(B) ●	(C) ●	(D) ●
19	(A) ●	(B) ●	(C) ●	(D) ●
20	(A) ●	(B) ●	(C) ●	(D) ●
21	(A) ●	(B) ●	(C) ●	(D) ●
22	(A) ●	(B) ●	(C) ●	(D) ●
23	(A) ●	(B) ●	(C) ●	(D) ●
24	(A) ●	(B) ●	(C) ●	(D) ●
25	(A) ●	(B) ●	(C) ●	(D) ●
26	(A) ●	(B) ●	(C) ●	(D) ●
27	(A) ●	(B) ●	(C) ●	(D) ●
28	(A) ●	(B) ●	(C) ●	(D) ●
29	(A) ●	(B) ●	(C) ●	(D) ●
30	(A) ●	(B) ●	(C) ●	(D) ●

CATEGORY II: Q31-Q35

31	(A) ●	(B) ●	(C) ●	(D) ●
32	(A) ●	(B) ●	(C) ●	(D) ●
33	(A) ●	(B) ●	(C) ●	(D) ●
34	(A) ●	(B) ●	(C) ●	(D) ●
35	(A) ●	(B) ●	(C) ●	(D) ●

CATEGORY III: Q36-Q40

36	(A) ●	(B) ●	(C) ●	(D) ●
37	(A) ●	(B) ●	(C) ●	(D) ●
38	(A) ●	(B) ●	(C) ●	(D) ●
39	(A) ●	(B) ●	(C) ●	(D) ●
40	(A) ●	(B) ●	(C) ●	(D) ●

**CHEMISTRY**

CATEGORY I: Q41-Q70

41	(A) ●	(B) ●	(C) ●	(D) ●
42	(A) ●	(B) ●	(C) ●	(D) ●
43	(A) ●	(B) ●	(C) ●	(D) ●
44	(A) ●	(B) ●	(C) ●	(D) ●
45	(A) ●	(B) ●	(C) ●	(D) ●
46	(A) ●	(B) ●	(C) ●	(D) ●
47	(A) ●	(B) ●	(C) ●	(D) ●
48	(A) ●	(B) ●	(C) ●	(D) ●
49	(A) ●	(B) ●	(C) ●	(D) ●
50	(A) ●	(B) ●	(C) ●	(D) ●
51	(A) ●	(B) ●	(C) ●	(D) ●
52	(A) ●	(B) ●	(C) ●	(D) ●
53	(A) ●	(B) ●	(C) ●	(D) ●
54	(A) ●	(B) ●	(C) ●	(D) ●
55	(A) ●	(B) ●	(C) ●	(D) ●
56	(A) ●	(B) ●	(C) ●	(D) ●
57	(A) ●	(B) ●	(C) ●	(D) ●
58	(A) ●	(B) ●	(C) ●	(D) ●
59	(A) ●	(B) ●	(C) ●	(D) ●
60	(A) ●	(B) ●	(C) ●	(D) ●
61	(A) ●	(B) ●	(C) ●	(D) ●
62	(A) ●	(B) ●	(C) ●	(D) ●
63	(A) ●	(B) ●	(C) ●	(D) ●
64	(A) ●	(B) ●	(C) ●	(D) ●
65	(A) ●	(B) ●	(C) ●	(D) ●
66	(A) ●	(B) ●	(C) ●	(D) ●
67	(A) ●	(B) ●	(C) ●	(D) ●
68	(A) ●	(B) ●	(C) ●	(D) ●
69	(A) ●	(B) ●	(C) ●	(D) ●
70	(A) ●	(B) ●	(C) ●	(D) ●

CATEGORY II: Q71-Q75

71	(A) ●	(B) ●	(C) ●	(D) ●
72	(A) ●	(B) ●	(C) ●	(D) ●
73	(A) ●	(B) ●	(C) ●	(D) ●
74	(A) ●	(B) ●	(C) ●	(D) ●
75	(A) ●	(B) ●	(C) ●	(D) ●

CATEGORY III: Q76-Q80

76	(A) ●	(B) ●	(C) ●	(D) ●
77	(A) ●	(B) ●	(C) ●	(D) ●
78	(A) ●	(B) ●	(C) ●	(D) ●
79	(A) ●	(B) ●	(C) ●	(D) ●
80	(A) ●	(B) ●	(C) ●	(D) ●




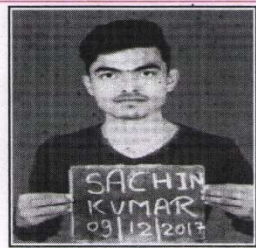

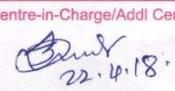
8. ANSWERS

7186



## Sample Attendance Sheet

## APPENDIX -14

WEST BENGAL JOINT ENTRANCE EXAMINATIONS BOARD AQ-13/1, Sector - V, Salt Lake City, Kolkata - 700 091 ATTENDANCE SHEET WBJEE-2018			
CENTRE CODE: 88122		NO. OF PAGES : 80 of 80	
CENTRE NAME: TALPUKUR KSHETRAMOHN MEMORIAL HIGH SCHOOL(H.S.), 125, OLD CALCUTTA ROAD, NORTH 24 PARGANAS-700123 (NEAR BAROPOLE)			
<div style="display: flex; justify-content: space-between;"> <div> <p>129238</p>  </div> <div> <p>S.No. 317 ROLL NO 8812200317 NAME SUFRAN IMAM</p> </div> </div>			
Candidates Photograph ➡	 <b>SUFRAN IMAM</b> 05-12-2017	Mathematics	Physics & Chemistry
		Absent* (A)	Absent* (A)
		Question Booklet No. 81083752	Question Booklet No. 82083752
		Signature of Candidate Sufran Imam	Signature of Candidate Sufran Imam
<div style="display: flex; justify-content: space-between;"> <div> <p>S.No. 318 ROLL NO 8812200318 NAME ANMOL VASHISHTHA</p> </div> </div>			
Candidates Photograph ➡		Mathematics	Physics & Chemistry
		Absent* ●	Absent* ●
		Question Booklet No.	Question Booklet No.
		Signature of Candidate ABSENT	Signature of Candidate ABSENT
<div style="display: flex; justify-content: space-between;"> <div> <p>S.No. 319 ROLL NO 8812200319 NAME SACHIN KUMAR</p> </div> </div>			
Candidates Photograph ➡	 <b>SACHIN KUMAR</b> 03/12/2017	Mathematics	Physics & Chemistry
		Absent* ●	Absent* ●
		Question Booklet No.	Question Booklet No. ABSENT
		Signature of Candidate ABSENT	Signature of Candidate ABSENT
<div style="display: flex; justify-content: space-between;"> <div> <p>S.No. 320 ROLL NO 8812200320 NAME SHIWANSH SENGAR</p> </div> </div>			
Candidates Photograph ➡		Mathematics	Physics & Chemistry
		Absent* ●	Absent* ●
		Question Booklet No.	Question Booklet No. ABSENT
		Signature of Candidate ABSENT	Signature of Candidate ABSENT
<p>* Absent Candidates should be marked in black/blue ink as ● by the invigilator.</p>			
Signature of Centre-in-Charge/Addl Centre-in-Charge  22.11.18		Mathematics	Physics & Chemistry
		Absents 03 (Three)	03
		Signature of Invigilator Sonia Banerjee	Signature of Candidate A m 22/11/18