

WEST BENGAL JOINT ENTRANCE EXAMINATIONS BOARD

INFORMATION BROCHURE - VERSION 1.0 : Dated 20.04.2015

**INSTRUCTIONS TO CANDIDATES FOR THE JOINT ENTRANCE EXAMINATION
FOR ENTRY TO 1ST YEAR (2015-16)
OF THE FIVE YEAR EVENING COURSE FOR BACHELOR DEGREE IN ENGINEERING
(CIVIL/ELECTRICAL/MECHANICAL) OF JADAVPUR UNIVERSITY**

The Board will conduct the Joint Entrance Examination called JEEDEC-2015 as specified below :

Day & Date	Time	Subject	Type of Question	Duration of Examination & Total marks
SUNDAY 31 st May, 2015	03:00 P.M. TO 05:00P.M.	Civil Engg Electrical Engg Mechanical Engg	MCQ Type questions each carrying one mark. [For each wrong answer 1/4 mark would be deducted]	2 Hours and 100 marks

THE SCHEDULE AND PATTERN OF EXAMINATION :

The Joint Entrance Examination (ENGG DEGREE EVENING COURSE) - 2015 (JEEDEC-2015) will be held **on 31st May, 2015**. Candidates who intend to apply for both JELET-2015 and JEEDEC-2015 will have to appear for both exams at the same venue on the date of examination.

The said examination will be of two-hour duration. All questions will be of Multiple Choice (MCQ) Objective type (four options including single correct answer). Candidate will be required to answer 100 (hundred) questions, each carrying 1 (one) mark. For each incorrect response (answer) 1/4 mark will be deducted. **All questions will have to be answered on specially designed machine gradable OMR answer sheets. Answers are to be marked using Black/ Blue Ball Pen.** There will be separate question papers for Electrical, Mechanical and Civil candidates. Overwriting on the OMR Sheet or more than one answers for a question will lead to cancellation of the particular answer of the question.

ELIGIBILITY AND OTHER CRITERIA :

The Applicant (both male and female) must be a citizen of India.

5-year B.E.(Evening) Degree course in Civil, Electrical & Mechanical Engineering:-

Candidates who have passed with 60% marks or equivalent Grade point and above (45% marks or equivalent Grade point and above for SC/ST) Diploma Examination from UGC recognized Indian University / Government /Statutory Body in Civil, Electrical and Mechanical Engineering with at least one year relevant experience in the respective field, after publication of the Diploma examination result and till the last date of submission of application forms, shall be eligible for admission to 1st year of 5-year Evening Degree course in Civil, Electrical and Mechanical Engineering. The students who will be admitted are required to submit '**No Objection Certificate**' for the course of study from the employer at the time of admission.

RESIDENTIAL CRITERIA:

NOT APPLICABLE

SEATS AVAILABLE :

Number of Seats: in each Course : General – 28, SC – 9, ST – 2, PWD - 1

AGE LIMIT :

There is no age restriction for diploma holders of Engineering/Technology/ Pharmacy.

RESERVATION POLICY :

As per Government of India Reservation policy.

APPLICATION:

Candidates intending to appear in **JEEDEC - 2015** shall have to apply through **ONLINE** (www.wbjeeb.in) from **21.04.2015 to 10.05.2015**. The candidates have to download the **e-challan** from the same link, the official website of the Board, from **21-04-2015 to 11-05-2015**.

The duly filled-in e-challan needs to be submitted with **Rs. 506/- in cash** (Application fee: Rs. 500/-, Bank charges: Rs. 6/-) in any one of the branches of Allahabad Bank as notified in the website on all working days. The applicant may download the **Information Brochure** from the website.

SUBMISSION:

Application form should be submitted **ONLINE** only. There is **no need** to send any hard copy of the Acknowledgement Receipt or any document to the board office.

ISSUE OF ADMIT CARD WITH EXAMINATION ROLL NUMBER:

Admit Card for each eligible applicant showing his/her Application Number, Examination Roll Number, Examination Centre along with necessary personal information will be available at www.wbjeeb.in from **15.05.2015** till the day of examination. Applicant should download the Admit Card and carry it along with him/her to the Examination Centre.

Candidates must ensure that the photographs on the admit card are not mutilated / distorted/soiled even by accident. Candidates with such Admit Cards will not be allowed to appear in the Entrance Examination.

Under no circumstances refund of Application Fee is admissible if the candidate does not appear at the Test.

ZONE OF EXAMINATION :

The examination will be held simultaneously at KOLKATA(North & South) and HOWRAH zones provided there are sufficient number of candidates at the Zones / areas.

The allotment of examination centre is fully at the discretion of the Board subject to availability of sufficient number of candidates in a centre. Any change made by the Board is final and no request for changing the zone/centre of examination will be entertained under any circumstances.

EVALUATION AND DECLARATION OF RESULTS OF JEEDEC-2015 :

Rules for scrutiny/review of Answer Sheet: The Board neither publishes nor communicates the result to any individual applicant. It does not have any provision for post publication, scrutiny and/or review and hence will not entertain any such application after the examination.

Result: Result of JEEDEC-2015 is likely to be declared by the 1st week of July, 2015. The Board will publish the merit list(s) at its website, viz. www.wbjeeb.in. The total number of candidates to be merit listed will be decided by appropriate authority. The Board neither publishes nor communicates result to any individual applicant. The result may be viewed on Website : www.wbjeeb.in. Compliance with requirements for making application for the Joint Entrance Examination does not make a candidate eligible for admission to the University.

Admission to the Universities shall be governed by the University rules and regulations.

It should be noted that a diploma holder will be admitted to Evening **Degree course in Engineering / Technology in respect of the discipline for which Diploma is awarded.**

Merit listed candidates will be allowed to download their **Rank Cards** from www.wbjeeb.in.

BRANCH CODE :

Candidates intending to apply for this examination must write the **BRANCH CODE (three digit)** as applicable on the application form in proper places as detailed below

Sl. No.	Name of the Branch	Branch code
1	Civil Engineering	101
2	Electrical Engineering	102
3	Mechanical Engineering	103

LEGAL JURISDICTION :

All disputes pertaining to the conduction of JEEDEC-2015 shall fall within the jurisdiction of Kolkata only. The Board will not be a party pertaining to any dispute arising in the process of admission to any course of study through JEEDEC-2015.

COUNSELLING & ADMISSION :

COUNSELLING & ADMISSION WILL BE DONE BY THE CONCERNED UNIVERSITY.

IMPORTANT DATES

- | | | | |
|----|---|---|--------------------------|
| 1 | Date of Examination | : | 31.05.2015 (SUNDAY) |
| 2 | Availability of downloadable Information : Brochure | : | 20.03.2015 |
| 3. | Filling up of ONLINE Application Form at www.wbjeeb.in | : | 01.04.2015 To 25.04.2015 |
| 4. | Fee payment through e-challan (DO NOT send any hard copy to our board office) | : | 01.04.2015 To 26.04.2015 |
| 5 | Availability of downloadable Admit Card at www.wbjeeb.in . | : | 22.05.2015 To 31.05.2015 |

SYLLABUS OF ADMISSION TEST:

The syllabi and other details of the paper for Civil, Electrical and Mechanical Engineering are given below

CIVIL ENGINEERING:

Syllabus:

Part - A

Applied Mechanics:

Friction between solid bodies; equilibrium of rigid bodies; centre of mass and centre of gravity; work, power and energy; principle of virtual work. Direct and shear stresses, strain elasticity, Hooke's law, Poisson's ratio, Young's modulus, modulus of rigidity and bulk modulus, working stress, factor of safety.

Structural elements, BM and SF diagrams theory of simple bending, distribution of bending stresses and shear stresses, Principal stresses and principal planes, Mohr's circle, Moment of internal section modulus, adius of gyrations, torsion of circular shafts.

Use of simple column formula.

Solution of determinate trusses.

Fluid Mechanics - pressure at a point, Pascal's law of pressure within a static fluid, bouyancy, stability of submerged and floating bodies; Steady and unsteady flow, uniform and nonuniform flow, laminar and turbulent flow, Reynolds number.

Part – B

General Civil Engineering:

Surveying Correction for measured length by chain and tape, Field problems and their solutions, Compass Traversing, Closing error in compass traverse and its correction, Levelling, Cross-section Long section, measurement of areas, plane table surveying, Contouring.

Planning and Construction:

Brick Bonding, types of ordinary foundations, shoring and timbering, D.P.C. Flooring, Plastering, Whitewashing, skirting, Dado, Layout of water and sanitary lines in residential building, Water closets, Intercepting chambers.

Connection of house drains to streets sewers.

Irrigation:

Methods of irrigation, water requirement of crops, ground water- well hydraulics, Design of irrigation canal systems.

Sanitary Engg.:

Sewerage, sewer appurtenances, different system of sewerage, sewage BOD of sewage, Aerobic and Anaerobic process fundamentals fundamentals of septic tanks, activated sludge and trickling filters. Demand of water, potable water, source of water, development of ground water sources, impurities in natural waters, water works intake, slow sand filter, rapid sand filters, disinfection of public water supplies, causes and removal of hardness.

Soil Mechanics:

Formation, identification and classification of soils. Three phase system Water content, void ratio, degree of saturation, Bulk density etc. Limits of consistency. Total and effective stress.

Roads and Railways:

Roads and Railways Survey, Construction and maintenance, Road permanent way structures with formation, Road and Railway crossings road inter-sections and Railway Track connections of various types road signs, Railway signals, Railway yards, road metals and their specifications, parts of Culverts.

ELECTRICAL ENGINEERING:

Syllabus:

- 1. Units and dimension:** work, power and conversion among electrical, mechanical and thermal energies.
- 2. Direct current circuits:** steady state and transient response of dc circuits.

3. Magnetic circuits: Electromagnetics, mmf calculation, lifting power of magnets.

4. Alternating current circuits: steady state response of single phase circuits; series and parallel resonance, balanced three phase circuits; active and reactive power in three phase circuits and their measurement.

5. Network theorems: star-delta conversion; superposition, reciprocity Thevenin, Norton and maximum power transfer theorem applied to direct and alternating current circuits in steady state.

6. Measuring instruments: working principles and constructional features of instruments used for measurement of current, voltage and power in dc and ac circuits, extension of instrument range, use of shunt and multipliers. CT and PT.

7. DC generators and motors: construction, classification, operating principles and characteristics of dc machines, Starters and regulators; Swinburner's test.

8. Transformers: single phase and three phase transformer construction, classification, operating principles, emf equation equivalent circuit, expression for efficiency, regulation and their maximum values, open circuit and short circuit tests.

9. Induction-synchronous machines: rotating magnetic field, construction of squirrel cage and slip ring induction machines, operating principles, equivalent circuit, torque-slip characteristics, no-load and blocked rotor test of induction machine, construction and operating principle of synchronous machine, pitch and distribution factors, emf equation, voltage regulation and its determination by synchronous impedance method.

10. Generation, transmission and distribution: Thermal, hydraulic and nuclear power station, lay out diagram, demand and diversity factors, plant capacity and load factors, calculation of voltage drop and efficiency in short transmission line, two wire dc and single phase ac distributor, underground and submarine cables, relay, operating principles of different types of circuit breakers, isolator, symmetrical short circuit study, short circuit capacity, recovery and restriking voltage.

11. Semiconductor devices: Simple diodes and transistors, rectifier, oscillator and amplifier circuits. Thyristor and its application only.

MECHANICAL ENGINEERING:

SYLLABUS:

Applied Mechanics & Machine Design Group:

Equilibrium equations (2D problem), Friction, Properties of surface, Velocity and

acceleration of particle for motion in straight, and circular path, Newton's laws of motion, Energy and momentum conservation. Stress, strain, Hook's law, Thermal stress, Statically indeterminate problem, Strain energy, Torsion of Circular shaft, bending moment and Shear force diagrams, bending stress, Deflection of beam, (method of integration and method of superposition), Short and Long column, Design considerations, Theories of failure, Concept of factor of safety, design of rivets, Cotter joints, Knuckle joints, flange couplings. shafts, pulleys and pipes.

Fluid Mechanics, Fluid Machines & Thermal Engg. Group;

Properties of fluid, measurement of pressure, Hydrostatic equation, Total fluid pressure on plane and curved surfaces, Centre of pressure, Buoyancy, stability of floating bodies, types of fluid flow, Continuity equation, total energy of flowing fluid, Bernoulli's equation, Measurement of flow in closed conduits and open channels (Orifice/ Venturi meter, notches), measurement of velocity (Pitot tube), Impact of Jet on surfaces, pipe friction equation, Head losses in pipes, Minor losses, pipe line problems, Open channel flow (Chezy's and Manning's equation), Centrifugal/Reciprocating pumps - pump work, efficiency, power, Pelton turbine/Francis turbine - working principle, Velocity diagram, Work done, efficiency Draft tube, specific speed, Hydraulic accumulator, Fluid coupling, Hydraulic press, intensifiers.

Heat, Temperature, Gas laws, Laws of thermodynamics, energy and entropy, Properties of steam, enthalpy and dryness fraction of steam, Description, and principle of working of different types of boilers, boiler fittings and their mountings, Steam power cycles and Air standard cycles. Introduction to reciprocating air compressor.

Air refrigeration (Bell Coleman cycle) including problems, Principle of vapour compression refrigeration, systems.

Production Engineering Group;

Operational features of basic machine tools like lathe, shaper, planer, drilling machine, grinding machines, milling machines, broaching machine, boring machines. Cutting tools - their profiles, material and heat treatment. Theory of metal cutting - basic elements of machining, chip formation and types of chips, machinability and machinability index, cutting fluid. Press Work - Principle of blanking, piercing, drawing, bending, embossing, coining.

Press tools - dies & punch.

Principles of Jigs & Fixtures.

Basic idea of (i) nontraditional machining like EDM, ECM, USM, LBM

(ii) CNC machine tools.

Iron - Carbon equilibrium diagram - heat treatment of steel.
General Principles of moulding methods & Pattern making,
Types of pattern, pattern allowances - Core making and use -
Casting processes like Sand Casting, Die Casting, Centrifugal
Casting Investment Casting - Casting defects & remedies.
Mechanical working of metals - forging, extrusion, rolling.
Welding and allied processes Gas Welding, arc welding,
resistance welding, thermit welding, soldering, brazing - welding defects &
remedies.

Industrial Management - Organisation structure & design organisational
behaviour - Basic principles of production management, materials management,
marketing management, financial management, PERT, CPM - Safety &
environment management. Metrology - principles and uses of micrometer, vernier
calliper, screw pipe gauge, depth gauge, height gauge, sine bar - Surface finish
concept of interchangeable system and limits, fit & tolerance. Estimating &
Costing of materials for different processes.

Proforma for Residential Certificate

PROFORMA-A

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

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

Paste 40mmX30mm
size photograph of
applicant in this box

Note:

- Photograph to be attested by the certifying authority.

Signature of Certifying Authority

Designation with Official Seal

Full Name of Certifying Authority

Office Address

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

ID No: _____ (optional)

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

Proforma for Residential Certificate

PROFORMA-B

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

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 40mmX30mm
size photograph of
applicant in this box

Paste 40mmX30mm size
photograph of
Father/Mother of
applicant

Note:

- Photograph to be attested by the certifying authority.

Signature of Certifying Authority _____

Designation with Official Seal _____

Full Name of Certifying Authority _____

Office Address _____

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

ID No: _____ (optional)

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

Guidelines for filling up the online form

(JELET/JEEDEC/Both)

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

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

The application form is broadly categorized into three steps: filling of **PERSONAL DETAILS; IMAGE UPLOADING & FEE PAYMENT**.

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

Please note that the applicant name, father's name, mother's name and date of birth taken together must be unique for each application.

On completion and submission of the PERSONAL DETAILS, the system will generate a unique 7-digit numeric **APPLICATION NUMBER** for the candidate. Once an Application Number is generated, the candidate may logout of the system. The candidate will need to enter the system subsequently using this system generated Application Number and own date of birth (as entered during form fill-up) for subsequent login to the system for all subsequent accesses to the system for various reasons as given below:

- Viewing and editing personal information (till going to the image upload stage)
- Uploading of photo and signature as images
- Printing of e-Challan for Bank
- Printing of the Confirmation Page
- Result details after examination

The application number may be retrieved by submitting the applicant name, father's name, mother's name and date of birth.

IMAGE UPLOADING:

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

1. **Recent coloured Passport sized Photograph**
2. **Own Signature**

The uploaded images have to be in jpg/jpeg format. Following are the details regarding the size and dimension:

Document	Storage size		Image dimension		Applicable to
	minimum	maximum	Height	Width	
Photograph	4 KB	100 KB	4.0 cm	3.0 cm	All candidates
Signature	4 KB	100 KB	1.5 cm	3.5 cm	All candidates

FEE PAYMENT:

The candidate has to select "Allahabad Bank e-challan" to submit the application fee through bank. As soon as he selects it an **e-Challan** will be generated containing details of the candidate. The candidate has to take a printout of the same and take it to the nearest **Core Banking Service (CBS) facility enabled Branch of the Bank** for making **payment**. After payment, the candidate has to login to the system and upload the details written on the e-Challan (**Journal No., Branch Name and Date** etc.) by the bank official.

CONFIRMATION PAGE:

When the details are uploaded, the **Confirmation Page** will be generated.

Its generation implies the candidate has successfully **REGISTERED**. The candidate should preserve the confirmation page printout for future reference. **There is no need to send any document to the Board by post or other means.**

Guidelines for filling up the online form
(JELET/JEEDEC/Both)

S.N.	Description of Field	Value	Remarks
1	Candidate's Full Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, etc.
2	Father's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
3	Mother's Name	Enter name	Max 46 character; don't use prefixes like Sri, Mr, Ms, Dr, Late etc.
4	Date of Birth	DD/MM/YYYY	Check eligibility condition on date of birth
5	Gender	---Select---	<ul style="list-style-type: none"> • Male (M) • Female (F)
6A	Nationality	---Select---	Indian (eligible) /Others (not eligible)
6B	State of Domicile	---Select---	West Bengal (WB) / Others (OS)
7	Category	---Select---	<ul style="list-style-type: none"> • GEN/SC/ST/OBC-A/OBC-B: for W.B candidates • GEN: for Other State candidates
8	Person with Disability (PwD)	YES/NO	Auto-filled with NO for Other State candidates Please check eligibility condition in Brochure.
9A	Qualification attained/appearing	---Select---	Diploma / B.Sc./Both (Candidates with Only B.Sc. qualification not eligible for appearing in JEEDEC/ Both) 9B to be activated for Diploma and Both 9C to be activated for BSc and Both
9B1	Year of passing/ appearing Diploma	---Select---	(1973-2015) Has to be before 2014 for JEEDEC/Both Applicable when 9A is Diploma / Both
9B2	Polytechnic Board from where applicant passed/ is appearing	--- Select ---	As per Board list (must be approved by competent authority) Typing provision given for Others Applicable when 9A is Diploma / Both
9B3	Branch of study in Diploma	--- Select ---	As per list given in information brochure Typing provision given for Others Electrical/Mechanical/Civil only for JEEDEC/Both Applicable when 9A is Diploma / Both
9B4	Percentage Marks or Equivalent Grade Points obtained in Diploma	---Select---	Applicable to candidates with Year of passing before 2014 <ul style="list-style-type: none"> • 60% marks and above for GEN category • 45% marks and above for SC/ST categories Applicable when 9A is Diploma / Both
9C1	Year of passing/ appearing B.Sc.	---Select---	(1973-2015) Applicable when 9A is B.Sc. / Both
9C2	University from where applicant passed BSc / is appearing	Enter value	Enter University name (must be approved by competent authority) Applicable when 9A is B.Sc. / Both

9C3	Branch of study in BSc	--- Select ---	From drop down menu inclusive of Others Typing provision given for Others Applicable when 9A is B.Sc. / Both
9D1	Years of Experience after passing Diploma	--Select--	1 Year and Above/ Below 1 Year/ Nil 1 year and above relevant experience required for JEEDEC and BOTH
9D2	Name and address of the firm / institution where working	Enter Text	Shown only when 'YES' is selected in 9D1 Applicable when 9A is Diploma / Both
9D3	Designation	Enter Text	Shown only when 'YES' is selected in 7D1 Applicable when 9A is Diploma / Both
10	Applying For	---Select---	JELET/JEEDEC/Both All three will be shown based on items 9A,9B, 9C, 9D Any condition not satisfied – only JELET will be shown
11	Choice of Location of Examination	-- 1st Choice-- -- 2nd Choice-	a. WB and Tripura candidates: Two choices to be selected mandatorily from the entire list b. Rest of Other State candidates has to select from Howrah and Kolkata only
12	Security PIN	displayed	Has to match with the displayed text
Application number is generated by allowing the candidate to submit primary information. Candidate may login using application no and date of birth for subsequent processing of application			
13	Income Category	---Select---	1 – above 10 lakh INR; 2 - from 6.0 lakh INR to 10 lakh INR, 3 - from 2.5 lakh INR to 6.0 lakh INR , 4 – below 2.5 lakh INR Category '1' and '2': OBC will be treated as creamy layer
14	Year of passing Madhyamik/equivalent exam	---Select---	1976 ONWARDS
15	Year of passing Class XII	---Select---	1978 ONWARDS with provision for NOT APPLICABLE
16	Name and postal address of institution last attended	Institute name Address Pin code District code of the institute	(Max 100 character) (Max 100 character) (6 character) Drop down menu where any district may be chosen, does not depend on candidate domicile
17	District of Residence	---Select---	For WB , District code: 70-89 For Tripura , District code: 90 For Others , District code: 92
18	Place of Residence	---Select---	<ul style="list-style-type: none"> • Municipality/Corporation (M) • Panchayat (P) • Others (O)
19	Permanent Address	Type address	Address - Max 100 character; Pin Code – 6 character
20	Address for Communication	Type address Or Auto-filled	Address - Max 100 character; Pin Code – 6 character same as permanent address may be chosen
21	Landline Phone No	Type number	Optional -- 12 character and with STD code

22	Mobile No	Type number	(10 character) and Mandatory – to be used for sending SMS
23	Email address	Type email id	(30 character) and Mandatory - to be used for sending messages

PAYMENT OPTION:

Exam Type	Amount to be paid
JELET	INR 500/-
JEEDEC	INR 500/-
BOTH	INR 800/-

Payment through Allahabad Bank e-Challan Details entry form

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