

**ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED
VIDYUT SOUDHA::HYDERABAD – 82**

NOTIFICATION

APGENCO is the largest power Generating Company of Andhra Pradesh State and is the 3rd largest Power utility (7009.9 MW) in India and has highest Hydel capacity in the Country offers excellent opportunities to Professionals for 189 vacancies for various Generating Stations spread across the State.

POSITION	No. of Vacancies
Tr. Sub-Engineer (for Engineering Diploma holders in Electrical, Mechanical & Civil)	189
Total	189

NOTE:

The above vacancies are subject to variation based on the necessity.

APPLICANTS SHOULD OBTAIN THE APPLICATION (I.C.R) FORM ALONG WITH DETAILED NOTIFICATION FROM THE SALES COUNTER OF APGENCO, AT APGENCO NEW BUILDING, GTS COLONY, (NEAR CTI APTRANSCO), ADJACENT TO VENGALA RAO NAGAR, HYDERABAD 500 045. ON PAYMENT OF RS.100/- (RUPEES ONE HUNDRED ONLY)

a) Sale of ICR Applications:: 17.09.2008 to 10.10.2008

Timings:: 10:30 AM to 4:00 PM

b) Receipt of filled in ICR Applications:: 17.09.2008 to 18.10.2008

Timings:: 10: 30 AM to 4:00 PM

BY POST: APPLICANTS SHOULD SEND **MONEY ORDER FOR RS.135/-** (RUPEES ONE HUNDRED AND THIRTY FIVE ONLY) IN FAVOUR OF DEPUTY SECRETARY (ADM), APGENCO, VIDYUT SOUDHA, HYDERABAD – 500 082 TO OBTAIN THE SAME BY SPEED/REGD. POST, DULY MENTIONING THE CORRECT ADDRESS IN THE SPACE PROVIDED FOR COMMUNICATION ON THE MONEY ORDER FORM.

Detailed notification: Visit // www.apgenco.gov.in/

**AJAY JAIN
MANAGING DIRECTOR**

ZONAL-WISE BREAKUP OF PROVISIONAL VACANCIES:

Name of the Post	Zone-1	Zone-2	Zone-3	Zone-4	Zone-5	Zone-6	Total
Sub- Engineer (Elec.,)	GR-7	GR- 36 BL-09	GR-3	GR-24	GR-17 BL-4	GR-10	GR - 97 BL - 13
Sub- Engineer (Mech.,)	GR-2	GR-25	GR-2	GR-17	GR-5 BL-6	GR-8	GR - 59 BL - 6
Sub- Engineer (Civil)	-	-	-	GR-1	GR-6	GR-7	GR - 14

GR- General Recruitment, BL-Backlog Recruitment.

BREAKUP OF VACANCIES FOR THE POST OF SUB-ENGINEER/ELECTRICAL

GENERAL RECRUITMENT:

Zones	OC		BC-A		BC-B		BC-C		BC-D		BC-E		SC		ST		PH		Total
	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	
1	2	1	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	1	7
2	11	6	2	1	2	1	1	-	-	1	-	1	3	2	2	1	1	1	36
BL			1		2				2				2				2		9
3	1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3
4	7	4	1	1	1	1	1	-	-	1	-	1	2	2	-	1	-	1	24
5	6	3	-	1	-	1	1	-	-	-	-	-	2	1	-	1	-	1	17
BL					1								1		1	1			4
6	3	1	-	1	-	1	-	-	-	-	-	-	1	1	-	1	-	1	10

BREAKUP OF VACANCIES FOR THE POST OF SUB-ENGINEER/MECHANICAL ,

GENERAL RECRUITMENT:

Zones	OC		BC-A		BC-B		BC-C		BC-D		BC-E		SC		ST		PH		Total
	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	
1	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2
2	7	4	1	1	1	1	1	-	-	1	-	1	2	2	1	1	-	1	25
3	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2
4	6	3	-	1	-	1	1	-	-	-	-	-	2	1	-	1	-	1	17
5	2	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	5
BL			1	1			1						2		1				6
6	2	1	-	1	-	-	-	-	-	-	-	-	1	1	-	1	-	1	8

BREAKUP OF VACANCIES FOR THE POST OF SUB-ENGINEER/CIVIL

GENERAL RECRUITMENT:

Zones	OC		BC-A		BC-B		BC-C		BC-D		BC-E		SC		ST		PH		Total
	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5	2	1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	1	6
6	2	1	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	1	7

2. Vacancies

The vacancies are subject to variation and confirmation by the unit office till such time as decided by the Corporation.

3. Scale of Pay: 6960-290-7830-390-9780-480-11280-575-13905.

4. AGE: Shall not be more than 38 years as on 01.07.2008. Upper age limit will be relaxed up to 5 years for SC/ST/BC candidates and 10 years in respect of P.H candidates.

NOTE:

1. The Recruitment will be processed as per this Notification and also as per the rules and instructions issued by the Government /Corporation from time to time.

2. **Caste & Community:** Community certificate issued by the competent authority should be submitted at appropriate time. Backward Classes, Schedule Castes and Schedule Tribes belonging to other States are not entitled for reservation. Candidates belonging to other States shall pay the prescribed fee of Rs.350/- (Rupees Three Hundred and Fifty only) through Demand Draft drawn in favour of Pay Officer/APGENCO. Otherwise such applications will not be considered and no correspondence on this will be entertained.

3. **Zonal/Local:** The select list will be drawn into two parts. The first part will comprise 30% of the posts consisting of combined merit list of local as well as non-locals and the remaining second part will comprise the balance 70% of the posts consisting of locals only and the posts will be filled only following the rule of reservation.

4. The whole Recruitment and selection process is carried out with utmost, secrecy and confidentiality so as to ensure that the principle of merit is scrupulously followed. A candidate shall be disqualified for appointment, if he himself/herself or through relations or friends or any others has canvassed or endeavoured to enlist for his/her candidature, extraneous support, whether from official or non-official sources for appointment to this service.

5. The persons already in Government service/autonomous bodies/other Corporations etc., whether in permanent or temporary capacity or as work charged employees must submit the Application through the employer concerned, so as to reach the Chief General Manager(Adm.), APGENCO, Vidyut Soudha, Room.No.250, 'A' Block, 2nd floor, Hyderabad-500 082, A.P, on or before the due date.

PARA-5:

EDUCATIONAL QUALIFICATIONS:

i. Sub-Engineer/Elecl.:

Must possess as on 01.07.2008, Diploma in Electrical Engineering or its equivalent.

ii. Sub-Engineer/Mech.:

Must possess as on 01.07.2008, Diploma in Mechanical Engineering or its equivalent.

iii. Sub-Engineer/Civil:

Must possess as on 01.07.2008, Diploma in Civil Engineering or its equivalent.

PARA-6:

Fee: The application form belonging to OC candidates should be accompanied by a Demand Draft drawn from any Nationalized Bank for Rs.350/- (Rupees three hundred and fifty only) (non-refundable) obtained in favour of Pay Officer, APGENCO, Vidyut Soudha, Hyderabad - 500 082, towards examination fee. **The DD is to be kept in a separate envelope along with application (ICR) form.** Physically Handicapped and candidates belonging to SC, ST, BC communities need not pay this fee.

Para -7 SELECTION PROCEDURE:

1.

- (a) The Selection of candidates for appointment to the post will be made in two successive stages viz
 - i. Written examination (objective type) &
 - ii. Oral Interview for those who qualified as per rules.

The final selection of these posts will be based on written and oral interview marks put together.

- (b) Only those candidates, who qualify in the Written Examination, community-wise, will be called for interview in 1:2 ratio. The minimum qualifying marks to call for interview are OCs - 40%, BCs - 35%, SCs, STs and PHs - 30% or as per rules.
- (c) The interview will be group discussion wherein candidates aptitude, ability to communicate, Leadership etc., will be assessed.

2. The candidates will be selected and allotted to Zones/Generating Stations as per their Rank in the merit list and as per zonal preferences for allotment of non-local candidates against vacancies available. Selection shall be made on State Wide merit, in respect of non-local candidates and allotment of Zones shall be made as per the preference given by candidates against the actual vacancies.

NB: Mere securing minimum qualifying marks does not vest, any right to a candidate for being called for interview.

- a. Candidates have to produce Original documents and other particulars for verification as and when required and called for. If the particulars furnished in the Application Form do not tally with the Original documents produced by the Candidates, the candidature will be rejected. As candidature for the recruitment is processed through Computer/ Electronic devices on the particulars furnished in the application form the candidate is advised to fill in all the particulars carefully.
- b. While the Corporation calls for preference of candidates in respect of zones in the application form, it is hereby clarified that the said preferences are only indicative for being considered to the extent possible but not binding. Therefore, the APGENCO has the power to assign a successful candidate to any of the notified posts in the Zone in respect of non-local candidates, for which he/she is considered to be qualified and eligible, subject to fulfilling the selection criteria. Mere claim of preference for any zone for allotment against vacancy does not confer a right to selection for that Zone in particular or any Zone in general.
- c. The appointment of selected candidates will be subject to their being found medically fit in the appropriate medical classification.

PARA-8: RESERVATION TO LOCAL CANDIDATES:

Reservation to the local candidates is applicable as provided in the Rules and as Amended from time to time in force on the date of notification. The candidates claiming reservation as Local candidates should obtain the required Study certificates (from class IV to X) or Residence Certificate in the proforma only for those candidates who have not studied in any Educational Institutions as the case may be. The relevant certificates may be got ready with authorized signature and kept with the candidates as and when required.

DEFINITION OF LOCAL CANDIDATE:

- (i) "LOCAL CANDIDATE" means a candidate for direct recruitment to any post in relation to that Local areas where he/she has studied in Educational Institution(s) for not less than four consecutive academic years prior to and including the year in which he/she appeared for S.S.C. or its equivalent examination. If however, he/she has not studied in any Educational Institution during the above four years period, it is enough if he/she has resided in that area which is claimed as his /her Local area during the above said period.
- (ii) In case the candidate does not fall within the scope of the (i) above it will be considered if he/she has studied for a period of not less than seven years prior to and inclusive of the year in which he/she has studied for the maximum period out of the said period of seven years AND where the period of his/her study in two or more Local areas are equal such Local area where he/she has studied last (in such Local area) will be taken for determining the Local candidature. Similarly, if he/she has not studied during the above said period in any Educational Institution(s) the place of residence during the above period will be taken into consideration and Local candidature determine with reference to the maximum period of residence or in the case of equal period where he/she has resided last.
- (iii) If the claim of Local candidature is based on study, the candidate is required to produce a certificate from the Educational Institution(s) where he/she has studied during the said 4/7 year period .If, however, it is based on residence, a certificate should be obtained from an officer of the Revenue Department not below the rank of a Tahsildhar in independent charge of a Mandal
- (iv) If, however, a candidate has resided in more than one Mandal during the relevant 4/7 years period but with in the same District or Zone as the case may be, separate certificates from the Tahsildhars exercising jurisdiction have to be obtained in respect of different areas.

NOTE:

- A. Single certificate, whether of study or Residence would suffice for enabling the candidate to apply as a "**LOCAL CANDIDATE**".
- B. Resident certificate will not be accepted, if a candidate has studied in any Educational Institution up to S.S.C or equivalent examination, such candidates have to produce study certificates invariably.
- C. Each of the following Zones comprises the Districts mentioned against each Zone

Zones	Districts	Generating Stations
1	Srikakulam, Vizianagaram and Visakapatnam.	Upper Sileru HES, Machkund.
2	East Godavari, West Godavari and Krishna.	Donkarai, Chettipet, VTPS & Polavaram.
3	Guntur, Prakasam and Nellore.	Nagarjunasagar Right Canal HES, Tail Pond Dam, & Pulichintala.
4	Chittoor, Cuddapah, Anantapur and Kurnool.	RTPP, PABRHES, Srisailam RBHES & TBHES.
5	Adilabad, Karimnagar, Warangal and Khammam.	KTPS (O&M), KTPS V Stage, KTPP, Paleru HES, Lower Sileru HES, RTS- B, Peddapalli, Pochampadu MHS
6	Hyderabad, Rangareddy, Nizamabad, Mahboobnagar, Medak and Nalgonda,	Jurala HES, Srisailam Left Bank HES, Singur HES, Puttamgandi, Nagarjunasagar Left Cannel, Main Power House HES, Nizamsagar MHS.

PARA-9:

SCHEME OF EXAMINATION: The syllabus for the examination has been shown in Annexure. The written examination will be followed by the oral interview for only those provisionally qualified as per rules for oral interview, which will be notified at the appropriate time.

PARA -10 How to apply:

A. How to obtain Application (ICR) Form:

- ❖ Applicants should obtain the Application (I.C.R) Form from the sales counter of APGENCO, at APGENCO new building, GTS colony, (near CTI APTRANSCO), adjacent to Vengala Rao Nagar, Hyderabad 500 045. Only this Application (I.C.R) Form should be submitted to the Corporation **Hand Written/Typed/ Photostat copies/Outside printed Application (I.C.R) will not be entertained and liable for rejection.**
- ❖ The eligible Candidates may also obtain the same by sending **Money Order for Rs.135/-** (Rupees one hundred and thirty five only) in favour of Deputy Secretary (Adm), APGENCO, Vidyut Soudha, Hyderabad – 500 082 to obtain the same by Speed/Regd. post, duly mentioning the correct address in the space provided for communication on the money order form.

B. How to submit your filled-in application (ICR) Form:

- The filled-in Application (ICR) form should be submitted at the APGENCO Office counter at Vidyut Soudha, Hyderabad on any working day between 10.30 am to 4.00pm till the last date.
- Please do not fold the Application (ICR) form under any circumstances, as the particulars furnished therein shall be processed by computer, otherwise such Application (I.C.R) Form may not get admitted.
- Preserve the Acknowledgement given at the time of submitting the filled in application form for further use.
- Candidates willing to serve anywhere in Andhra Pradesh should alone apply in case of selection against non-local quota.
- Please note down the application number, which is printed on the Application (ICR) Form is for your reference number for future guidance. The Application Number is only to help to locate your application (ICR) form in the office. Therefore, photocopy/non-standard/Outside Printed forms will not be allowed, as the application number is unique for each Application (ICR) Form.
- Do not enclose any certificates to the Application (ICR) Form.
- All the certificates issued by the competent authority shall compulsorily be kept with the candidate to produce as and when required.
- The candidate should not furnish any particulars that are false, tampered, fabricated or suppressed while filling up the Application (ICR) form.
- Submit only one Application (ICR) form. If more than one Application (ICR) Form is found the last Application (ICR) Form submitted will be taken into consideration, at the discretion of the Corporation.
- Envelope attached to ICR should be used for submitting the Application (ICR) form.

NOTE:

- i. Each envelope should contain only one Application (I.C.R) Form.
- ii. The Applicant should send the envelope containing the Application (I.C.R) Form by speed post.
- iii. The Corporation is not responsible, if the candidate his/her Application (ICR) Form send in an envelope other than the envelope attached to ICR got mixed up with other envelope. The Applicants is therefore advised to submit the Application (ICR) Form to the envelope attached to the ICR Form.
- iv. The particulars furnished by the Applicant in the Application (I.C.R) Form will be taken as final and data entry processed, based on those particulars only by computer. Candidates should therefore, be very careful in filling up the Application (I.C.R) Form.
- v. Incomplete/incorrect Application (ICR) Form and Applications received after due date will be summarily rejected. The information if any furnished by the candidate subsequently will not be entertained by the Corporation under any circumstances. The Corporation will not be responsible for postal loss or transit delay. Applicants should be careful in filling-up of the application and submission. If any lapse is detected during the scrutiny, the candidature will be rejected even though he/she comes through the final stage of recruitment process or even at a later stage.
- vi. Before filling Application (ICR) Form the candidate should ensure his/her eligibility for this examination. No Relevant Column of the Application (ICR) Form should be left blank, otherwise Application (ICR) Form will be rejected.

Para - 11:

TRAINING:

Selected candidates shall under go training for a period of one year. At the time of joining training, they shall have to deposit their original certificates, such as, Diploma/DOB and Caste Certificate. Selected candidates will be on training for a period of one year. During the training period they will be paid initial scale of pay of Sub-Engineer with usual allowances admissible at the place of training.

PARA-12

EXECUTION OF SERVICE BOND:

- a. At the time of joining Training the candidates shall have to execute a Bond to serve the APGENCO for a minimum period of 5 years thereafter.
- b. The Candidates who leave the Corporation service during the training period shall refund to the Corporation the emoluments received by them plus Rs.15,000/- (Rupees fifteen thousand only) by way of liquidated damages.
- c. Candidates who leaves APGENCO service without serving a minimum period of 5 years after completion of training shall pay to the Corporation a sum of Rs.30,000/- (Rupees thirty thousand only) by way of liquidated damages.

PARA -13

The candidate will be governed by the rules and regulations applicable or as framed by the APGENCO and as amended from time to time. The Tripartite Agreement entered into between the APSEB, Govt. of A.P. and the Employees Associations are not applicable to these candidates and they shall at no stage be entitled to claim any right what so ever arising out of the said Tripartite Agreement.

PARA 14:

- a). The written examination will be held at Hyderabad only.
- b). The dates for written examination will be announced later, through www.apgenco.gov.in & news papers. Candidates are requested to remain alert in this regard.

PARA-15 INSTRUCTIONS TO THE CANDIDATE:

- ✓ The candidate must note that his/her admission to the examination is strictly provisional. The mere fact that the admission has been issued to his/her does not imply that his/her candidature has been finally cleared by the Corporation or that the entries made by the candidate in his/her Application have been accepted by the Corporation as true and correct. A recent passport size photograph should be firmly pasted on the Application (I.C.R) Form. Application (I.C.R) Forms received without photograph and signature will be rejected. Failure to produce the same photograph, if required, at the time of interview/verification, may lead to disqualification. Hence the candidates are advised not to change their appearance till the recruitment process is completed.

"Please mention the Application No., on the back of the Photograph"

- ✓ The candidates are expected to behave in orderly and disciplined manner while writing the examination. If any candidate takes away Answer Sheet, the candidature will be rejected and in case of impersonation/disorder/misbehaviour during written examination, necessary F.I.R for this incident will be lodged with concerned Police Station, apart from disqualifying appointment in future.

Merit is only criteria that decide the selection. Candidates trying to use unfair means shall be disqualified from the selection. No correspondence what so ever will be entertained from the candidate. The candidature and conditions specified here are subject to latest rules/orders come into force during the process of recruitment.

- ✓ If the candidate noticed any discrepancy printed on the Hall Ticket such as Name, DOB etc., he/she may immediately bring to the notice of the Corporation.

PARA 16- DEBARMENT:

- ✓ Candidates should make sure of their eligibility to the post applied for and that the declaration made by them in the format of application regarding their eligibility is correct in all respects. Any candidate furnishing incorrect information or making false declarations regarding his/her eligibility at any stage or suppressing any information is liable to be debarred from appearing for any examinations conducted by the Corporation and summarily rejection of their candidature for this recruitment.
- ✓ Any candidate is or has been found impersonating or procuring impersonation by any or resorting to any other irregular or improper means in connection with his/her candidature for selection or obtaining support of candidature by any means such a candidate may in addition to rendering himself/herself liable for Criminal Prosecution, will also be liable to be debarred permanently.
- ✓ Corporation's decision to be final. The decision of the Corporation in all aspects and all respects pertaining to the application and its acceptance or rejection as the case may be. Conduct of examination and at all consequent stages culminating in the selection or otherwise shall be final in all respects and binding on all concerned. The Corporation also reserves its rights to alter and modify regarding time and conditions laid down in the notification for conducting the various stages upto selection duly intimating details thereof to all concerned, as warranted by any unforeseen circumstance arising during the course of this process, or as deemed necessary by the Corporation at any stage.

PARA 17: The employees working in APGENCO in the cadre of Sub-Engineer and above are not eligible to apply if found, they are liable for disciplinary action apart from Prosecution.

PARA 18: Candidates shall appear for written test and interview when called for, at their own cost.

**AJAY JAIN
MANAGING DIRECTOR**

SYLLABUS

ELECTRICAL AND ELECTRONICS ENGINEERING

1. ELEMENTS OF ELECTRICAL ENGINEERING :

- a. Comprehend basic principles of electricity.
- b. Know the magnetic effects of electric current.
- c. Understand electromagnetic induction.
- d. Understand electric charge and electrostatic field.

2. ELECTRICAL CIRCUITS:

- a. Understand Kirchoff's laws and star delta Transformations and Network Theorems.
- b. Comprehend the relationship between quantities connected with alternating current.
- c. Comprehend the single phase A.C. Circuits.
- d. Poly Phase Circuits.

3. D.C. MACHINES:

- a. Fundamentals of D.C. Generators.
- b. Armature Reaction and Characteristics of D.C. Generator.
- c. Fundamentals of D.C. Motors.
- d. Speed Control and Starters for D.C. Motors.
- e. Characteristics and Testing of D.C. Motors.

4. ELECTRICAL MEASURING INSTRUMENTS & BATTERIES:

- a. Know the classification of different measuring instruments.
- b. Understand the construction and working of different electrical measuring instruments.
- c. Understand the method of measurement of resistance.
- d. Transducers and Sensors
- e. Understand Batteries

5. A.C MACHINES:

- a. Understand the working of Single Phase Transformers.
- b. To understand Three Phase Transformers.
- c. Know the classification, construction, working and testing of alternators.
- d. Comprehend the procedure for voltage control and synchronization.
- e. Comprehend the working of synchronous motors.
- f. Comprehend the working of three phase induction motor.
- g. Comprehend the working of single Phase induction motor.
- h. Comprehend the working of single Phase commutator motor.

6. POWER SYSTEMS:

- a. Understand the various sources of Power Generation.
- b. Understand working of Thermal Power Station.
- c. Understand Hydroelectric Power Station.
- d. Understand the working of Nuclear & Gas Power Stations.
- e. Comprehend combined operation and economics of power stations.
- f. Comprehend the need for transmission and choice of supply system.
- g. Line structure for transmission and distribution.
- h. Underground Cables.
- i. Understand different types of switchgear, fuses and reactors and their working

- j. Protective relays.
- k. Protection of alternators, transformer and transmission line.
- l. Lighting arrestors and neutral grounding.

7. ELECTRONICS:

- a. Passive Components (Resistors, Capacitors and Inductors).
- b. Know the semi-conductor Devices.
- c. Understand the working principle of Power supply circuits.
- d. Understand the performance of Special Devices.
- e. Understand the principle of Working of Amplifiers.
- f. Understand the Principle of Working of Small Signal Amplifiers.
- g. Understand the principle of working of Amplifiers.
- h. Understand the Principle of Oscillators.
- i. Appreciate the need for Modulation and Demodulation.
- j. Electronic instruments and Industrial Applications.
- k. Know the Basics of ICs.
- l. Know the basics of digital electronics.
- m. Understand the working of combination logic circuits.
- n. Understand the working of sequential logic circuits
- o. Understand working of registers and memories.

8. ELECTRICAL UTILISATION AND TRACTION:

- a. Understand the principles of lightings.
- b. Understand Principle of electric heating, welding and its industrial application.
- c. Electric traction systems.

9. GENERAL MECHANICAL ENGINEERING:

- a. I.C. Engines – Boilers – Turbines.
- b. Understand the working of the centrifugal pumps.

10. INFORMATION TECHNOLOGY.

- a. Understand the features of MS-word
- b. Understand working with MS-Excel
- c. Understand MS-Power point
- d. Understand working with MS-Access.

11. INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP:

- a. Understand the principles of management as applied to industry.
- b. Know the organization structure of an industry and the behaviour of an individual in an organization.
- c. Understand the different aspect of production management.
- d. Understands the role of material management industries.
- e. Understand marketing, sales and feasibility study.
- f. Comprehend the provisions of industrial legislation in India and safety procedures.
- g. Understand ISO 9000 and TQM
- h. Understand the role of entrepreneur in economic development and in improving the quality of life.

SYLLABUS

MECHANICAL ENGINEERING

1. ELECTRICAL ENGINEERING & BASIC ELECTRONICS:
 - a. Comprehend Basic Electrical Fundamentals.
 - b. Understand D.C. Machines.
 - c. Understand A.C. Fundamentals and A. C. Machines.
 - d. Understand Storage Batteries.
 - e. Understand the Principles of Semi-Conductor Devices.
 - f. Understand Electrical Measuring instruments and safety procedures.

2. THERMAL ENGINEERING - I:
 - a. Understand the Fundamentals and Laws of Thermodynamics.
 - b. Understand the laws of perfect gases.
 - c. Understand Thermodynamic Processes on gases.
 - d. Know the fuels and combustion.
 - e. Appreciate the study of air standard cycles.
 - f. Comprehend the construction, working and performance of Internal Combustion engines.

3. THERMAL ENGINEERING - II:
 - a. Understand the Properties of Steam
 - b. Understand the working of Steam Boilers.
 - c. Steam Nozzles and Turbines.
 - d. Comprehend the construction and working of Air Compressors.
 - e. Understand the working and applications of gas turbines and Jet Propulsion.
 - f. To Appreciate the Measuring Devices used in Instrumentation.

4. HYDRAULICS & HYDRAULIC MACHINERY:
 - A. HYDRAULICS:
 - a. Understand the various properties of Fluids.
 - b. Understand the behaviour of liquids in motion.
 - c. Evaluate frictional losses during flow of liquids through pipe.

 - B. HYDRAULIC MACHINES:
 - a. Analyze forces during the impact of jets.
 - b. Understand the working of water Turbines.
 - c. Know the working of pumps.

5. ENERGY SOURCES AND POWER PLANT ENGINEERING:
 - a. Introduction of Renewable Energy Sources.
 - b. Solar and Wind Energy.
 - c. Fuel Cells and MHD Generator.
 - d. Bio and Tidal Energy.
 - e. Analyze the elements of Thermal and Nuclear Power Plants.
 - f. To understand the impact of Pollutants on Environment.

6. INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP:
 - a. Understand the principles of Management as applied to industry.
 - b. Know the organization structure of an industry and the behaviour of an individual in an organization.
 - c. Understand the different aspects of production management.
 - d. Understand the role of material management industries.
 - e. Understand marketing, sales and feasibility study.
 - f. Comprehend the provisions of industrial legislation in India & Safety Procedures.
 - g. Understand ISO 9000 & TQM.
 - h. Understand the role of entrepreneur in economic development and in improving the quality of life.

7. ESTIMATING AND COSTING:
 - a. List out the elements of costing.
 - b. Understand the fundamentals of estimation.
 - c. Estimate the weight of material required for a product and machining times.
 - d. Estimate the fabrication cost.
 - e. Estimate forging cost.
 - f. Estimate foundry cost.

8. MANUFACTURING TECHNOLOGY - I:
 - a. Lathe & Lathe Work.
 - b. Illustrate the working of Shaper, Slotter, Planner and Broaching Machine.
 - c. Cutting Fluids, Coolants & Lubricants.
 - d. Metrology.
 - e. Understand the different welding Methods and Technique.

9. MANUFACTURING TECHNOLOGY -II:
 - a. Milling and Gear Making.
 - b. Grinding and finishing processes.
 - c. Modern Machining processes.
 - d. Plastic Processing
 - e. Press Tools, Jigs and fixtures.
 - f. Jig Boring.

10. REFRIGERATION AND AIR CONDITIONING :
 - a. Understand the various methods of Refrigeration.
 - b. Understand Vapour Compression, and Vapour absorption Refrigeration Systems.
 - c. Know the Refrigerants, Refrigeration Equipment and applications of Refrigeration.
 - d. Understand fundamentals of A/C and A/C equipment.
 - e. Understand Psychrometry, Cooling and Heating loads.
 - f. Appreciate the applications of A/C servicing and maintenance of refrigeration and A/C equipment.

11. INFORMATION TECHNOLOGY:
 - a. Understand the features of MS-Word.
 - b. Understand working with MS-Excel.
 - c. Understand MS-Power Point.
 - d. Understand Working with MS-Access.

SYLLABUS

CIVIL ENGINEERING

1. A. SURVEYING -I:
 - a. Known basic facts about Surveying.
 - b. Understands the principles of Chain Surveying.
 - c. Principle of Compass Surveying.
 - d. Understand the principles of Plane Table Surveying to fill in details of the field.
- B. SURVEYING -II:
 - a. Understands the principles of theodolite surveying preparation of plans and alignment.
 - b. Understand the principle of Tacheometry to find the elevations and distances of stations.
 - c. Understand the method of setting out simple curves.
 - d. Understand the Electronic Surveying instruments.
2. SURVEYING PRACTICALS - II:
 - a. Performs Theodolite Surveying.
 - b. Performs Trigonometric leveling
 - c. Performs Tacheometric Surveying
 - d. Sets out simple Curves in the field
 - e. To understand the method of setting out of building on the ground.
 - f. Applies Principles of Surveying of Land Development
 - g. Knows the Principle of Surveying for Land Development
 - h. Knows the Principle of Operation of Electronic Survey Instruments.
 - i. Applies principles of mapping from the fieldwork, potting of the field work.
 - j. Applies Knowledge of different methods of Surveying in overcoming different field problems.
3. QUANTITY SURVEYING - I:
 - a. Understands basic concepts of Quantity Surveying, units and specifications.
 - b. Understands different types of estimates and detailed estimates of buildings.
 - c. Understands the Analysis of Rates and Abstract estimations.
 - d. Computes the volumes of earth work and reservoir capacity.
 - e. Compute the material required for construction of a structure.
4. CONSTRUCTION MATERIALS:
 - a. Understands selection of stones and their acceptability for construction work.
 - b. Understands the acceptability of bricks for construction work.
 - c. Understands suitability of tiles, pipes and building sand for construction.
 - d. To check the quality of cement for construction work.
 - e. Understands the principles of preparation of mortars and Concrete.
 - f. Understands the selection and applications of wood, plastics, Glass and Asbestors for construction work.
5. CONSTRUCTION PRACTICE:
 - a. Knows the classification of Buildings and design of foundation as per NBC.
 - b. Understand the construction of masonry work.
 - c. Understand the types and principles of doors, windows, ventilators and Lintels, Sunshades.
 - d. Understands methods of construction and finishes of different types of roofs and floorings.
 - e. Understands scaffolding and types of Stair cases.
 - f. Protective, decorative finishes and Termite Proofing.

6.

A. THEORY OF STRUCTURES - I:

- a. Understands the effect of Loading on Beams.
- b. Understands Deflection of Beams under Loading
- c. Understands the effects of Internal pressure on unriveted and riveted thin cylinders.
- d. Understand the effects of pure Torsion on solid and hollow Circular Shafts and closely coiled helical spring under given axial loading.
- e. Understands the behaviors of columns under vertical loads.

B. THEORY OF STRUCTURES - II

- a. Understands the Stability of Retaining walls and dams under the action of lateral pressures.
- b. Understands the effects of Loading on propped, continuous, fixed and continuous beams.
- c. Understands effect of Dead and live loads on statically determinate frames.

7. HYDRAULICS:

- a. Knows the properties of Fluids.
- b. Understands Fluid Pressure and its Measurement.
- c. Understand the General Principles of flow of the Liquids.
- d. Understands the flow through Orifices and mouth pieces.
- e. Comprehends the flow over different types of notches and weirs.

8. TRANSPORTATION ENGINEERING:

- a. Introduction to Highways and Soil Mechanics.
- b. Understands Highway Survey and Traffic Engineering.
- c. Understands Highway construction and Maintenance.
- d. Understands introduction and permanent way of Railways.
- e. Understands station yard and maintenance of Railways
- f. Understands Bridges, Culverts and cause ways.

9. ENVIRONMENTAL STUDIES:

- a. Know the importance of the environmental Studies and Natural Resources.
- b. Understands ecosystems and Biodiversity and its conservation.
- c. Know environmental Pollution, Social issues and the environment.
- d. Understand Human Population and the Environment
- e. Field work

10. Design of RC Structures:

- a. Understand the basic ideas of concrete, reinforcing steel and philosophy of limit state design.
- b. Understand the principles of analysis and design of singly reinforced and doubly reinforced R.C.C. rectangular beams by limit state method.
- c. Understand the principles involved in the design of R.C.C. slabs by limit state method.
- d. Understand principles involved in design of lintels, sunshades, T-Beams, continuous slabs and beams.
- e. Understand analysis and design of columns, footings and staircases.

11. INFORMATION TECHNOLOGY:

- a. Understand the features of MS-Word.
- b. Understand working with MS-Excel.
- c. Understand MS-Power Point.
- d. Understand Working with MS-Access.

CERTIFICATE OF RESIDENCE

(To be produced by such candidates who have not studied in any educational institution during the whole or any part* of the relevant 4/7 years period but claim to be local candidates by virtue of residence for which there is reservation for local candidates.)

It is hereby certified.

(a) that Sri/Smt./Kum _____, S/o, D/o _____, appeared for the first time for the Matriculation (S.S.C.) Examination in _____ (Month) _____ (Year).

(b) that He/She has not studied in any educational institution during the whole/or part of the 4/7 consecutive academic years ending with the academic year in which he/she first appeared for the aforesaid examination.

(c) that in the 4/7 years immediately preceding the commencement of the aforesaid examination he/she resided in the following place/places namely;

Sl.No	Village	Mandal	District	Period
1				
2				
3				
4				
5				

Office seal

Station:

Dated:

Officer of Revenue Department
Not below the rank of
Mandal Revenue office holding
independent charge of a Mandal.

* STRIKE OFF "WHOLE"/PART AS THE CASE MAY BE.

SCHOOL STUDY CERTIFICATE

Note: Should be obtained from the Head of Educational Institution (s)

Sri/Smt/Kum: _____,

S/o, D/o. Sri _____,

His/Her Date of Birth is _____,

Class	Name and place of School	District	Duration of Study Giving Month and Year
IV			
V			
VI			
VII			
VIII			
IX			
X or SSC			

Station:

Date:

Signature of the Head of the
Educational Institute (S)