

Prospectus

**22nd National Certification Examination (NCE)
for Energy Managers and Energy Auditors – July 2022
(Under the Energy Conservation Act, 2001)**

**30th & 31st July 2022
Saturday & Sunday**



BUREAU OF ENERGY EFFICIENCY (BEE)

(A Statutory body under Ministry of Power, Government of India)



National Certifying Agency

Dr. Ambedkar Institute of Productivity

NATIONAL PRODUCTIVITY COUNCIL,

**Department for Promotion of Industry & Internal Trade (DPIIT), Under
Ministry of Commerce and Industry, Government of India.**



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The enactment of the Energy Conservation (EC) Act, 2001 created an institutional framework for promoting energy efficiency in all sectors of the economy. All the energy efficiency programs and policies in India are now being guided by the Act.

The EC Act, 2001 primarily ensures; Energy Efficiency in Consumption, Demand Side Management (DSM), Institutional Framework and provisions to support the above strategy. The five major provisions of EC Act are related to:

1. Designated Consumers (mainly energy intensive industries) to comply with the specific energy consumption norms for their manufactured products/services and for the establishment of energy management system.
2. Standards and labeling of energy consuming appliances, gadgets and equipment to ensure promotion of energy efficiency of the new stocks entering the market.
3. Energy Conservation Building Codes to ensure new commercial buildings constructed in the country have less electricity consumption.
4. Creation of Institutional Set up (Bureau of Energy Efficiency) for effective coordination of the energy conservation efforts in the country.
5. Establishment of Energy Conservation Fund at Centre and States to provide necessary financial support for energy efficiency initiatives in the country.

The EC Act became effective from 1st March 2002 and Bureau of Energy Efficiency (BEE) was operationalized from the same date. The mission of BEE is to develop policy and strategies with a thrust on self-regulation and market principles, within the overall framework of the EC Act. The primary objective of the act is reducing energy intensity of the Indian economy and facilitating the State Governments to enforce efficient use of energy and its conservation. It also stipulates penalties and adjudication.

India is now in a position to move ahead at a faster pace in implementing energy efficiency programs and policies as there is a strong institutional set up in the country equally supported by the strong commitment by the Government both at the Centre and States towards energy efficiency improvement programs.

With promulgation of the act and establishment of BEE, within the framework of policies, focusing on optimal utilization of energy resources, energy manager / auditor profession is set to become one of the sought-after professions in the near future. In demand are energy managers and energy auditors who will not only track and save energy, but also help minimize its planet-unfriendly impacts like greenhouse gas emissions.

The path to engage energy managers and energy auditors has already been laid in Indian industry, thanks to the Indian National Certification Examination (NCE) for Energy Managers and Energy Auditors.

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1. BACKGROUND

The Government of India has enacted **The Energy Conservation Act, 2001** (No 52 of 2001, 29th September 2001) with effect from 1st March 2002. The Act provides mainly for efficient use of energy and its conservation and for matters connected therewith or incidentalthereto. As per the Energy Conservation Act 2001, it is mandatory for all the **designated energy consumers** to get energy audit conducted by an **Accredited Energy Auditor** [underclause 14(h) and 14(i)] and to designate or appoint an **Energy Manager** [under clause 14(j)]. The Government of India has notified the list of designated consumers and the details are available at www.beeindia.gov.in.

Bureau of Energy Efficiency (BEE), under Ministry of Power, Government of India, is empowered to specify the regulations and mechanism to meet the above objectives.

2. ROLE OF NATIONAL PRODUCTIVITY COUNCIL

BEE has retained Dr. Ambedkar Institute of Productivity (AIP), the training institute of National Productivity Council, Chennai as the National Certifying Agency (NCA), which would conduct the National Level Certification Examination for Energy Managers & Energy Auditors under the aegis of the Bureau.

NCA will carry out the following activities:

1. NCE Exam Cell is constituted with a team of officers and staff located at Chennai, which would administer and co-ordinate the examination under the guidance of the Controller of Examination (CoE).
2. Conduct of National Certification Examination in accordance with the guidelines issued by the BEE.
3. Process online applications from the candidates and register them.
4. Send all necessary instructions related to the National Certification Examination to the eligible candidates.
5. Administer the examination in all the centers.
6. Issue Certificates and Credentials to the successful candidates under the seal of the Bureau of Energy Efficiency (BEE).

3. NEED FOR THE NATIONAL LEVEL CERTIFICATION EXAMINATION

The essential qualification for a Certified Energy Manager and Certified Energy Auditor is passing of a National Level Certification Examination, conducted by a National Certifying Agency that will establish a uniform criterion for the certification of Energy Managers/Energy Auditors and will also ensure that services of qualified persons, having therequisite knowledge on the subject are readily available to the industry.

The certification examination will be conducted based on the syllabus approved by the Bureau. The proposed syllabus will undergo revision from time to time based on the

feedback and future developments. The requisite revision will be carried out by the national level certification agency in consultation with the Bureau from time to time.

4. ROLE & IMPORTANCE OF CERTIFIED ENERGY MANAGER (CEM)

Certified Energy Manager occupies an important position and is the focal point of all the activities pertaining to energy management in the organization. The certified energy manager provides leadership in the formulation of corporate energy policy and development of Energy Management Action Plan.

Certified Energy managers also perform the activities related to Plant Energy Management, Project Management, Personnel Management and Financial Management at the plant level. He also prepares the information to be submitted to the Designated Agency with regard to the energy consumed and actions taken on the recommendations of the Accredited Energy Auditor [Clause 14(k)].

Responsibilities and Duties of Certified Energy Manager (CEM):

- a) Establish an energy conservation cell & prepare annual activity plan.
- b) Develop and manage training programs for energy efficiency at operating levels.
- c) Develop integrated system of energy efficiency and environmental improvement.
- d) Initiate activities to improve monitoring and process control to reduce energy costs.
- e) Coordinate implementation of energy audit/efficiency improvement projects through external agencies.
- f) Establish / participate in information exchange with other energy managers of the same sector.
- g) Provide required information to the BEE and Designated Agency of the respective States demanded in the Act.

5. ROLE & IMPORTANCE OF CERTIFIED ENERGY AUDITOR (CEA)

Energy Audit involves in a systematic study undertaken on major energy consuming sections and equipment including construction of heat and mass balance with a view to identify the flow of energy, efficient use of energy in each of the steps and pin-point wastage of energy. A well-conducted energy audit would reveal the areas of wastage of energy and lead to suggestions for possible energy savings.

The Energy Conservation Act requires that every designated consumer shall get energy audit carried out by an Accredited Energy Auditor in a manner and interval of time as specified. The Certified Energy Auditor, as such, is not authorized to conduct such mandatory energy audits under the EC Act. However, certification is one of the prerequisites along with other conditions, which have to be fulfilled by an energy auditor before applying for accreditation by the Bureau.

The energy audit report is to contain recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption [Clause 14(i)]. The conduct of energy audit and implementation of its recommendations on cost-benefit basis through accredited energy auditors is expected to help the designated energy consumers to achieve significant reduction in their energy consumption levels.

Responsibilities and Duties of Certified Energy Auditor (CEA):

- a) Carry out a detailed energy audit.
- b) Quantify energy consumption and establish base line energy information.
- c) Construct energy and material balance.
- d) Perform efficiency evaluation of energy & utility systems.
- e) Compare energy norms with existing energy consumption levels.
- f) Identify and prioritize of energy saving measures.
- g) Analyses of technical and financial feasibility of energy saving measures.
- h) Recommend energy efficient technologies and alternate energy sources.
- i) Report writing, presentation and follow up for implementation.

6. ELIGIBILITY CRITERIA AND GUIDELINES

The candidates registering for the examination shall fulfill the following eligibility criteria:

a) CERTIFIED ENERGY MANAGERS (CEM):

Candidates appearing for energy manager’s certification examination shall possess any one of the following qualifications:

- 1. **A Graduate Engineer or Graduate Architect along with THREE YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 2. **A Post-Graduate in Engineering or Architecture along with TWO YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 3. **A Graduate Engineer or Graduate Architect with a post-graduate degree in Management or its equivalent along with TWO YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 4. **Diploma Engineer or “Equivalent” along with SIX YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 5. **Post Graduate in Physics or Electronics or Chemistry (with Physics and Mathematics at graduation level) along with THREE YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building**

design or building energy management.

b) CERTIFIED ENERGY AUDITORS (CEA):

Candidates appearing for Energy Auditors Certification Examination shall possess any one of the following qualifications:

- 1. A Graduate Engineer or Graduate Architect along with THREE YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 2. A Post-Graduate in Engineering or Architecture along with TWO YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management; or**
- 3. A Graduate Engineer or Graduate Architect with a post-graduate degree in Management or its equivalent along with TWO YEARS of work experience involving use of energy in operation, maintenance, planning, energy management, energy efficiency and energy conservation, building design or building energy management.**

c) DEFINITIONS

- **“ACT”** means the Energy Conservation Act, 2001 (52 of 2001);
- **“AGENCY”** means an agency appointed by the Bureau for holding National Examination for certification of Energy Auditors, Energy Managers, or Energy Auditors (Building);
- **“CERTIFICATE”** means the certificate issued, on being declared successful in the National Examination, by the Bureau or the agency notified by the Bureau in support of Energy Auditor or Energy Auditor (Building) or Energy Manager;
- **“DIPLOMA ENGINEER”** means a person who has obtained a diploma in engineering from any institution recognized by the All-India Council for Technical Education under the All-Indian Council for Technical Education Act, 1987 (52 of 1987);
- **“GRADUATE ENGINEER”** means a person who has obtained a graduation degree in engineering from a University or a deemed to be University declared under the provisions of the University Grants Commission Act, 1956 (3 of 1956) or its equivalent recognized by the All India Council for Technical Education under the All Indian Council for Technical Education Act, 1987 (52 of 1987);
- **“GRADUATE ARCHITECT”** means a person who has obtained a graduation degree in architecture from a University or a deemed to be University declared under the provisions of the University Grants Commission Act, 1956 or its equivalent, recognised by the All India Council for

Technical Education under the All Indian Council for Technical Education Act, 1987 (3 of 1956);

- **“NATIONAL EXAMINATION”** means the examination conducted by the Bureau or the agency appointed by the Bureau for certification of Energy Auditors and Energy Managers or Energy Auditors (Building);
- **“POST- GRADUATE IN ENGINEERING”** means a person who has obtained a post-graduation degree in engineering from a University or a deemed to be University declared under the provisions of the University Grants Commission Act, 1956 or its equivalent, recognized by the All-India Council for Technical Education under the All-Indian Council for Technical Education Act, 1987;
- **“POST- GRADUATE IN ARCHITECTURE”** means a person who has obtained a post-graduation degree in architecture from a University or a deemed to be University declared under the provisions of the University Grants Commission Act, 1956 or its equivalent, recognised by the All India Council for Technical Education under the All Indian Council for Technical Education Act, 1987;
- **“POST- GRADUATE”** means a post-graduate degree or its equivalent, recognized by University or a deemed to be University under the provisions of the University Grants Commission Act, 1956;

d) WORK EXPERIENCE

Candidates must have acquired the requisite years of **POST QUALIFICATION** work experience as on the closing date of the application i.e. **3rd June 2022**. Candidates without requisite post qualification work experience are not eligible to register for the examination.

e) MAXIMUM ATTEMPTS FOR QUALIFICATION

A newly registered candidate is required to pass the examination for certification of energy managers / energy auditors by appearing in a **maximum of THREE attempts per paper within SIX consecutive examinations.**

On the basis of his /her results of the re-written paper(s), a candidate is declared to have passed the examination, provided he/she secures a minimum of 50% marks in each of the re-written papers as applicable. In case, he/she does not secure a minimum of 50% marks in each re- written paper(s) as stipulated above, he/she is deemed to have failed in the said National Certification Examination for which the candidate has registered. **The candidate however, has the option to apply and re-register himself /herself as a fresh candidate.**

f) SUPPLEMENTARY CANDIDATES

Candidates **registered and not qualified in 17th, 18th, 19th, 20th & 21st exams are eligible to appear in the 22nd NCE Exam as a supplementary candidate.**

In other words, a candidate who had **registered and not qualified on or before the 16th Exam is not eligible to appear in the 22nd Exam as a supplementary**

candidate. The candidate, however has the option to apply and register himself/herself as a fresh candidate.

g) UPGRADATION FROM ENERGY MANAGER TO ENERGY AUDITOR

Up-gradation is applicable only for EM registered candidates. Only candidates who had applied and qualified for Energy Managers and also fulfill the eligibility criteria for appearing as Energy Auditors are eligible for upgradation (Refer Clause 6 (b)).

The choice of exercising this option **is restricted to a period of 5 YEARS from the date of issue of Energy Manager Certificate.**

Those eligible candidates who wish to apply for up gradation shall **use their existing registration number (ONLY ONCE)** and need to qualify by appearing in a maximum of THREE attempts within SIX consecutive examinations.

h) VERIFICATION OF MARKS

(a) If a candidate on declaration of results is not satisfied with the marks given in any of the paper(s) and feels that there is a possibility of either omission in marking of any answer(s) or a mistake in totaling of the marks in any paper(s), may seek **verification of all or any paper(s)** by filling an online application form at www.aipnpc.org within **TEN DAYS** of the declaration of results.

(b) Online application fee for verification is **Rs.200 for each paper** and the Bureau or the Agency will not entertain any request for such verification after the stipulated deadline.

(c) A candidate can seek verification of paper(s) of the said National Certification Examination **ONE TIME** only.

(d) The process of verification will be completed by the NPC within a period of **ONE MONTH** from the deadline for online registration.

(e) **The marks obtained by the candidate for any individual question will not be provided.**

(f) **Request for revaluation of Answer Book will not be entertained.**

(g) **Photocopies of evaluated Answer Books will not be provided to the candidates.**

i) AWARD OF e-CERTIFICATE & e-ID Card

(a) A candidate qualifying in Paper-1, Paper-2 & Paper-3 is eligible for the award of the Energy Manager e-Certificate & e-ID Card.

(b) Energy Auditor candidates, passing in Paper-1, Paper-2 & Paper-3, but failing in Paper-4 are eligible for the award of Energy Manager e-Certificate & e-ID card.

(c) A candidate qualified as Certified Energy Auditor automatically qualifies for the Energy Manager's e-certificate.

NOTE:

- Provisional certificates will be issued online to all qualified **Energy Manager & Energy Auditor** candidates from the date of announcement of results which are valid till the issuance of the Final Certificate.
- The e-final certificate to all qualified energy managers will be issued within 90 days from the date of announcement of results.
- The e-final certificate to all qualified energy auditor's will be issued only after relevant updation of the Energy Conservation Act (Amended in 2010), which would be notified by Bureau of Energy Efficiency (BEE) on implementation. Candidates are requested to refer to the notification uploaded in the website (**Notification No: 01/2020-21 dated: 18th March 2020**).

Till such period the provisional certificate issued by NPC, would be valid to meet all the statutory requirements.

j) VALIDITY OF THE CERTIFICATE

The certificate issued to successful candidate are valid for a period of **FIVE YEARS** and renewable after every five years. For renewal, certified energy manager/energy auditor shall attend a short-term refresher course conducted by the Bureau or the agency. After attending the Refresher course, candidates are required to inform BEE about attending the Refresher Course in a specified format so that the certificate is renewed for another five-year period.

k) REVOCATION OF CERTIFICATE

The Certificates can be revoked on the grounds of proved instances of unprofessional /unethical conduct and practices of a Certified Energy Manager/ Certified Energy Auditor. The Bureau of Energy Efficiency will constitute a Committee for this purpose to investigate the matter. The concerned Certified Energy Manager / Energy Auditor will be informed of the charges against him / her and given a reasonable opportunity to be heard and provide his/her explanation.

l) GUIDE BOOKS

(a) FOR REGULAR CANDIDATES:

The fourth edition Guide Books for Paper -1, 2, 3 & 4 will be supplied to the registered candidates of **22nd National Certification Examination for Energy Managers and Energy Auditors**.

(b) FOR SUPPLEMENTARY CANDIDATES:

Eligible supplementary candidates are required to write the examination on the basis of Fourth Edition Guide Books only. For candidates, who have registered for 17th, 18th, 19th, 20th & 21st Exam, we have already issued the Fourth Edition Guide Books.

(c) FOR UPGRADATION CANDIDATES:

Eligible candidates applying for upgradation shall appear for Paper-4 on the basis of fourth Edition Guide Books only.

For the candidates, who have registered in 17th, 18th, 19th, 20th & 21st Exam, we have already issued the Fourth Edition Guide Books.

7. EXAMINATION SCHEDULE AND SCHEME

Paper No.	Paper Name	Date	Duration	Time	Min Marks	Max Marks
1	General Aspects of Energy Management & Energy Audit	30.07.2022	3 Hrs	09:30-12:30 hrs	75	150
2	Energy Efficiency in Thermal Utilities	30.07.2022	3 Hrs	14:00 -17:00 hrs	75	150
3	Energy Efficiency in Electrical Utilities	31.07.2022	3 Hrs	09:30-12:30 hrs	75	150
4	Energy Performance Assessment for Equipment & Utility systems (Open Book Examination)	31.07.2022	2 Hrs	14:00 -16:00 hrs	50	100

- a) **Paper-1, 2 & 3** are common for Energy Manager and Energy Auditor and consist of both objective and descriptive type questions.
- b) **Paper-4 for Energy Auditors is an open book examination** and consists of descriptive and numerical questions. The candidates can refer to their supplied fourth edition guide books. No other books/written materials will be allowed for reference. **The degree of difficulty in Paper -4 will be comparatively much higher than the other papers.**
- c) **For Certification of Energy Managers:**
A candidate appearing for Energy Manager Examination has to pass **3 PAPERS** viz., **Paper-1, Paper-2 and Paper-3** and obtain a minimum of 50% of the maximum marks in each paper.
- d) **For Certification of Energy Auditors:**
A candidate appearing for Energy Auditor Examination has to pass all the above **4 PAPERS** viz., **Paper-1, Paper-2, Paper-3 & Paper-4** and obtain a minimum of 50% of the maximum marks in each paper.
- e) **Announcement of Toppers:**
Marks of top ten candidates for Energy Managers & Energy Auditors will be announced on announcement of results. For this, only candidates passing the exam in their first attempt will be considered and supplementary candidates are not eligible.
- f) The National examination will be conducted in English medium only and the detailed syllabus is given in Annexure – 1.

8. EXAMINATION CENTRES

- a) The proposed centers for conduct of “National Certification Examination” are: –

Ahmedabad, Bangalore, Bhopal, Bhubaneswar, Chandigarh, Chennai, Dehradun, Goa, Guwahati, Hyderabad, Indore, Jabalpur, Jaipur, Kanpur, Kochi, Kolkata, Ludhiana, Mangalore, Mumbai, Nagpur, New Delhi, Patna, Prayagraj, Pune, Raipur, Ranchi, Shimla, Siliguri, Thiruvananthapuram, Trichy, Udaipur, Vadodara, Visakhapatnam

- b) The applicant has to give **THREE CHOICES** of an examination centre in the order of preference.
- c) **No change of center (once chosen by the applicant) will be entertained under any circumstances.**
- d) If the number of applicants for a particular centre is found to be less than 50, they will be shifted to the next preferred Centre.

9. FEE STRUCTURE

Fees once paid for this examination will not be refunded under any circumstances.

Fee structure is given below:

a) FOR NEW CANDIDATES

1. Application Fees:

For General and Other Backward Classes (OBC)-Creamy Layer	Rs.500/-
For Scheduled Caste (SC) or Scheduled Tribe (ST)	Rs.250/-
For Other Backward Classes (OBC)-Non-Creamy Layer having annual income of less than Rs.8 lakhs per annum	Rs.250/-
For Company Sponsored	Rs.500/-

2. Certification Fee Including Examination Fee:

For General and Other Backward Classes (OBC) Creamy Layer	Rs.10,000/-
For Scheduled Caste (SC) or Scheduled Tribe (ST)	Rs.5,000/-
For Other Backward Classes (OBC)- Non-Creamy Layer having annual income of less than Rs.8 lakhs per annum	Rs.5,000/-
For Company Sponsored	Rs.20,000/-

b) FOR SUPPLEMENTARY CANDIDATES

1. **Application Fee: Nil**
2. **Certification Fee Including Examination Fee:**

For General and Other Backward Classes (OBC), Creamy Layer	Rs.1500/-PerPaper
For Candidates belong to Scheduled Caste (SC) or Scheduled Tribe (ST)	Rs.750/- PerPaper
For Other Backward Classes (OBC), Non-Creamy Layer having annual income of less than Rs.8 lakhs per annum	Rs.750/- PerPaper

c) FOR UP-GRADATION FROM ENERGY MANAGER TO ENERGY AUDITOR

1. **Application Fee: Nil**
2. **Certification Fee Including Examination Fee:**

For General and Other Backward Classes (OBC), Creamy Layer	Rs.1500/-
For Scheduled Caste (SC) or Scheduled Tribe (ST)	Rs.750/-
For Other Backward Classes (OBC), Non-Creamy Layer having annual income of less than Rs.8 lakhs per annum	Rs.750/-

- d) Application Fee and Certification Fee including Examination Fee (as applicable), shall be paid online by completing the Application Form.
- e) Candidates sponsored by the State Designated Agencies (SDAs) have to register on-line similar to the other candidates and upload necessary documents along with a copy of the letter from the sponsoring agency duly approved by the Bureau of Energy Efficiency (BEE). Payment refunds will be initiated on verification of the authenticity of the uploaded enclosures and acceptance of the application form and the fee paid by the candidate will be refunded to the respective accounts from which the payment has originated.

10. CONDITIONS AND INSTRUCTIONS TO THE CANDIDATES

01. Candidates are advised to read the prospectus carefully, before filling the online application form.
02. To fill the online application form, candidates have to visit the website www.aipnpc.org.

03. In the process of registration, it is compulsory for the candidates to give an e-mail ID and a valid mobile number as most of the communication regarding the examination will be sent through e-mails, SMS and/or WhatsApp.
04. The registration process commences from 3rd May 2022, 1000 hrs IST and last date for submission of on-line application along with the required attachments is **03rd June 2022, 2359 hrs IST**.
05. Select the **appropriate application form** as per your eligibility (Application for Fresh Candidate/ Application for Supplementary Candidate/ Application for Up- gradation).
06. A unique Application Code will be generated for each application form **which may be noted as reference for any future queries**.
07. After successful completion of application, candidates must upload all the relevant enclosures as stipulated in the “clause 11” and submit the application form through online mode.
08. The application form received with necessary attachments will be subjected to scrutiny as per the guidelines issued by the BEE and if found eligible the candidates would be enabled to remit their fees through online mode.
09. Incomplete applications on account of non-furnishing of required attachments will be summarily rejected.
10. The experience of the candidate will be considered post the educational qualification requirements.
11. For the successful registered candidates, guide books will be dispatched by Speed Post to the registered “**Present Address/ Permanent Address**” as per the candidate choice prior to the examination. Till such time, candidates are advised to **download the e-guidebooks** from <http://aipnpc.org/Guidebooks.aspx> for the preparation.
12. For the preparation of **22nd National Certification Exam, 4th Edition Guide Books** alone shall be used.
13. It is not compulsory to undertake any preparatory training program online/offline for appearing in the National Certification Examination. Further, **BEE has neither authorized any agency to conduct such preparatory training programs nor provide any guarantee on the quality of their training materials.**

14. It is the candidate's responsibility to cross check the information and other instructions issued from time to time on a regular basis from the websites www.aipnpc.org / www.beeindia.gov.in.
15. Applications received after the last date or incomplete or any other format other than the prescribed format will be summarily rejected.
16. Candidates can download the e-Hall Ticket at "www.aipnpc.org" from **08th July 2022** onwards. The Seating No. will be intimated along with the e-Hall Ticket.
17. Main Answer Booklet contains both OMR sheet and Answer sheets. The answer booklet is differentiated with a color coding viz "**Green Color**" & "**Pink Color**". **The candidate shall ensure that color of question paper received matches the color of the "Main Answer Booklet"**.
18. Candidate attendance is calculated based on a QR code. Before signing the attendance sheet, the Candidate shall ensure affixing of corresponding QR code in the "Main Answer Booklet" by the invigilator.
19. The announcements made by Centre Superintendent during the examination such as typographical errors/ changes in questions/ any other may be treated as official and final.
20. The results of the written examination will be announced online. The candidate shall visit the website "www.aipnpc.org" and key in the corresponding login credentials for viewing the results.
21. The e-Mark sheet can be downloaded online at "www.aipnpc.org" from the day of the publication of results.
22. Successful candidates can download the e-Provisional Certificates at "www.aipnpc.org" after the announcement of the results.
23. The date of commencement of e-Final Certificate and e-ID card download will be intimated through SMS. The download can be made from the website using the login credentials and entering the OTP sent to the registered mobile number.
24. For all correspondence related to this Examination, the candidate shall mail their query to "nceexam@npcindia.gov.in".
25. BEE reserves the right to change the examination dates due to unforeseen circumstance and reasons beyond its control.

11. INFORMATION ON “ATTACHMENTS TO BE UPLOADED”

01. As a proof of requisite **educational qualification(s)**, upload a Photocopy of Degree/Diploma certificate as per the eligibility criteria by self- attesting the same.
02. As a proof for requisite **experience certificate(s)**, upload work experience certificate as per the eligibility criteria self - attesting the same.
03. Upload **proof of SC/ST/OBC certificates in English as per Govt. of India format** in case of claiming fee concession.
04. OBC candidates salaried/in-service need to upload an income certificate issued by the employer / IT returns.
05. Self-employed candidates shall upload proof of at least two major works carried out for the clients. (Either work order or letter from the clients).

In addition, the candidates shall upload photocopies of the recent Income tax returns for a minimum period of two years as a proof for availing fee concession.
06. Supplementary candidates need not upload any proof for qualification & experience.

Note: All Formats can be downloaded at www.aipnpc.org and SC/ST/OBC certificates issued in local languages will not be accepted.

SYLLABUS FOR ENERGY MANAGERS AND ENERGY AUDITORS'
CERTIFICATION EXAMINATION

BOOK-1: GENERAL ASPECTS OF ENERGY MANAGEMENT AND ENERGY AUDIT

- Chapter - 1 Energy Scenario
- Chapter - 2 Energy Conservation Act 2001 and related policies
- Chapter - 3 Basics of Energy and its various forms
- Chapter – 4 Energy Management & Audit
- Chapter – 5 Material and Energy balance
- Chapter – 6 Energy Action Planning
- Chapter – 7 Financial Management
- Chapter – 8 Project Management
- Chapter – 9 Energy Monitoring and Targeting
- Chapter – 10 Energy, Environment and Climate change
- Chapter – 11 New & Renewable Energy Sources

BOOK-2: ENERGY EFFICIENCY IN THERMAL UTILITIES

- Chapter – 1 Fuels and Combustion
- Chapter - 2 Boilers
- Chapter - 3 Steam System
- Chapter – 4 Furnaces
- Chapter – 5 Insulation and Refractories
- Chapter – 6 FBC Boilers
- Chapter – 7 Cogeneration
- Chapter – 8 Waste Heat Recovery
- Chapter – 9 Heat Exchangers

BOOK-3: ENERGY EFFICIENCY IN ELECTRICAL UTILITIES

- Chapter - 1 Electrical System
- Chapter - 2 Electric Motors
- Chapter - 3 Compressed Air System

- Chapter – 4 HVAC and Refrigeration System
- Chapter – 5 Fans and Blowers
- Chapter – 6 Pumps and Pumping System
- Chapter – 7 Cooling Tower
- Chapter – 8 Lighting System
- Chapter – 9 Diesel/Natural Gas Power Generating System
- Chapter – 10 Energy Conservation in Buildings and ECBC

BOOK-4: ENERGY PERFORMANCE ASSESSMENT FOR EQUIPMENT AND UTILITY SYSTEMS

Open Book examination on the following energy performance assessments for equipment and utility systems:

- Chapter - 1 Boilers.
- Chapter - 2 Furnaces.
- Chapter - 3 Cogeneration, Turbines (gas, steam).
- Chapter - 4 Heat Exchangers.
- Chapter - 5 Electric Motors, Variable Speed Drives.
- Chapter - 6 Fans and Blowers.
- Chapter - 7 Water Pumps. Chapter - 8 Compressors.
- Chapter - 9 HVAC systems.
- Chapter - 10 Performing Financial Analysis.
- Chapter - 11 Energy Performance assessment in power plants.
- Chapter - 12 Energy Performance assessment in steel industry.
- Chapter - 13 Energy Performance assessment in process industry (cement and textile).
- Chapter - 14 Energy Performance assessment in buildings and commercial establishments.
- Chapter - 15 Textile Industry.



NATIONAL PRODUCTIVITY COUNCIL, INDIA

The National Productivity Council is a national level organization, founded in 1958 by the Government of India. NPC is an autonomous, tri-partite, non-profit organization with equal representation from the government, employers and worker's organizations, apart from technical and professional institutions and other interests on its governing council. Besides its headquarters at New Delhi, NPC operates through 12 offices in India with 250 highly qualified and experienced specialists representing various disciplines.

Training Institute: Dr. Ambedkar Institute of Productivity (AIP) is a long-term training wing of the National Productivity Council of India. The Institute plays a wider role of running 2 years P.G Programmes and Short-term programmes in Managerial & Technical areas.

Mission: Development, Dissemination and Application of knowledge and experience in productivity, for promoting consciousness and improvement in productivity, with the objective of strengthening the performance and competitiveness of the national economy as well as of improving the working conditions and quality of working life.

Objectives: NPC is aiming to promote the cause of productivity in industry, agriculture, service, infrastructure and other sectors of the economy. It aims to help in achieving sustained all round development in India, leading to enhancement of quality of life of people in general. The concept of productivity as perceived by NPC encompasses not only a more efficient use of resources, but also of quality, environmental protection and integrated economic and social development. NPC aims at promoting these as a part of its objectives and activities. NPC possesses a well-equipped Library- cum-Documentation centre.

Services: Besides providing training, consultancy and undertaking research in the area of productivity, NPC also implements the productivity promotion plans and programmes of the Tokyo based Asian Productivity Organization (APO) an inter-governmental body of which the Government of India is a founder member.

Thrust Areas: NPC also conducts institutional training programmes for the development of consultants in Productivity and Management in the areas of Industrial Engineering, Energy Management & Energy Audit, Environment Management, Plant Engineering, HRD, TPM, TQM, Financial Management, Marketing Management and Agricultural Productivity.

NPC aims at propagating productivity as an evolving concept, which includes attention to special issues, and concerns relating to quality, environment, energy, integrated rural and community development, women workers etc. NPC's thrust is on providing modern and high-quality productivity-related services to sectors not adequately addressed by others, especially the small-scale industry and informal sector.

NPC has been active in the area of Energy Conservation & Management for over four decades and has undertaken numerous studies at macro, sectoral and unit levels through its team of committed professionals. It promotes rational use of energy through: Optimization of Methods Improvement, Technology Up gradation and Application of alternative energy sources.

*“What we know is only a handful
what we don't know is an ocean”*

- Avvaiyar, Tamil poet, 2 AD.

For any further details, please contact-



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