



# **BOARD OF SCHOOL EDUCATION HARYANA**

## **Syllabus and Chapter wise division of Marks (2025-26)**

**Class-12<sup>th</sup>**

**Subject: Power (NSQF)**

**Code: PWR 986**

### **General Instructions:**

1. There will be an Annual Examination based on the entire syllabus.
2. The Annual Examination will be of 60/2=30 marks, Practical Examination will be of 50 marks and 20 marks weightage shall be for Internal Assessment.

### **3. For Practical Examination:**

- i) Two experiments of 10 marks each.
- ii) One activity of 15 marks.
- iii) Practical record of 10 marks.
- iv) Viva-voce of 15 marks.

### **4. For Internal Assessment:**

There will be Periodic Assessment that would include:

- i) For 6 marks- Three SAT exams will be conducted and will have a weightage of 06 marks towards the final Internal Assessment.
- ii) For 2 marks- One half yearly exam will be conducted and will have a weightage of 02 marks towards the final Internal Assessment.
- iii) For 2 marks- Subject teacher will assess and give maximum 02 marks for CRP (Class room participation).
- iv) For 5 marks- A project work to be done by students and will have a weightage of 05 marks towards the final Internal Assessment.
- v) For 5 marks- Attendance of student will be awarded 05 marks as:

75% to 80%	- 01 Marks
Above 80% to 85%	- 02 Marks
Above 85% to 90%	- 03 Marks
Above 90% to 95%	- 04 Marks
Above 95% to -	- 05 Marks



## Course Structure (2025-26)

Class- 12<sup>th</sup>

Subject: Power (NSQF)

Code: PWR 986

Unit. No.	Vocation Skill Unit Name	Unit Marks
1	Basic Electricity II	20
2	Observe the operation and maintenance of 11KV/0.433 KV Distribution Substation	20
3	Safety Precautions for Electrical Work	12
4	Workplace management, Safety and Health	08
Unit. No.	Employability Skill Units	Unit Marks
1.	Communication Skills	2
2.	Self-Management Skills	2
3.	Information and Communication Technology Skills	2
4.	Entrepreneurship Skills	2
5.	Green Skills	2
Total		60/2=30
Practical Examination		50
Internal Assessment		20
Grand Total		100



## **Employability Skill**

### **Unit 1: Communication Skills**

- Session 1: Active Listening
- Session 2: Parts of Speech
- Session 3: Writing Sentences

### **Unit 2: Self-Management Skills**

- Session 1: Motivation and Positive Attitude
- Session 2: Result Orientation
- Session 3: Self - Awareness

### **Unit 3: Information and Communication Technology Skills**

- Session 1: Getting Started with Spreadsheet
- Session 2: Performing Basic Operations in a Spreadsheet
- Session 3: Working with data and Formatting text
- Session 4: Advanced features in spreadsheet
- Session 5: Presentation Software
- Session 6: Opening, closing , saving and printing a presentation
- Session 7: Working with slides and Text in a Presentation
- Session 8: Advanced features in Presentation

### **Unit 4: Entrepreneurship Skills**

- Session 1: Entrepreneurship and Entrepreneur
- Session 2: Barriers to Entrepreneurship
- Session 3: Entrepreneurial attitudes
- Session 4: Entrepreneurial competencies

### **Unit 5: Green Skills**

- Session 1: Green Jobs
- Session 2: Importance of Green jobs





# Month wise NSQF Syllabus Teaching Plan (2025-26)

Class- 12<sup>th</sup>

Subject: Power (NSQF)

Code: PWR 986

Month	Subject- Content	Teaching Periods	Revision Periods	Practical Work
April	<b><u>Vocational Skill: Unit –I (Basic Electricity-II)</u></b>	13		
	Electron Theory, Conductors, Insulators and Semiconductors	1		
	Voltage, Current, Resistance, Power and Energy	1		
	Ohms Law and Kirchhoff's Law	2		
	Numerical on Kirchhoff's Law	1		
	Electromagnetic Induction and Magnetism,	1		
	Analog and Digital Electronics	1		
	Active Components	2		
	Passive Components	2		
	Reading Colour Code in Capacitors	1		
	Numerical on Colour code in capacitors Inductors	1		
	<b><u>Employability Skill: Unit –I (Communication Skills)</u></b>			
	Active Listening	1	-	-
	Parts of Speech	1	-	-
May	<b><u>Vocational Skill: Unit –I (Basic Electricity-II)</u></b>	13	6	4
	Introduction to various semiconductor diodes:- Rectifier Diode, Single Diode, Tunnel Diode	1		
	Introduction to various semiconductor diodes:- Zener Diode, Schottky Diode, LED and Varactor Diode	1		



	Terminal Identification of semiconductor with multimeter	1		
	Half Wave Rectifier	1		
	Full Wave Rectifier	1		
	Transistors and its various types	2		
	Identification of terminals of transistor	1		
	Measuring Instruments: Energy meter	1		
	Measuring Instruments: Voltmeter	1		
	Measuring Instruments: Ammeter	2		
	<b>Employability Skill: Unit –I (Communication Skills)</b>			
	Writing Sentences	1	-	-
<b>June</b>	<p>During Summer Vacation Home Work/Project Report Writing on Roles and Responsibilities of a distribution lineman in modern power system which includes qualification, daily tasks, safety responsibilities, equipment used.</p> <p>Draw and label the layout of a typical 11kv/0.4 kv distribution subsystem, pole mounted distribution transformer wiring diagram, PPP used by lineman.</p> <p>Prepare a worksheet of 20 MCQ on electrical distribution components (Poles, insulators, conductors), safety procedures on lineman and tool and testing instruments used.</p> <p>Visit a nearby electricity distribution pole/substation (with supervision) and prepare a brief report on the following points: -</p> <ul style="list-style-type: none"> <li>• Location and components observed.</li> <li>• Name of the lineman or staff interviewed.</li> <li>• Precautionary signs and safety equipment seen. (If physical visit is not possible, watch a virtual field visit video and summarize your observation)</li> </ul> <p>Create a chart showing 10 tools used by lineman. Name, image/sketch, use, safety tip (Eg. Insulated plier, safety harness, line tester)</p> <p>Draw a safety poster for lineman titled: "Work Safe, Stay safe- Electrical Lineman Safety First"</p> <p>Use creative slogans, symbols and at least 5 safety rules.</p>			







July	<b><u>Vocational Skill: Unit –I (Basic Electricity-II)</u></b>	<b>12</b>	<b>6</b>	<b>5</b>
	Combination of Resistances: Series combination	1		
	Combination of Resistances: Parallel combination	1		
	Combination of Resistances: Series and Parallel combination	1		
	Numerical on Series and Parallel Combination	2		
	Combination of Capacitances: Series and Parallel combination	2		
	<b>Unit-II (Observe the operation and maintenance of 11/0.433 KV Distribution Substation)</b>			
	Power distribution and its various types	2		
	Various components of power system 33/11 KV substation)	2		
	<b>Employability Skill: Unit –II (Self-Management Skills)</b>	1		
	Motivation and Positive Attitude			
	Result Orientation			
	Self - Awareness			
August	<b>Vocational Skill: Unit-II (Observe the operation and maintenance of 11/0.433 KV Distribution Substation)</b>	<b>11</b>	<b>6</b>	<b>5</b>
	Principle of Transformer: Electromagnetic Induction (Mutual Induction) and advantage of transformer	1		
	Various accessories of transformer	2		
	Installation of distribution substation	2		
	Ratings of Distribution Transformer fuse	1		
	Various activities for the maintenance of distribution transformer	1		
	Various reasons for contamination of transformer oil	1		
	Oil testing and methods of oil testing of transformer	1		
	Maintenance schedule of distribution transformer	1		





	Responsibilities for maintenance of distribution			
	<b>Employability Skill: Unit –III (Information and Communication Technology Skills)</b>	1		
	Getting Started with Spreadsheet			
	Performing Basic Operations in a Spreadsheet			
	Working with data and Formatting text			
	Advanced features in spreadsheet			
September	<b>Vocational Skill: Vocational Skill: Unit-II (Observe the operation and maintenance of 11/0.433 KV Distribution Substation)</b>	11	7	5
	Causes of failure of transformer	2		
	Identification of neutral bushing of an unmarked old distribution transformer	2		
	Activity to find the reasons for contamination of transformer oil	2		
	<b>Unit-III (Safety Precautions for Electrical Work)</b>	2		
	Safety: Introduction, where to find health and safety equipment,			
	Various safety equipment used at heights			
	<b>Employability Skill: Unit –III (Information and Communication Technology Skills)</b>			
	Presentation Software	1		
	Opening, closing , saving and printing a presentation	1		
	Working with slides and Text in a Presentation	1		
	Advanced features in Presentation			
	Half Yearly Exam			
October	<b>Vocational Skill: Unit-III (Safety precautions for electrical work)</b>	10	6	4



	Safety precautions to be taken while working with electrical equipment	2		
	Exposure to toxic material	1		
	Importance of using PPE and its various uses and its types while working in electrical Substation.	3		
	Safety requirements applicable at work	1		
	Activity for the precautions to be observed by The lineman before starting the work.	2		
	<b>Employability Skill: Unit –IV (Entrepreneurship Skills)</b>	1		
	Entrepreneurship and Entrepreneur Barriers to Entrepreneurship			
November	<b>Vocational Skill: Unit-III (Safety precautions for electrical work)</b>	<b>12</b>	<b>6</b>	<b>4</b>
	Basic First Aid: Introduction, tips	1		
	Bleeding and its various types, injuries to bones, unconsciousness	1		
	Injuries due to burning, its tips Electrocution: Introduction and tips	1		
	Artificial Respiration: Introduction and its various types Artificial Respiration: Mouth to Mouth Procedure Artificial Respiration: Nose to Mouth Procedure Artificial Respiration: Holger Nelson System	1		
	Artificial Respiration: Sheffers System Artificial Respiration: Silverester's System	1		
	Activity to perform various artificial respiration systems	1		
	Bleeding and its various types, injuries to bones, unconsciousness	1		
	Injuries due to burning, its tips Electrocution: Introduction and tips	1		
	Artificial Respiration: Introduction and its various types Artificial Respiration: Mouth to Mouth Procedure Artificial Respiration: Nose to Mouth Procedure Artificial Respiration: Holger Nelson System	1		
	Artificial Respiration: Sheffers System Artificial Respiration: Silverester's System	2		
	<b>Employability Skill: Unit –IV (Entrepreneurship Skills)</b>			
	Entrepreneurial attitudes	1		
	Entrepreneurial competencies	1		







December	<b>Vocational Skill: Unit-IV (Workplace Management, Safety and Health)</b>	<b>13</b>	<b>6</b>	<b>5</b>
	Introduction, General Safety Precautions and Rules, Tips	1		
	CEA Gazette Notification, Handling of Electric supply lines and apparatus	1		
	Provisions applicable to protective equipment Clearance from building of lines of voltage and service lines not exceeding 650 Volts Clearance from building of lines of voltage and service lines exceeding 650 Volts	2		
	Meaning of Hazards and Risks, Hazards associated with carrying out distribution line maintenance	2		
	Suitability of equipment, possible causes of accident, possible causes of accident when working on distribution line, tips	2		
	Near misses and short circuits and its causes Electrical Shock, methods of accident prevention	2		
	General responsibilities of supervisory staff	1		
	<b>Employability Skill: Unit –V (Green Skills)</b>	<b>2</b>		
	Green Jobs			
	Importance of Green jobs			
January	<b>Vocational Skill: Unit-IV (Workplace Management, Safety and Health)</b>	<b>10</b>	<b>5</b>	<b>4</b>
	General responsibilities of distribution lineman	2		
	Personal conduct of employees, work permit and creation of safety zone	1		
	Making safety zone for working in distribution substation, tips	1		
	Activity on the factors likely to cause possible electrical hazards, tips	2		
	Fire and its causes	2		
	Classification of fuel	1		





	Use of fire extinguisher	1		
	Revision and doubt session			
February	Vocational Skill: Unit-IV (Workplace Management, Safety and Health)	8	8	5
	Rules for fighting fire, tips	2		
	Activity on use of fire extinguisher	2		
	Revision and doubt session	4		
March	Annual Examination			

### Note:

- Subject Teachers are advised to direct the students to prepare notebook of the Terminology/Definitional Words used in the chapters for enhancement of vocabulary or clarity of the concept.
- The NCERT textbook present information in boxes the book. These help students to get conceptual clarity. However, the information in these boxes would not be assessed in the year-end examination.





## NSQF Question Paper Design (2025-26)

Class- 12<sup>th</sup>

Subject: Power (NSQF)  
Time 2 Hours 30 Minutes

Code: PWR 986

Competencies	Total
Knowledge	40%
Understanding	30%
Application	20%
Skill	10%
Total	100%

Type of Question	Marks	Number	Description	Total Marks
Objective Type Question	1	15	6 Multiple Choice Questions, 3 Fill in the Blanks Questions, 3 One Word Answer Type Questions, 3 Assertion- Reason Questions	15
Very Short Answer Type Question	2	6	Internal choice will be given in any 2 questions	12
Short Answer Type Question	3	6	Internal choice will be given in any 2 questions	18
Essay Type Question	5	3	Internal option will be given in Essay Type question.	15
Total		30		60