



**WEST BENGAL STATE COUNCIL OF TECHNICAL & VOCATIONAL EDUCATION  
AND SKILL DEVELOPMENT**

(A Statutory Body under Government of West Bengal Act XXVI of 2013)

Department of Technical Education, Training & Skill Development, Government of West Bengal  
Karigari Bhawan, 4<sup>th</sup> & 5<sup>th</sup> Floor, Plot No. B/7, Action Area-III, Newtown, Rajarhat, Kolkata-700160

**WBSCTVESD Curriculum for Diploma Courses in Engineering and Technology**

**Semester - I**

Sl. No.	Category of Course	Course Title	Hours per week			Total contact hrs/ week	Credits	Marks
			L	T	P			
<b>Theory Subjects</b>								
1.	Basic Science	Mathematics-I	2	1	0	3	3	100
2.	Basic Science	Applied Physics-I	2	1	0	3	3	100
3.	Basic Science	Applied Chemistry	2	1	0	3	3	100
4.	Humanities & Social Science	Communication Skills in English	2	0	0	2	2	100
<b>Practical Subjects</b>								
5.	Engineering Science	Engineering Graphics	0	0	3	3	1.5	100
6.	Engineering Science	Engineering Workshop Practice	0	0	3	3	1.5	100
7.	Basic Science	Applied Physics-I Lab	0	0	2	2	1	100
8.	Basic Science	Applied Chemistry Lab	0	0	2	2	1	100
9.	Humanities & Social Science	Sports and Yoga	0	0	2	2	1	100
10.	Humanities & Social Science	Communication Skills in English Lab	0	0	2	2	1	100
<b>Total</b>			<b>8</b>	<b>3</b>	<b>14</b>	<b>25</b>	<b>18</b>	<b>1000</b>

**Semester - II**

Sl. No.	Category of Course	Course Title	Hours per week			Total contact hrs/ week	Credits	Marks
			L	T	P			
<b>Theory Subjects</b>								
1.	Basic Science	Mathematics-II	3	1	0	4	4	100
2.	Basic Science	Applied Physics-II	2	1	0	3	3	100
3.	Engineering Science	Introduction to IT Systems	2	0	0	2	2	100
4.	Engineering Science	Fundamentals of Electrical & Electronics Engineering	2	1	0	3	3	100
5.	Engineering Science	Engineering Mechanics	2	1	0	3	3	100
<b>Practical Subjects</b>								
6.	Basic Science	Applied Physics-II Lab	0	0	2	2	1	100
7.	Engineering Science	Introduction to IT Systems Lab	0	0	4	4	2	100
8.	Engineering Science	Fundamentals of Electrical & Electronics Engineering Lab	0	0	2	2	1	100
9.	Engineering Science	Engineering Mechanics Lab	0	0	2	2	1	100
<b>AUDIT COURSES-Mandatory non-credit courses</b>								
10.	Audit	Indian Constitution	2	0	0	2	0	100
<b>Total</b>			13	4	10	27	<b>20</b>	<b>1000</b>

**Curriculum structure for 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> semester students of**

**Diploma in Electrical Power Systems**

**3<sup>rd</sup> Semester**

SI.No.	Category of course	Code No	Course Title	Credits	Marks	Total Contact Hours per Week	
						L	P
1	Program Core Course		Introduction to Electric Generation Systems	3	100	3	0
2	Program Core Course		Introduction to Electric Generation Systems Laboratory	1	100	0	2
3	Program Core Course		Electrical Circuits	3	100	3	0
4	Program Core Course		Electrical Circuits Laboratory	1	100	0	2
5	Program Core Course		Electrical and Electronic Measurement	3	100	3	0
6	Program Core Course		Electrical and Electronic Measurement Laboratory	1	100	0	2
7	Program Core Course		DC Machines and Transformers	3	100	3	0
8	Program Core Course		DC Machines and Transformers Laboratory	1	100	0	2
9	Program Core Course		Analog and Digital electronics	3	100	3	0
10	Program Core Course		Analog and Digital electronics Laboratory	1	100	0	2
11	Internship		Internship-I	1	100	0	
<b>TOTAL</b>				<b>21</b>	<b>1100</b>	<b>15</b>	<b>10</b>
<b>Total contact hrs/ week =25</b>							

## 4<sup>th</sup> Semester

Sl.No	Category of course	Code No	Course Title	Credits	Marks	Contact Hours per Week	
						L	P
1	Program Core Course		Power Electronics Converters and Application	3	100	3	0
2	Program Core Course		Power Electronics Converters and Application Laboratory	1	100	0	2
3	Program Core Course		Electric Power Transmission and Distribution	3	100	3	0
4	Program Core Course		Electric Power Transmission and Distribution Laboratory	1	100	0	2
5	Program Core Course		Induction, Synchronous and Special Electrical Machines	3	100	3	0
6	Program Core Course		Induction, Synchronous and Special Electrical Machines Laboratory	1	100	0	2
7	Program Core Course		Switchgear and protection	3	100	3	0
8	Program Core Course		Switchgear and Protection Laboratory	1	100	0	2
9	Program Elective course I		<u>Any one of the following subjects to be chosen</u> 1. Renewable Energy Power Plants 2. Building Electrification 3. Numerical Methods	3	100	3	0
10	Program Elective course I Lab		<u>Any one of the following subjects to be chosen</u> 1. Renewable Energy Power Plants Laboratory 2. Building Electrification Laboratory 3. Numerical Methods Laboratory	1	100	0	2
11	Minor Project			1	100	0	2
<b>TOTAL</b>				<b>21</b>	<b>1100</b>	<b>15</b>	<b>12</b>
<b>Total contact hrs/ week =27</b>							

## 5<sup>th</sup> Semester

Sl.No	Category of course	Code No	Course Title	Credits	Marks	Total Contact Hours per Week	
						L	P
1	Program Core Course		Microcontroller and its Applications	3	100	3	0
2	Program Core Course		Microcontroller and its Applications Laboratory	1	100	0	2
3	Program Core Course		Power System Operation, Control and Power Quality	3	100	3	0
4	Program Core Course		Power System Operation, Control and Power Quality Laboratory	1	100	0	2
5	Program Elective course II		<u>Any one of the following subjects to be chosen</u> 1. Electrical Testing & Commissioning 2. Electric Vehicles	3	100	3	0
6	Program Elective course II lab		<u>Any one of the following laboratories to be chosen</u> 1. Electrical Testing & Commissioning Laboratory 2. Electric Vehicles Laboratory	1	100	0	2
7	Program Elective course III		<u>Any one of the following subjects to be chosen</u> 1. Solar Power Technologies 2. Utilization of Electrical Power 3. Industrial Drives	3	100	3	0
8	Program Elective course III Lab		<u>Any one of the following laboratories to be chosen</u> 1. Solar Power Technologies Laboratory 2. Utilization of Electrical Power Laboratory 3. Industrial Drives Laboratory	1	100	0	2
9	Internship		Internship II	1	100	0	
10	Major Project			2	100	0	4
<b>TOTAL</b>				<b>19</b>	<b>1000</b>	<b>12</b>	<b>12</b>
<b>Total contact hrs/ week = 24</b>							

## 6<sup>th</sup> Semester

Sl.No	Category of course	Code No	Course Title	Credits	Marks	Total Contact Hours per Week	
						L	P
1	Program Core Course		Energy conservation and Audit	3	100	3	0
2	Program Core Course		Energy conservation and Audit Laboratory	1	100	0	2
3	Program Elective course IV		<u>Any one of the following subjects to be chosen</u> 1. Object Oriented Programming and Networking 2. Control System 3. Industrial Measurement and Condition Monitoring	3	100	3	0
4	Program Elective course IV Lab		<u>Any one of the following subjects to be chosen</u> 1. Object Oriented Programming and Networking Laboratory 2. Control System Laboratory 3. Industrial Measurement and Condition Monitoring Laboratory	1	100	0	2
5	Humanities and Social Science		Entrepreneurship and Start-ups	3	100	3	0
6	Open Elective course-I (compulsory)		Engineering Economics and Project Management	3	100	3	0
7	Open Elective course- II		Any one of the following subjects to be chosen. [i] Mechatronics [ii] Disaster Management [iii] Internet of Things [iv] Environmental Science and Engineering [v] Industrial Management [vi] Sustainable Development [vii] Industrial Safety	3	100	3	0
8	Major Project			2	100	0	4
9	Seminar			2	100	0	4
<b>TOTAL</b>				<b>21</b>	<b>900</b>	<b>15</b>	<b>12</b>
<b>Total contact hrs/ week =27</b>							

Members of Electrical Power Systems syllabus sub-committee:

1. DR. URMILA KAR, Professor, Education and Management, NITTTR Kolkata as Expert.
2. Mr. Aniruddha Bhuniya, Manager (Power Station), Project & Planning Dept., WBPDCCL as Expert.
3. MR. NIRBAN BISWAS, Lecturer in Electrical Engineering, Present posting at Iswar Chandra Vidyasagar Polytechnic, Jhargram as Member.
4. MR. ARINDAM DAS, Lecturer in Electrical Engineering, Present posting at Kolaghat Government Polytechnic as Member.
5. MR. SOUMEN SAHA, Principal-in-Charge, Kolaghat Government Polytechnic as Member.
6. MR. ARINDAM ROY, Lecturer in Electrical Engineering, Present posting at Jnan Chandra Ghosh Polytechnic, 7 Mayurbhanj Road, Kolkata as Convener.