


**Government of Karnataka**  
**Department of Technical Education**  
**Board of Technical Examinations, Bangalore**

	<b>Course Title: PROFESSIONAL PRACTICES</b>		
	Scheme (L:T:P) : <b>0:2:4</b>	Total Contact Hours: <b>78</b>	Course Code: <b>15EC45P</b>
	Type of Course: <b>Assignment Group talk and practice</b>	Credit : <b>03</b>	Core/ Elective: <b>Core(practice)</b>

**Prerequisites:** Enthusiasm to Explore New things by taking individual tasks and acquires skills from participating in group activities.

**Course Objectives:**

Overall professional development of diploma in Electronics & Communication engineering is the need of the day for enabling them to sustain in competitive global environment. Professional development of Diploma engineering students is to be done by exposing them to various simulative situations in the industries. This can be achieved by inculcating attitude to face the problems, get alternative solutions and validation of the selected alternatives. This is achieved by involving students in activities such as inviting experts from various industries for sharing their experiences, arranging industrial visits, seminars etc.

*On successful completion of the course, the students will be able to:*

<b>Course Outcome</b>	
<b>CO1</b>	Ability to acquire knowledge of contemporary issues and relate the advancements in Electronics & Communication engineering domain in a global, economic, environmental, and societal context.
<b>CO2</b>	Aware of current Electronics & Communication engineering professional practice issues and have an appreciation of the broader, global, societal, economic and environmental aspects.
<b>CO3</b>	Analyze the current situations, discuss & disseminate about advancements in related profession including societal, environmental and ethical responsibilities of an engineer.
<b>CO4</b>	Develop individual confidence to handle various engineering assignments and expose themselves to acquire life skills to meet societal challenges
<b>CO5</b>	Enhancing the employability skills and to increase his ability to engage in, life-long learning, Usage of modern tools by undergoing industrial visits

Course Outcome		CL	Activities linked	Linked PO	Teaching Hrs
CO1	Ability to acquire knowledge of contemporary issues and relate the advancements in Electronics & Communication engineering domain in a global, economic, environmental, and societal context.	R/U/A	UNIT-1	1,2,4,5,6,7,8,9,10	15
CO2	Aware of current Electronics & Communication engineering professional practice issues and has an appreciation of the broader in global, societal, economic, and environmental aspects.	R/U/A	UNIT-2	1,2,4,5,6,7,8,9,10	15
CO3	Analyze the current situations, discuss & disseminate about advancements in related profession including societal, environmental and ethical responsibilities of an engineer.	R/U/A	UNIT-3	1,2,4,5,6,7,8,9,10	15
CO4	Develop individual confidence to handle various engineering assignments and expose themselves to acquire life skills to meet societal challenges	R/U/A	UNIT-4	1,2,4,5,6,7,8,9,10	15
CO5	Enhancing the employability skills and to increase his ability to engage in, life-long learning, Usage of modern tools by undergoing industrial visits	R/U/A	UNIT-5	1,2,4,5,6,7,8,9,10	18
				<b>Total sessions</b>	<b>78</b>

### COURSE-PO ATTAINMENT MATRIX

Course	Programme Outcomes									
	1	2	3	4	5	6	7	8	9	10
<b>PROFESSIONAL PRACTICES</b>	3	3	--	3	3	3	3	3	3	3
<p><b>Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.</b></p> <p>Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.</p> <p>If <math>\geq 40\%</math> of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3</p> <p>If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2</p> <p>If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1</p> <p>If <math>&lt; 5\%</math> of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.</p>										

**UNIT-1. Information Search and Data collection:****15HRS**

Information search can be done through manufacturer's catalogue, websites, magazines; books etc. *Following topics are suggested.*

- 3G & 4G mobile communications.
- LTE (**Long-Term Evolution**) Technology
- WCDMA
- Wi-fi
- Hi-hi
- Blue-Ray Technology
- E-waste disposal
- VOIP
- Artificial Intelligence
- Data Compression Techniques
- Hi Speed Networks
- Embedded Systems
- Ipad and Ipad
- Biometric Systems
- PCB designing using softwares
- Free and Open Source Softwares (FOSS)
- Laser Applications
- Automotive Electronics
- Surface Mount Technology.
- RTOS
- Quality Certification Standards
- Pen PC
- CCD cameras
- Thermal Imaging

*Note: topic may be any other advanced technology.*

**Method for conducting Graded activities**

1. The student should individually select the topic, and search the information related to topic.
2. The report is strictly hand written document to have knowledge of precise writing and report making based on data collection
3. Carry out class room presentation.

**UNIT-2. Guest Lecturers: To be organized from any two of the following areas 15 HRS**

Experts / Professionals from different field/industries are invited to deliver lectures at least TWO sessions in a semester. The topics may be selected by the teacher /industry expert to develop required skills.

*Note1: The ISTE student chapter/CCTEK/ Institute of engineers (Institute chapter)/ student clubs of polytechnic may be used as platform to conduct this activity.*

1. Pollution control.
2. E-Waste management.
3. Fire Fighting / Safety Precautions and First aids.
4. Computer Networking and Security.
5. Career opportunities,
6. Yoga Meditation,

7. Aids awareness and health awareness.
8. Safety Engineering and Waste elimination.
9. Interview Techniques.
10. Programmable logic controllers.
11. Cloud computing.
12. Safety awareness on driving.
13. Program on Personality development.
14. Career guidance program

**Note2:** Topic may be chosen from the above or any relevant. However the decision of Program co-ordinator is final.

### Method for conducting Guest lectures

1. The teacher/ISTE student chapter convener should fix up the date for guest lecture.
2. The HOD of the department should chair the event.
3. The students of class allowed participating in the session.
4. Watch the talk and make the brief hand written report on the guest lecture delivered by each student as a part of Term work.
5. Make Audio/visual record of the guest lecture by using any smart devices.
6. Opportunity should be provided for students for live Interaction with experts and record it on any one smart device.

### UNIT-3. Group Discussion: (One topic)

15HRS

The students shall discuss in group of six students .Some of the suggested topics are

1. Polythene bags must be banned!
2. Do we really need smart cities?
3. E – Books or Printed books – what's your choice?
4. Is Face book for the attention – seeking and lazy people?
5. Globalization and its impact on Indian Culture.
6. Analytically evaluate the solutions to traffic problems
7. Global warming is caused more by developed countries
8. Rain forests help in maintaining the earth's ecosystem
9. Reservation for women would help the society
10. How to deal with terrorism
11. Water resources should be nationalized
12. Daughters are more caring than sons
13. NGOs - Do they serve people's interests?
14. Managers are born, not trained
15. Managerial skills learnt in the classroom
16. Women are good managers
17. India's growth rate is bridging gap between rich and poor.
18. Nuclear power is a safe source of energy
19. Electronic media vs. print media
20. Corruption is the price we pay for democracy
21. Multinational corporations: Are they devils in disguise?
22. Advertising is a waste of resources.
23. Privatization will lead to less corruption.
24. China market - a threat to Indian market
25. Technology Creates Income Disparities

26. India should be reorganized into smaller states.
27. Rising petrol prices - Govt. can control?
28. Smaller businesses and start-ups have more scope
29. Developing countries need trade, not aid.
30. Business and Ethics do not go together
31. Performance based bonuses for government employees should be welcomed
32. Depreciation of Indian Rupee has only negative impact on the economy
33. Gold: Best investment or a bursting bubble?
34. Freedom of press should exist
35. India needs a strong dictator
36. Media is a mixed blessing/How ethical is media?
37. Computer viruses are good
38. India should practice "Swadeshi"
39. The government should stop funding IIT's and IIM's
40. Food Bill - Is it really something India needs?
41. Will India really be the superpower of 21st century?
42. Quality is a myth in India.
43. China - A threat to India?
44. Indian villages - our strength or our weakness?
45. Mobile phones - requirement of the day.
46. Cursing the weather is bad farming
47. If you want peace, prepare for war
48. Education is a progressive way of discovering your ignorance.
49. Beauty contests degrade womanhood
50. If you are not a part of the solution, you are part of the problem
51. Examinations - has it killed education?
52. The medium of teaching in schools should be English
53. A room without books is like a body without soul.
54. Educated Indians lack national commitment.
55. E-Learning is good for the education system and society

#### **Methodology for conducting Group discussion/Seminar**

1. The teacher will allot a topic for a group of six students
2. The teacher should give an introductory talk on Ways and rules to carry out group discussion
3. The students should ask to show interest with others and work effectively with them to meet common objective. The teacher should provide tips to accept feedback in a constructive and considerate way and how to handle frustrations in group, while discussion.
4. The placement officer and any other senior faculty of the institute/ HOD of other department should be invited and they should act as observing members, apart from teacher
5. The teacher should fix up the time duration for initiating and conducting the activity

#### **Documentation to be produced for validation**

- Hand written document on minutes of discussion, description of the topic discussed
- Record the few minutes of discussion by smart device

**UNIT-4. Individual Assignments and Life skills****15HRS**

The students will perform ANY ONE of the following activities individually (other similar activities may be considered) in both the sections.

**A. Individual assignments**

1. Suggest individual activities or encourage students to take up desired activity.

**B. Life skills**

1. Conduct aptitude, general knowledge test, IQ test, Solve Puzzles.
2. Set the goal for personal development.
3. Develop good habits to overcome stress.

**Methodology for conducting activity**

1. The teacher will assign a topic for individual student; give sufficient time to complete the task. Ask the student to submit an hand written report.
2. The teacher should conduct any one specified life skill activity with local NGO/ placement cell/ISTE student chapter/CCTEK/ NSS unit of the institute. The student should present his/her experiences in a class and make report.

**UNIT-5. Industrial Visits****18 HRS**

Structured industrial visits be arranged and report of the same shall be submitted by the individual student, to form a part of the term work. Following are the suggested types of Industries/ Fields.

*Note: One Industrial visit is arranged per practical batch of students.*

**Methodology**

1. The subject teacher(s) have liberty to select nearby organization/industry of local vicinity with prior approval of principal of the institute
2. Arrange the nearby visit and Prepare a word processing report of the visit including details observations made, Details of visit should be mentioned with date , place etc

**Course Delivery:**

The course will be delivered through discussions and activities

**Course Assessment and Evaluation Scheme:**

Direct Assess ment meth	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
	CIE	IA					
			Students	Each activities @5 marks each	25	Report	1,2,3,4,5
				End of the course	50	Answer scripts at BTE	1,2,3,4,5
Indirect Assessment	Student Feedback on course		Students	Middle of the course	nil	Feedback forms	1,2,3 Delivery of course
	End of Course Survey			End of the course	nil	Questionnaires	1,2,3,4,5 Effectiveness of Delivery of instructions & Assessment Methods

Rubrics to be devised appropriately by the concerned faculty to assess Student activities.

• **MODEL OF RUBRICS /CRITERIA FOR ASSESSING STUDENT ACTIVITY**

**RUBRICS MODEL**

<b>RUBRICS FOR ACTIVITY( 5 Marks)</b>						
<b>Dimension</b>	<b>Unsatisfactory</b>	<b>Developing</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Exemplary</b>	<b>Student Score</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
<b>Collection of data</b>	Does not collect any information relating to the topic	Collects very limited information; some relate to the topic	Collect much information; but very limited relate to the topic	Collects some basic information; most refer to the topic	Collects a great deal of information; all refer to the topic	Ex: 4
<b>Fulfill team's roles &amp; duties</b>	Does not perform any duties assigned to the team role	Performs very little duties but unreliable.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team roles	5
<b>Shares work equally</b>	Always relies on others to do the work	Rarely does the assigned work; often needs reminding	Usually does the assigned work; rarely needs reminding	Normally does the assigned work	Always does the assigned work without having to be reminded.	3
<b>Listen to other Team mates</b>	Is always talking; never allows anyone else to speak	Usually does most of the talking; rarely allows others to speak	Talks good; but never show interest in listening others	Listens, but sometimes talk too much	Listens and speaks a fair amount	2
<b>Average / Total marks=(4+5+3+2)/4=14/4=3.5=4</b>						

**Note: This is only an example. Appropriate rubrics/criteria may be devised by the concerned faculty (Course Coordinator) for assessing the given activity.**

**Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester**

1. Student activities report for 25 marks
2. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

**For end examination:**

1. **Note for examiners :** The records of the activities should be preserved in the department for minimum three years and the examiner should verify these records to prevent duplication of the activity.

**Scheme of Valuation for End Examination**

Serial no	Description	Marks
1	<b>Report on Information Search and Data collection</b>	10
2	<b>Document on Guest Lecturer by experts</b>	10
3	<b>Recording of Group discussions made by any smart devices</b>	10
4	<b>Report on Individual assignment/ Life skill activity recorded</b>	10
5	<b>Report on Industrial visit</b>	10
	<b>TOTAL</b>	<b>50</b>

## MODEL QUESTION PAPER

4<sup>TH</sup> - Semester E&CE Diploma Examination

Course Title: **PROFESSIONAL PRACTICES**

Time: **3 Hours**]

[Max Marks: **50**

- |   |          |
|---|----------|
| 1. Write brief note on information searched and data collected activity                                     | 10marks  |
| 2. Give brief explanation about knowledge acquired by you during the guest lecture                          | 10 marks |
| 3. Write the conclusion of the topic given for the group discussion   | 10 marks |
| 4. Write brief note on individual assignment performed and information gathered and data collected activity | 10marks  |
| 5. Write the sequence of processing followed in the industry/work shop You have visited                     | 10 marks |

***Note: The marks should be awarded on the basis of Reports/Documents submitted by the student.***