GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	**:**	**DIPLOMA IN CE/EE/ME/CM/IT/PK/AE/TX/TR**
LEVEL NAME	**:**	**PROFESSIONAL ELECTIVE**
COURSE CODE	**:**	**FE504E**
COURSE TITLE	**:**	**HOBBY ELECTRONICS**
PREREQUISITE	**:**	**NIL**
TEACHING SCHEME	**:**	**TH: 00; TU: 00; PR: 04(CLOCK HRs.)**
TOTAL CREDITS	**:**	**02(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)**
TH. TEE EXAM	**:**	**NIL**
PR. TEE EXAM	**:**	**02 HRs**
PT. EXAM	**:**	**NIL**

❖ RATIONALE:

Some students may be interested in interdisciplinary approach therefore itis felt that diploma holder those who have interest in ”Hobby Electronics Circuits” must have minimum competency and knowledge of it, so later on some student may take up it as business .Therefore this course has been kept as one of free elective interdisciplinary course in the curriculum.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1 Identify different electronics components.

2 Handle electronics circuit development tools &test and measuring equipments.

3 Select the hobby electronics circuits as per requirements.

4 Test the electronics components and circuits.

5 Develop the simple electronics hobby project.

6 Present electronics project.

❖ COURSE DETAILS:

A. THEORY :

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Hrs.
1	Identify and understand different electronics components. -like. resistor, capacitor, inductor, diode, transistor, relay etc.	04
2	Observe and draw Symbols and unit of measurement for electronics parameters like voltage, current, resistor, capacitor, inductor etc.	04
3	Identify the applications of basic electronics test and measuring equipments. Like multimeter LCR meter, Cathode Ray Oscilloscope, Function generator etc.	08
3	Perform the basic handling skill of electronics circuit development tools like soldering gun, de-soldering pump etc	04
4	Test different electronics components like resister, capacitor, inducer, diode, relay etc.	08
5	Identify simple electronics Hobby circuits by referring journals, websites, and hobby electronics manuals.	04
6	Arrange electronics component and PCB (general purpose) for selected circuit and their testing.	08
7	Prepare component layout of selected electronics circuit.	04
8	Mount and solder electronics components on PCB (general purpose)	08
9	Perform Testing, fault finding, rectification of fault. of circuit.(Test the circuit for performance and rectify the fault)	06
10	Perform the final testing of circuit & packaging.	04
	Skill Assessment	02
	Total Hrs	64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

NIL

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

NIL

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	**CA** (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	**CA** (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	**25**	**10**		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	**50**	**20**	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ SCHEME OF PRACTICAL EVALUATION:

S.N.	Description	Max. Marks
2	Performance–Demonstration of project work	25
5	Viva voce	25
	TOTAL	**50**

❖ MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-			-	-		3	-	3	-	-
2	-	-	3	3	-	-	3	3	-	3	-	-
3	-	-			-	-	3	3	-	3	-	-
4	-	-	3	3	-	-		3	-	3	-	-
5	-	-	3	3	-	-	3	3	-	3	-	-
6	-	-	3	3	-	-		3	1	-	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ REFERENCE & TEXT BOOKS:

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Electronic For You	Journal	--
2.	Electronics Material And Components	Dr. MadhuriA. Joshi, , Shroff Publisher & Dist. Pvt. Ltd. 3rdEdition,	**10: 8173669007 13: 9788173669002**
3.	Data Books Of Electronic Components &Devices	Business Promotion Bureau	--

❖ E-REFERENCES:

- ❖ Websites www.electronicprojects.com , assessed on 4th May 2016
- ❖ Websites www.circuittoday.comassessed on 4th May 2016
- ❖ Websites www.electroschematics.comassessed on 4th May 2016
- ❖ Websites www.hobbyelectronics.inassessed on 4th May 2016

❖ LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION

1. Digital Multi-meter
2. LCR-Q meter
3. Cathode Ray Oscilloscope
4. Soldering Gun.
5. De-soldering Pump.
6. Nose Plier

❖ LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:

S.N.	Name	Designation	Institute / Industry
1.	S.S.Tadas	HOD, Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
2.	A.A.Ali	Lecturer (Selection Gr.) Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
3.	D.A.Brahmankar	Lecturer (Selection Gr.) Electronics Telecomm. Engg	Government Polytechnic, Nagpur.
4.	U.M.Ramteke	Lecturer (Selection Gr.) Electronics Telecomm. Engg	Government Polytechnic, Nagpur.
5.	Mr. Sandip V Darwhekar	Director	Beta Computronics Pvt Ltd , Nagpur
6.	Mrs. Gazzala Ali	Head Electronics	Anjuman Polytechnic , Nagpur
7.	Mr S M Kale	Lecturer Electronics	Government Polytechnic, Gadchiroli.

(Member Secretary PBOS) **(Chairman PBOS)**