

**B.L.D.E. Association's  
S.B. ARTS AND K.C.P. SCIENCE COLLEGE,  
VIJAYAPUR**



**Department of Physics & Electronics**

**VALUE ADDED COURSE ON  
REGULATED POWER SUPPLY**

**BATCH-I**

**2019-20**

**(For B.Sc Physics & Electronics)**

**B.L.D.E. Association's**  
**S.B. ARTS AND K.C.P. SCIENCE COLLEGE, VIJAYAPUR**

**Department of Physics & Electronics**

**VALUE ADDED COURSE**

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**Head**  
Department of Physics  
S.B.Arts & K.C.P.Science College  
Vijayapur-586103.

  
**TQAC, Co-ordinator**  
S.B.Arts & K.C.P.Science College,  
Vijayapur.

  
**Principal,**  
S.B. Arts and KCP Science College,  
VIJAYAPUR

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**S.B. ARTS AND K.C.P. SCIENCE COLLEGE, VIJAYAPUR**  
**Department of Physics & Electronics**

**Value added Course for B.Sc Physics & Electronics**

**Course Title:** Regulated Power Supply

**Course Code:**SBKCP PHY01

**AIM**

To ensure excellent standards that would secure them international acclimation and leadership in tremendous challenging world.

To developing the overall personality of its students by making them not only excellent professionals but also good individuals with understanding and regard for human values.

**OBJECTIVES:**

To provide additional learners-centric graded skill oriented technical training with primary objectives of improving the employability skill.

To provide students an understanding of expectations of industry.

To provide an opportunity to develop inter-disciplinary skills.

To identify and develop the talents of students community in both curricular and extra-curricular areas.

**VISION:**

To be a centre of excellence through the process of self evaluation and continual renewal in all our endeavours, namely, learning, teaching, research, consultancy and other related services.

**MISSION:**

We strive towards equipping young people with value based holistic education to provide them a participative and growth oriented ambience.

**I. SYLLABUS****Total hours allotted : 30 hours**

**Unit I:** Basic elements (Resistor, Inductor & Capacitor) & its working. Colour coding of resistor & current rating of resistance. Transformers its principal working, types of transformer current rating of transformer. Multimeter & testing of components using multimeter

4 hours

**Unit II:** Instantaneous current time period, frequency, wavelength, peak or maximum amplitude, peak to peak value, effective current or RMS value of current & voltage, the average current & Voltage, power in ac ckt. Phase & phase difference. Inductive reactance & capacitive reactance.

4 hours

**Unit III:** Working of half wave, full wave & bridge rectifier. Rectifier with capacitor filter (shunt capacitor filter), with series inductor filter, LC filter &  $\pi$ -section filter. Ripple factor, efficiency & voltage regulation for each filter.

6 hours

**Unit IV: Zener diode:** Its working & characteristics, zener diode is used as regulated power supply. Design consideration with one example. Concept of IC, Three pin IC regulator block diagram, 78xx series & 79xx series. Dual power supply.

6 hours

**Practicals:** Five practical's of two hour duration

10 hours

### List of experiments

1. Half wave, full wave & bridge rectifier
2. Rectifier with capacitor filter (shunt capacitor filter)
3. Rectifier with LC filter &  $\pi$ -section filter.
4. Characteristics, zener diode & used as regulated power supply.
5. Dual power supply.

### Note:

1. Experiments are of two hours duration.
2. Five experiments to be performed.

### Reference books

- 1) Solid state electronics by Agarawal & Agarawal
- 2) Basics electronics by B.K. Bagade & Singh
- 3) Principales of electronics by Malivno
- 4) Electricity & magnetism by Murgeshan
- 5) Electricity & magnetism by Brijjal & shubruman


## II. Duration of the Course:

Theory of twenty hours and Practical ten hours **Total 30 Hours**

## V. Evaluation :

Students will be evaluated through the examination conducted by the physics department at the end of the course and they will be awarded course certificate accordingly.

  
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**DEPARTMENT OF PHYSICS & ELECTRONICS**

Date: 03-07-2019

## Value Added Course

### Notice

Our Department is conducting "Value added course (30 hours duration) on Regulated Power Supply" for B.Sc. Students in Physics & Electronics during the year 2019-20. Interested Students give their names to Head of the Department on or before 10-07-2019.

Certificate will be issued to students after completing the Value Added Course from the College.



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Head  
Department of Physics  
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DEPARTMENT OF PHYSICS & ELECTRONICS**

*Value Added Course – Regulated power supply*

**List of the faculty**

**2019-20**

**Batch - I**

Sl.No	Name of the staff
1	Prof. S. B. Pattadkal
2	Prof.B. G. Mirji
3	Prof. S Y Achakanalli
4	Prof. C N Chougulae
5	Prof. N D Adigonde
6	Prof. M.S. Yadagiri
7	Prof. A B Patil
8	Dr. Anil B. Naik



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**DEPARTMENT OF PHYSICS & ELECTRONICS**  
**Value Added Course**  
**ADMISSION LIST 2019-20**

Sl. No	Roll No.	Name of the student
1	313	Arunkumar. R. Desai
2	380	Goudappagouda. B. Angudageri
3	371	Kaneta. B. Jahayi
4	349	Priyanka. T. G
5	339	Ambika. S. Yatawar
6	241	Priya. B. Tilagul
7	243	Soomya. S. Charan
8	338	Lavanya. P. Mali
9	336	Ashwarya. B. B
10	282	Gowabai. S. Biradar
11	329	Nirmala. G. Talasangi
12	330	Sanjayani. B. Sonnagi
13	335	Pooja. S. Mali
14	327	Asha. S. Badiger
15	368	Akkamma. B. Biradar
16	232	Pallavi. R. Mopagar
17	367	Roopa. S. Biradar
18	343	Rushma. V. Patil
19	360	Shreedhar. S. Bardoj
20	369	Chivapadma. J. Navinahalli
21	362	Prathak. Sankagond
22	325	Vishal H. Muchandi
23	383	Sharanabace. R. Gudoor
24	378	Cuminath. B. Goudagaon
25	230	Shreedhar. G. Sunagad
26	333	Madiwalappa. J. Nalkodi
27	374	Shridhar. A. Joshi
28	365	Amogeesidd. S. Goudagaon
29	281	Basantraj. N. Tiratagi



Sl. No	Roll No.	Name
30	205	Premod. P. Jalawadi
31	284	Prashant G. Hiregan
32	372	Prashant. C. Biradar
33	337	Sachin. Konashiralagi
34	287	Sunil. N. waded
35	324	Sahebagoud. Kamalagi
36	247	Somanath S. Javale
37	196	Praveen B
38	363	Anand Prappa Hadapad
39	347	M. B. Shashidhar
40	248	Baavaraj Biradar
41	187	Pagar H. Nagaral
42	344	Shiraj. Killekar
43	197	Amarsidda. M. Hugar
44	377	Bhimaraj S. Shirehyad
45	10	Pooja Mahalingpur
46	09	Ashwarya. V. Dehpande
47	122	Priyanka. S. Nadagoud
48	134	Radhika. V. Patil
49	385	Anusha Kulkarni
50	65	Supriya. R. Bellundagi

  
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**DEPARTMENT OF PHYSICS & ELECTRONICS**

Date: 15-7-2019

## Value Added Course

### Notice

It is here by informed that the "Value added course" (Regulated Power Suppl) theory & practicals will commence from 19-7-2019 for the academic year 2019-20.

Students those who are selected, attend the classes regularly without fail.

  
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Value Added Course  
Time Table 2019-20

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
5.00pm To 6.00 pm					Theory 1	Theory II	
9.00 am To 11.00 am							Practical

  
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Bijapur.

  
HOD  
**Head**  
Department of Physics  
S.B.Arts & K.C.P.Science College  
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Roll No.	Name	21-7-19	28-7-19	4-8-19	11-8-19	18-8-19	25-8-19	1-9-19	17-10-19
205	Pranod. p. Jalawadi	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
284	Prashant. G. Hiregan	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
372	Prashant. C. Biradar	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
337	Sachin Konashiradagi	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
287	Sumil. N. Inaded	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
324	Sabebagoud. Kumategi	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
247	Somanath. S. Javale	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
196	Praveen B.	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
363	Anand J. H.	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
349	Basavaraj, K. Biradar	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
248	Basavaraj. Biradar	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
187	Sagar. H. Nagareel	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
344	Shivaraj. Killeday	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
197	Amasidda. M. Hugar	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
377	Bhimaraj shirashya	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
10	Pooja. Mahalingpur	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
09	Aishwarya. V. Deshpande.	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
122	Priyank. S. Madagouda	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
134	Radhika. U. Patil	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
385	Anusha Kulkarni	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj
65	Supriya. R. Bellundagi	Prj	Prj	Prj	Prj	Prj	Prj	Prj	Prj

  
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**DEPARTMENT OF PHYSICS & ELECTRONICS**  
**Value Added Course Examination 2019-20**

Date: 10-10-2019


## Notice

The value added course theory & practical examinations will be conducted on the below dates. All the students attend both the exams without fail

	Date	Time
Theory	24-10-2019	9am to 12 noon
Practical	17-10-2019	9am to 12 noon

  
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Value Added Course -Theory Examination 2019-20

Subject code: SBKCPPHY01

Time: 03 hrs

Max. Marks: 100

Answer any 10 questions:

(10x10=100)

1. Explain the working & characteristics of Zener diode with suitable diagram.
2. Give the principle of transformer. Explain its working.
3. Explain the working of Half wave rectifier with neat diagram.
4. Describe the testing of electronic components using multimeter.
5. Explain the terms Amplitude, Time period, Frequency, Wave length, and Phase
6. Explain the terms RMS value of current, Power of an ac circuit, Inductive reactance and capacitive reactance
7. Explain the identification of carbon resistor value by colour code.
8. Explain the working of capacitor filter with neat diagram.
9. Explain the working of Inductor filter with neat diagram.
10. Explain the working of Full wave rectifier with neat diagram.
11. Explain the working of Dual power supply.
12. Explain the working of 78xx series.



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DEPARTMENT OF PHYSICS & ELECTRONICS

Value Added Course Practical Examination


List of Question Slips

Subject code: SBKCPPHY01

Time: 03 hour

Max. Marks: 50

1. Set up half wave & full wave rectifiers using semiconductor diodes. Study the variation of voltage with load. Calculate percentage of regulation.
2. Set up full wave bridge rectifier. Study the variation of voltage with load. Calculate percentage of regulation.
3. Set up full wave rectifier with capacitor filter. Study the variation of voltage with load. Calculate percentage of regulation.
4. Set up full wave rectifier with Inductor-capacitor filter. Study the variation of voltage with load. Calculate percentage of regulation.
5. Study the characteristics of zener diode. Mark the break down voltage & break down region on the graph . Calculate resistance of zener diode.
6. Set up dual power supply. Study its dual characteristics.

  
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**Department of Physics & Electronics**

**VALUE ADDED COURSE 2019-20**

**MARKS LIST**

Sl.No	Roll No.	Name of the Students	Marks		
			Theory	Practical	Total
1	313	Arun Kumar R. Desai	90	50	140
2	380	Goudappagoud B. Angadagesi	71	45	121
3	371	Kavita K. Janayi	81	50	131
4	349	Priyanka T. G	72	41	113
5	339	Ambika S. Yalawar	92	47	139
6	241	Priya B. Tiliyal	71	43	114
7	243	Sounya S. Chavan	82	46	128
8	338	Lavanya P. Wali	85	47	132
9	336	Aishwarya B. B	92	42	134
10	282	Gourabai Biradar	95	45	140
11	329	Nirmala G. Lalasangi	81	44	125
12	330	Sanjayani B. Sonnagi	71	45	116
13	335	Pooja S. Mali	72	47	119
14	327	Asha S. Badiger	73	48	121
15	368	Akkamma B. Biradar	85	50	135
16	232	Pallavi R. Mopagar	92	40	132
17	367	Roopa S. Biradar	71	43	114
18	343	Shushma V. Patil	73	40	113
19	360	Shreedhas S. Baradol	78	41	117
20	361	Shivapadma J. Mavinahalli	86	43	129
21	362	Prabhakar M. Pankagond	70	45	115
22	325	Vishal H. Murhandi	88	46	134
23	383	Sharanabahu R. Gudoor	92	50	142
24	378	Gurunath B. Goudagaon	71	42	113
25	230	Shreedhara Sunagad	65	43	108
26	333	Madiwalappa. J. Naikoli	85	44	129
27	374	Shridhar. A. Joshi	90	50	140

Sl.No	Roll No.	Name of the Students	Marks		
			Theory	Practical	Total
28	365	Amogasidd S. Gudagan	95	50	145
29	281	Basavraj N. Jeralagi	95	50	145
30	205	Pramod P. Talawadi	74	40	114
31	284	Prashant. G. Hiregan	87	43	130
32	372	Prashant. C. Biradar	70	40	110
33	337	Sachin Konashirajagi	91	50	141
34	287	Sunil N. Waded	75	40	115
35	324	Sahabagoud Kumalagi	80	45	125
36	247	Somanath S. Javali	85	44	129
37	196	Praveen B.	70	40	110
38	363	Anand Trappa Hadepad	95	50	145
39	377	M. B. Shashidhar	90	50	140
40	248	Basavraj Biradar	71	40	111
41	187	Sagar H. Nagara	85	47	132
42	344	Shivraj Killedal	87	50	137
43	197	Amasidda M. Hugar	91	50	141
44	377	Bhimaraj Shirashyal	83	44	127
45	10	Pooja Mahalingpur	87	50	137
46	09	Aishwarya V. Deshpande	95	50	145
47	122	Priyank S. Nadagouda	92	50	142
48	134	Radhika. U. Patil	80	46	126
49	385	Anusha Kulkarni	78	45	123
50	65	Supriya R. Bellundagi	96	50	146



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**DEPARTMENT OF PHYSICS & ELECTRONICS**

## **Value Added Course on Regulated Power Supply**


### **Report on Course Outcome**


Our Department has conducted Value added course for B.Sc students (Batch-I) on Regulated Power Supply for the academic year 2019-20. The duration of the certificate course is 30 hrs. Theory and practical classes were conducted for 50 students who have enrolled their names for the course.

A regulated power supply is an embedded circuit; it converts unregulated AC (Alternating Current) into a constant DC (Direct Current). With the help of a rectifier it converts AC supply into DC. Its function is to supply a stable voltage, to a circuit or device that must be operated within certain power supply limits. A regulated power supply with multiple regulators can offer multiple output voltages for operating different devices. Regulated power supplies maintain the voltage at the desired level and are ideal for almost all types of electronic devices because of the smooth, steady supply of voltage they offer.

The use of regulated power supply is very simple. When it is in use, attention should be paid to the polarity of the required DC voltage. If a positive voltage needs to be output, the output end of the DC voltage regulated power supply "-" connects with the "ground" end of the electrical equipment, and the terminal "+" should be connected to the required positive voltage terminal. If you need to output negative voltage, you need to reverse the above wiring method. Before electrifying, measure it with a multimeter to check whether the output voltage meets the requirements, so as to avoid excessive voltage damage to the electrical equipment.

Advantages for Regulated power supplies include simplicity, reliability, low noise levels and low cost. These power supplies, also known as linear regulators (LR), have a very simple design in that they require few components making it an easy device for design engineers to work with

  
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*Internal Quality Assurance Cell Initiative*

**VALUE ADDED COURSE**

*Certificate*




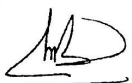
This is to certify that Mr./Ms. Radhika. V. Patil

has Completed the Value Added Course on Regulated Power Supply

Conducted by the Department of Physics during the

Year 2019 - 20.

  
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**Co-Ordinator, IQAC**

  
**Principal,**  
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Internal Quality Assurance Cell Initiative

### VALUE ADDED COURSE

## Certificate




This is to certify that Mr./Ms. Priyanka S. Nadagouda

has Completed the Value Added Course on Regulated Power Supply

Conducted by the Department of Physics during the

Year 2019 - 20

  
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**VALUE ADDED COURSE**

*Certificate*



This is to certify that Mr./Ms. Bhimaray . D . shirahbyad.

has Completed the Value Added Course on Regulated Power Supply

Conducted by the Department of Physics during the

Year 2019 - 20

  
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**VALUE ADDED COURSE**

*Certificate*



This is to certify that Mr./Ms. Pooja Mabaliggapur.

has Completed the Value Added Course on Regulated Power Supply

Conducted by the Department of Physics during the

Year 2019 - 20.

  
**Head of the Department**

  
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**Principal**



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**S.B. ARTS & K.C.P. SCIENCE COLLEGE, VIJAYAPUR**

(Re-Accredited by NACC at 'A' Level in 3<sup>rd</sup> Cycle)

*Internal Quality Assurance Cell Initiative*

**VALUE ADDED COURSE**

*Certificate*





This is to certify that Mr./Ms. Aishwarya. V. Deshpande

has Completed the Value Added Course on Regulated Power Supply

Conducted by the Department of Physics during the

Year 2019 - 20

  
**Head of the Department**  
**IQAC, Co-ordinator**  
S.B.Arts & K.C.P.Science College  
Vijayapur.

  
**Co-Ordinator, IQAC**

  
**Principal,**  
S.B. Arts and KCP Science Colleg  
VIJAYAPUR

  
**Principal**