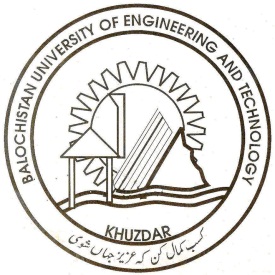
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**Faculty/course**

**Handbook/docket**

|  |  |
| --- | --- |
| **Name :** | **Dr. Wazir Muhammad** |
| **Title of Degree Program:** | B.E Electrical Engineering |
| **Title of Course :** | **Linear Control System** |
| **Code :** | EE-324 |
| **Total Credit Hours :** | 3+1 |
| **Total Contact Hours :** | 3 Hr |
| **6th Semester Fall 2021** |  |

**Balochistan University of Engineering & Technology Khuzdar**



**B**alochistan **U**niversity of **E**ngineering and **T**echnology, **K**huzda**R**

It is certified that the course folder (Docket) of the course

**Linear CONTROL SYSTEM**

Being offered in the 6th Semester, 2021

**Electrical Engineering Department**

In the session **2021**

Course Taught by the Faculty

**Dr. Wazir Muhammad** Designation**: Lecturer**

is thoroughly checked and is found to be complete and fulfilling all the quality requirements.

P.T. Member QEC\_\_\_\_\_\_\_\_\_\_\_\_\_ P.T. Member QEC\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chairman

Computer Department Director Quality Assurance Cell

Balochistan UET, Khuzdar

**Balochistan University of Engineering and Technology Khuzdar**

**Department of Computer engineering**

**Course File**

|  |  |  |
| --- | --- | --- |
| **S. No** | **Item** | **Page No.** |
| 1 | Copy of Syllabus |  |
| 2 | Copy of Academic calendar |  |
| 3 | Course time table |  |
| 4 | Course/Lecture break up |  |
| 5 | Teaching notes and sample of practical printouts |  |
| 6 | Schedule of tests, assignments and Quizzes |  |
| 7 | Breakdown of laboratory experiments pertaining to the course and record of successful conduct |  |
| 8 | Monthly attendance and proof that it was communicated to Students |  |
| 9 | Samples of best, worst and average Assignment and Test along with its question papers, and proof that the results of Tests, assignments and Quizzes were communicated to students. |  |
| 10 | Samples of quizzes |  |
| 11 | Listing of textbook and other reference books pertaining to the course |  |
| 12 | Record of make-up classes for any un-scheduled holiday. |  |
| 13 | Details of office hours for tutoring etc. |  |
| 14 | Recommendation and suggestions related to the course for the next session. |  |

**Balochistan university of engineering & technologY khuzdar**

**Computer System Engineering and Science**

**Subject**: **Linear Circuit** **Code: CS-214**  **3rd Semester**

**Teacher’s Name Engr. Hammal Khan**

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| --- |
| **Syllabus of the subject** |
| |  | | --- | | **COURSE OUTLINE**:  Charge and Current, Voltage, Power and Energy, Circuit Element, Introduction to Basic Laws, Ohm’s Law. Nodes, Branches, Loops, Kirchhoff’s Laws. Series Resistors and Voltage Division, Active and passive element, Open and short circuit, Law of resistance, Conductance. Define Alternating voltage and current, Use of sine waveform in ac fundamental, Explain Generation of alternating voltage, Write the equation of alternating voltage and current, Define Form factor, average value, peak factor, R.M.S , Define Frequency, time period, angular velocity, amplitude, frequency and speed, Concept of phases, Introduction to Methods of Analysis, Nodal Analysis, Nodal Analysis with Voltage Source, Mesh Analysis, Mesh Analysis with Current Source, Nodal Versus Mesh Analysis., Introduction to Circuit Theorems, Linearity Property, Superposition., Source Transformation., The venin’s Theorem, Norton’s Theorem, Maximum transform theorem. Introduction to Capacitors and Inductors.  , Series and Parallel Capacitors, Inductors, Series and Parallel Inductors.  , Introduction to First-Order Circuits, The Source-Free RC Circuit, The Source-Free RL Circuit, Introduction to Second-Order Circuits. | |

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| --- | --- |
| **Course Breakup** | |
| **WEEK 1** | |
| **Lectures** | **Topics** |
| Lect # 01  Lect # 02  Lect # 03 | Charge and Current, Voltage. Power and Energy  Electric Potential, Potential Difference, Concept of EMF and P.D.  Related Numerical problems. |
| **WEEK 2** | |
| **Lectures** | **Topics** |
| Lect # 04  Lect # 05  Lect # 06 | Ohms Law, Resistance and its unit, Factors upon which resistance depends.  Resistivity and its unit, Conductance, Conductivity, Carbon Resistor and its color coding.  Related Numerical Problems. |
| **WEEK 3** | |
| **Lectures** | **Topics** |
| Lect # 07  Lect # 08  Lect # 09 | Electrical Power and Its unit, History of magnetism.  Magnets and their types Permanent Temporary and Electromagnets.  Related Numerical Problems. |
| **WEEK 4** | |
| **Lectures** | **Topics** |
| Lect # 10  Lect # 11  Lect # 12 | Electromagnetism, Magnetic force on moving charges.  Magnetic force on a current carrying conductor, Right hand Rule.  Related Numerical Problems. |
|  | |
| **Assignment to be given during first four (4) weeks of teaching..** | |
|  | |
| **WEEK 5** | |
| **Lectures** | **Topics** |
| Lect # 13  Lect # 14  Lect # 15 | Flemings left hand Rule for coil, Factors determining magnetic properties,  Molecular theory of magnetism, Domain theory of magnetism,  Worldwide voltages and frequencies, |
| **WEEK 6** | |
| **Lectures** | **Topics** |
| Lect # 16  Lect # 17  Lect # 18 | Lorentz force and magnetism, Electromagnetic devices,  Solenoid, Electromagnetic Relay, Loud Speaker,  Test no#01 |
| **WEEK 7** | |
| **Lectures** | **Topics** |
| Lect # 19  Lect # 20  Lect #21 | Electromagnetic waves and their applications,  Infrared radiations and their uses in electrical engineering,  Infrared gases and Greenhouse effect, |
| **WEEK 8** | |
| **Lectures** | **Topics** |
| Lect # 22  Lect # 23 | X-rays their generation and uses in engineering,  Sensors and detectors, Lasers, |
|  | |
| **1st Surprise Tests to be Conducted (date) \_01/04/2017\_ (should be conducted during 5-7 Week)** | |
| **Mid Term Test :** | |
|  | |
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| **WEEK 9** | |
| **Lectures** | **Topics** |
| Lect # 24  Lect # 25  Lect # 26 | Introduction to semiconductors.  Energy band description of semiconductors.  Intrinsic and extrinsic semiconductors. |
| **WEEK 10** | |
| **Lectures** | **Topics** |
| Lect # 27  Lect # 28  Lect # 29 | N type and P type semiconductors.  PN junction and its characteristics.  Biasing of PN junction. |
| **WEEK 11** | |
| **Lectures** | **Topics** |
| Lect # 30  Lect # 31  Lect # 32 | Volt ampere characteristics of PN junction.  Special purpose diodes.  Zener diode, light emitting diode. |
| **WEEK 12** | |
| **Lectures** | **Topics** |
| Lect #33  Lect #34  Lect #35 | Photo diode, Varactor diode.  Assignment #02  Introduction to transistors. |
|  | |
| **Assignment to be given during 9th -12th weeks of teaching.** | |
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| **WEEK 13** | |
| **Lectures** | **Topics** |
| Lect # 36  Lect #37  Lect #38 | Transistor as an amplifier.  Test#02  Introduction to measuring instruments. |
| **WEEK 14** | |
| **Lectures** | **Topics** |
| Lect # 39  Lect # 40  Lect # 41 | Measuring instruments on the basis of principle of operation.  PMMC volt meters and ammeters.  Ohmmeter and multimeter. |
| **WEEK 15** | |
|  | **Topics** |
| Lect #42  Lect #43  Lect #44 | Transducers and types.  Sensors and types.  Presentation. |
| **2nd Surprise Tests to be Conducted (date) 27/05/2017\_(should be conducted during 13th 15th Weeks)** | |
| **Assignment to be given during 12th -16th weeks of teaching.** | |
|  | |
| **Final Semester Examination** | |

**Signature of subject teacher \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BALOCHISTAN UNIVERSITY OF ENGINEERING & TECHNOLOGY,**

**KHUZDAR**

DEPARTMENT OF Electrical ENGINEEERING

**Tests schedule**

**B.E 1st Semester Odd Section (Electrical Engineering)**

**SUBJECT: Applied Physics CODE: NS: 111**

**NAME OF TEACHER: Engr. Muhammad Ibrahim**

|  |  |
| --- | --- |
|  | ***Scheduled week*** |
| ***Test No. 1*** | ***6th Week*** |
| ***Presentation, Quiz*** | ***Quiz after each lecture*** |
| ***Test No. 2*** | ***15th Week*** |
| ***Assignment No. 1*** | ***4th week*** |
| ***Assignment No. 2*** | ***12th week*** |

**SIGNATURE: ­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Balochistan university of engineering & technologY khuzdar**

**LISTING OF TEXTBOOKS PERTAINING TO THE COURSE**

**Applied Physics**

**(NS: 111)**

**TEXT BOOKS:**

* **Fundamentals of Physics by Resinick, Halliday, and Walker latest edition.**
* **Basic electronics by Grob B McGraw Hill latest edition.**
* **Electronic devices and circuits by Bogart T.F latest edition.**
* **Electronic principles: Physics models and circuits by Gray P.E Searl C.L john Wiley and sons latest edition.**