**GOVERNMENT POLYTECHNIC**

**CHHAPRA**



COURSE FILE (Lecture Plan)

OF

**Microprocessor & its Application Lab (TW) (2021411)**

Faculty Name:

Prof. SAURAV KUMAR

Lecturer

**DEPARTMENT OF ELECTRONICS ENGINEERING**

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| **STATE BOARD OF TECHNICAL EDUCATION** |
| Bihar, Patna  SS.JPG  &  CC.JPG |

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Department of Electronics Engineering

**Vision**

To be a centre of excellence in the field of Electronics Engineering offering value based world class education and research producing well qualified engineers, who can contribute favorably to the technological and socio-economic development of the nation.

**Mission**

1. To ensure sufficient modern technological exposure to the students in order to create skilled professionals.

2. To frequently update the labs keeping in view the requirement of the current industry scenario.

3. To extend counseling and career guidance facility to the students to help them to achieve their goal.

4. To encourage faculties and staffs to pursue higher education and to do the research work.

5. To encourage faculties and staffs to participate in various seminars, conferences and workshops to keep themselves updated of the state-of-the-art technology.

**Course Description:-**

This course deals with the systematic study of the Architecture and programming issues of 8 bit 8085-microprocessor and interfacing with other peripheral ICs and co-processor. In addition, a 16-bit microprocessors and other chips (8255, 8251, 8253 and 8257) are introduced. The aim of this course is to give the students basic knowledge of the microprocessors (8085 and 8086) needed to develop the systems using it. The course outcomes are: 1. Understand the architecture of 8085 and 8086. 2. Impart the knowledge about the instruction set. 3. Understand the basic idea about the data transfer schemes and its applications. 4. Develop skill in simple program writing for 8085 & 8086 and applications.

**Course Objectives:-**

The aim of this course is to help the students to attain the following industry identified competency through various teaching learning experiences:

*Maintain microcontroller based systems*

**Course Syllabus**

**MICROPROCESSORS AND ITS APPLICATION LAB (TW)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code (2021411)** | **Term Work** | | |  | | | **Credits** |
| **No. of Periods Per Week** | | | **Full Marks** | **:** | **25** | **01** |
| **L** | **T** | **P/S** | **Internal** | **:** | **07** |
| **-** | **-** | **02** | **External** | **:** | **18** |
| **-** | **-** | **-** | **-** | **-** | **-** |

**Course Objectives:** The aim of this course is to help the students to attain the following industry identified competency through various teaching learning experiences:

*Maintain microcontroller based systems*

**CONTENTS: PRACTICAL**

Intellectual Skills:

1. Logical development.
2. Programming skills.

Motor Skills:

1. Data entry, Error Correction and Execution of assembly language programs.
2. Connection Skills.

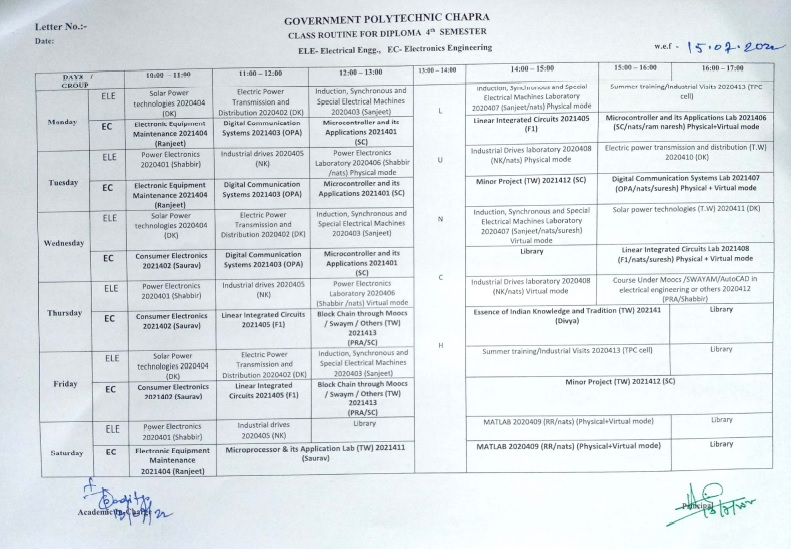
List of Practicals:

* Using microprocessor 8085 kit:
  1. Demonstration and study of microprocessor kit
  2. Program for addition of and subtraction of two hexadecimal numbers
  3. Program for finding largest / smallest number
  4. Program for arranging numbers in ascending / descending order
  5. Program for 16 bit addition
  6. Program for data masking
  7. Program for multiplication of two eight bit numbers
  8. Program using JMP Instruction
  9. Two programs using loop

**Course outcomes:**

The theory, practical experiences and relevant soft skills associated with this course are to be taught and implemented, so that the student demonstrates the following industry oriented COs associated with the above mentioned objective: At the end of this course, students will be able to CO1: Understand the basic architecture of 8085 and 8086. CO2: Impart the knowledge about the instruction set. CO3: Understand the basic idea about the data transfer schemes and its applications CO4: Develop skill in simple program writing for INTEL 8085 and INTEL 8086

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<https://www.gpchhapra.org.in/2022/07/13/class-routine-notice/>

**TIME TABLE**

**FACULTY:-** Prof.Saurav Kumar (Electronics Engineering Department)

**GOVERNMENT POLYTECHNIC CHAPRA**

**CLASS ROUTINE FOR DIPLOMA 4th SEMESTER EC- Electronics Engineering**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1st  10:00-11:00 | 2nd  1:00-12:00 | 3rd  12:00-1:00 |  | 4th  2:00-3:00 | 5th  3:00-4:00 | 6th  4:00-5:00 |
| MON |  |  |  | L  U  N  C  H |  |  |  |
| TUE |  |  |  |  |  |  |
| WED |  |  |  |  |  |  |
| THU |  |  |  |  |  |  |
| FRI |  |  |  |  |  |  |
| SAT |  | **Microprocessor & its Application Lab (TW) 2021411 (Saurav Kumar)** | |  |  |  |

**Student list**

**Electronics Engineering.**

|  |  |
| --- | --- |
| **Roll Number** | **Name Of the Student** |
| 311132120001 | AKANSKSHA KUMARI |
| 311132120002 | ABHISHEK RAJAK |
| 311132120003 | SULEKHA KUMARI |
| 311132120004 | ABHISHEK KUMAR UPADHAYAY |
| 311132120006 | DILIP KUMAR RAM |
| 311132120008 | SANDHYA KUMARI |
| 311132120009 | MONIKA KUMARI |
| 311132120010 | ANAND KUMAR SINGH |
| 311132120011 | SUMIT KUMAR SINGH |
| 311132120012 | AAYUSHI KUMARI |
| 311132120013 | ANANYA KUMARI |
| 311132120014 | ANKIT KANT |
| 311132120015 | KUMAR RAVI |
| 311132120016 | ROHIT KUMAR PANDEY |
| 311132120017 | SALMAN ALAM |
| 311132120018 | ROHIT KUMAR BHARTI |
| 311132120019 | NIKKI KUMARI |
| 311132120020 | SONU KUMAR SINGH |
| 311132120021 | MD. ARMANUL HAQUE |
| 311132120022 | DEEP KUMAR |
| 311132120023 | GAJENDRA KUMAR SINGH |
| 311132120024 | SUBHAM KUMAR |
| 311132120025 | UTSAV KUMAR TIWARI |
| 311132120026 | SHAJZAD KHAN |
| 311132120027 | SAMIR KUMAR |
| 311132120028 | PAWAN KUMAR |
| 311132120029 | CHANDAN KUMAR |
| 311132120030 | ADITYA KUMAR |
| 311132120031 | RANI KUMARI |
| 311132120032 | DIWAKAR KUMAR |
| 311132120033 | ADITYA KUMAR BHAGAT |
| 311132120034 | BHIM MANJHI |

|  |  |
| --- | --- |
| 311132120035 | AMAN KUMAR RAM |
| 311132120036 | VISHAL KUMAR GAURAV |
| 311132120037 | VIKASH KUMAR |
| 311132120038 | SUMIT KUMAR SHARMA |
| 311132120039 | AKRAR AHMAD |
| 311132120040 | KRISHNA KUMAR SHARMA |
| 311132120042 | GITANJALI KUMARI |
| 311132120043 | AMIT KUMAR |
| 311132120044 | NITISH KUMAR |
| 311132120045 | NIRANJAN KUMAR |
| 311132120046 | RISHABH KUMAR |
| 311132120047 | JAGMOHAN KUMAR |
| 311132120049 | ABHISHEK KUMAR |
| 311132120050 | SONIKA KUMARI |
| 311132120052 | MD IMTIYAZ |
| 311132120053 | MUNMUN KUMAR |
| 311132120054 | PRADUM KUMAR |
| 311132120301 | MAMTA KUMARI |
| **601/EC/21** | **CHANDAN KUMAR VIDYARTHI** |
| **602/EC/21** | **DIPAK KUMAR** |
| **603/EC/21** | **SURAJ KUMAR** |
| **604/EC/21** | **RAUSHAN KUMAR** |
| **605/EC/21** | **NITISH KUMAR** |
| **606/EC/21** | **AASTHA PRIYA** |
| **607/EC/21** | **RAM PRAKASH SHAH** |
| **608/EC/21** | **ADITYA KUMAR MAURYA** |
| **609/EC/21** | **SATYAM JEE** |
| **610/EC/21** | **MANTU KUMAR PAL** |
| **611/EC/21** | **SANOJ KUMAR PRASAD** |
| **612/EC/21** | **SUNNY KUMAR** |

**LECTURE PLAN**

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| --- | --- |
| **Topics** | **Lecture Number** |
| Intellectual Skills: |  |
| Logical development | 1-2 |
| Programming skills | 3-4 |
| Motor Skills: |  |
| Data entry, Error Correction and Execution of assembly language programs | 6-7 |
| Connection Skills | 8-9 |
| List of Practical’s: |  |
| Using microprocessor 8085 kit: |  |
| Demonstration and study of microprocessor kit | 10-11 |
| Program for addition of and subtraction of two hexadecimal numbers | 12-13 |
| Program for finding largest / smallest number | 14-15 |
| Program for arranging numbers in ascending / descending order | 16-17 |
| Program for 16 bit addition | 18-19 |
| Program for data masking | 20-21 |
| Program for multiplication of two eight bit numbers | 22 |
| Program using JMP Instruction | 23 |
| Two programs using loop | 24 |

**This document is approved by**

|  |  |  |
| --- | --- | --- |
| **Designation** | **Name** | **Signature** |
| Course Coordinator | Prof. Saurav Kumar |  |
| HoD | Prof. Om Prakash Aditya |  |
| Principal | Dr. Anil Kumar Singh |  |
| Date |  |  |