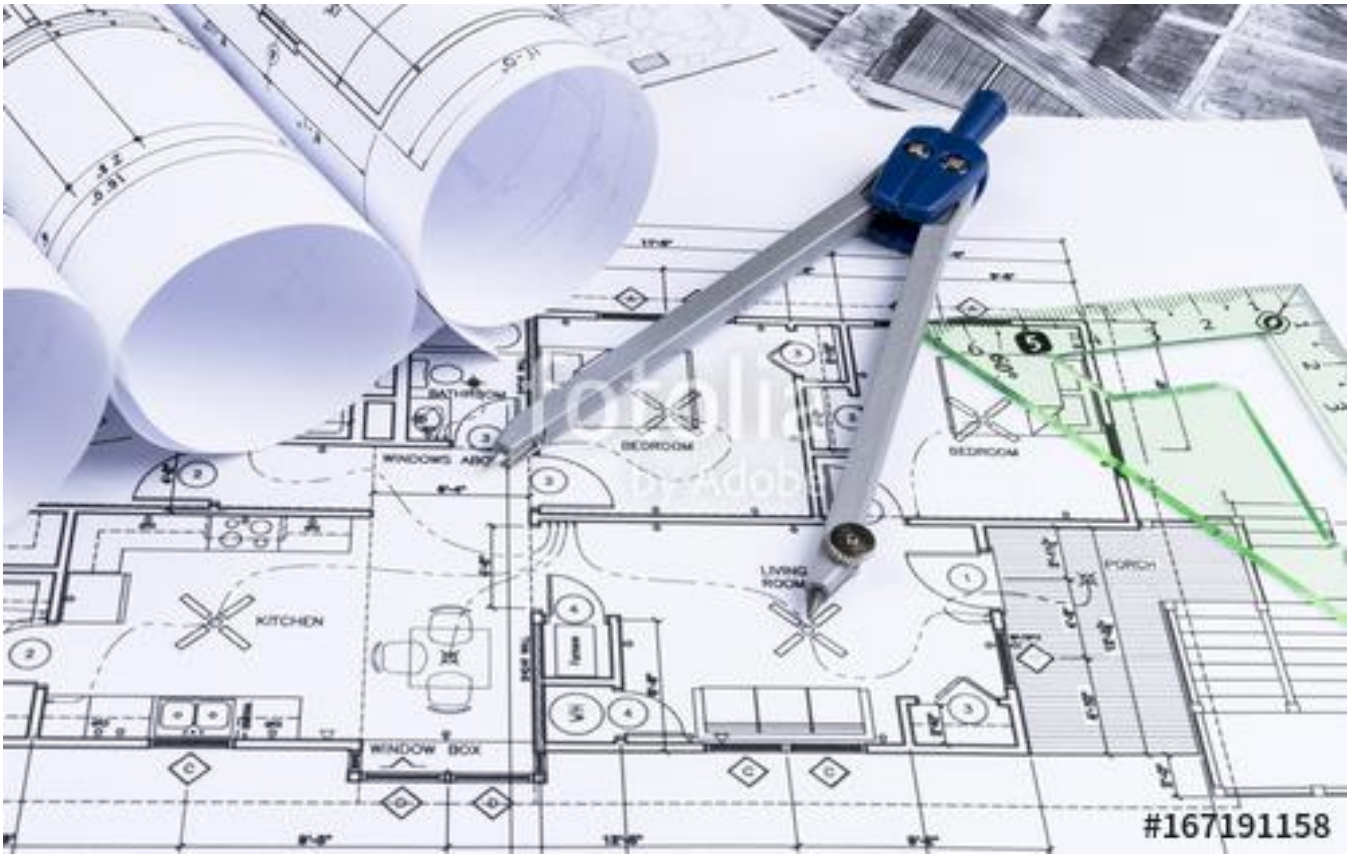
DARBHANGA COLLEGE OF ENGINEERING, DARBHANGA

COURSE FILE OF
COMPUTER AIDED CIVIL ENGINEERING DRAWING
(101303)



Faculty:

Mr. Akash

Assistant Professor
Department Of Civil Engineering

विज्ञान एवं प्रावैधिकी विभाग
Department of Science and Technology
Government of Bihar

CONTENTS

DARBHANGA COLLEGE OF ENGINEERING, DARBHANGA

DEPARTMENT OF CIVIL ENGINEERING

Vision

To bring forth competent engineers to serve national & multi-national industries and society and, encouraging them towards higher studies.

Mission

M1. To nurture graduates into competent and technologically capable professionals through motivated teaching-learning ambience and by collaborating with relevant industries.

M2. To encourage graduates towards research and innovation in the field of civil engineering.

M3. To inculcate humanitarian ethical values in graduates through various social-cultural activities.

Program Educational Objectives (PEOs)

PEO1. The graduates will be able to demonstrate knowledge and skills of civil engineering to solve engineering problems related to structural design.

PEO2. The graduates will be able to function in the evolving research and development as design consultant in the relevant industry using modern software tools.

PEO3. The graduates will be able to showcase professional skills encompassing societal and ethical values.

Program Specific Outcomes (PSO)

PSO1: Students will be able to use advanced modern methods and tools like GIS, Auto CAD, STAAD Pro, Total station to function as design consultants.

PSO2: Graduates will able to develop knowledge in some specific technical areas of civil engineering like Structural, Geotechnical, Transportation, Earthquake, Geomatics and Environmental Engineering.

Program Outcomes (POs):

Program Outcomes (POs) describe what students are expected to know and be able to do by the time of graduation to accomplish Program Educational Objectives (PEOs). The Program Outcomes for Civil Engineering students are:

PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex civil engineering problems.

PO 2: Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions: Design solutions for complex civil engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions in the field of civil engineering.

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex civil engineering activities with an understanding of the limitations.

PO 6: The Engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication: Communicate effectively on complex engineering activities with the civil engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Course Description

AutoCAD has not only reduced the time spent for drafting to a fraction, of that the same produced by hand drawings, but also any revisions in the drawing can be done quickly without having to redraw everything. Moreover, different views, such as front view, side views etc. can be easily created from the drawing. To use AutoCAD software efficiently, it is necessary to know all drafting tools to have a good control over the work. This lab manual intends to guide the students to know the fundamental tools to create, modify and manage documentation effectively through a skillful way. Upon completion, students should be able to utilize AutoCAD software for drawing of the plan, elevation and sectional views of buildings.

Course Objective

1. To teach the student usage of AutoCAD and basic drawing fundamentals in various civil engineering applications, especially in building drawing
2. To introduce the students to draft the plan, elevation and sectional views of buildings in accordance with development and bye-laws/control rules satisfying orientation and functional requirements as per National Building Code.

Prerequisites

Engineering Drawing

Course Outcomes

After Completion of this course, the students will be able to

COURSE OUTCOMES (COs): After the completion of this course, students will be able to ;

CO1: Explain the principle of planning of Building Drawing and Draw different kind s of Bonds in Brick Masonry

CO2: Understand AUTOCAD commands and draw lines, circles and different types of polygon.

CO3: Draw plan, elevation and cross-sectional views of residential building with AutoCAD

CO4: Draw staircases and Joinery section Door and Windows

CO5: Draw plan, elevation and cross-sectional views of workshop with trussed roof.

.

CO-PO MAPPING

(S/M/W indicates strength of correlation) S-Strong, M-Medium, W-Weak)

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1: Explain the principle of planning of Building Drawing and Draw different kind s of Bonds in Brick Masonry	S	-	S	-	S	M	-	-	-	M	M	-	S	-
CO2: Understand AUTOCAD commands and draw lines, circles and different types of polygon.	S	-	-	-	S	-	-	-	-	M	M	-	S	-
CO3: Draw plan, elevation and cross-sectional views of residential building with AutoCAD	S	-	-	-	S	-	-	-	-	M	S	-	S	-

CO4: Draw staircases and Joinery section Door and Windows	-	-	W	-	S	-	-	-	-	M	S	-	S	-
CO5: Draw plan, elevation and cross-sectional views of workshop with trussed roof.			-		S					M	S		S	-

B. Tech. 2nd Year (3rd Semester)

Department of Civil Engineering

Course Code – 101303

Course Name- Computer-aided Civil Engineering Drawing

L	T	P	CREDIT
1	0	2	2

Course Syllabus

MODULE -1

INTRODUCTION

Introduction to concept of drawings, Interpretation of typical drawings, Planning drawings to show information concisely and comprehensively; optimal layout of drawings and Scales; Introduction to computer aided drawing, coordinate systems, and reference planes.

Commands: Initial settings, Drawing aids, Drawing basic entities, Modify commands, Layers, Text and Dimensioning, Blocks. Drawing presentation norms and standards. (2)

MODULE -2

SYMBOLS AND SIGN CONVENTIONS

Materials, Architectural, Structural, Electrical and Plumbing symbols. Rebar drawings and structural steel fabrication and connections drawing symbols, welding symbols; dimensioning standards (2)

MODULE -3

MASONRY BONDS

English Bond and Flemish Bond – Corner wall and Cross walls - One brick wall and one and half brick wall (1)

MODULE -4

BUILDING DRAWING

Terms, Elements of planning building drawing, Methods of making line drawing and detailed drawing. Site plan, floor plan, elevation and section drawing of small residential buildings. Foundation plan. Roof drainage plans. Depicting joinery, standard fittings & fixtures, finishes. Use of Notes to improve clarity (7)

MODULE -5

PICTORIAL VIEW

Principles of isometrics and perspective drawing. Perspective view of building. Fundamentals of Building Information Modelling (BIM) (3)

Total 15 sessions

List of Drawing Experiments:

1. Buildings with load bearing walls including details of doors and windows. 09
2. Taking standard drawings of a typical two storeyed building including all MEP, joinery, rebars, finishing and other details and writing out a description of the Facility in about 500 -700 words. 06
3. RCC framed structures 09
4. Reinforcement drawings for typical slabs, beams, columns and spread footings. 09
5. Industrial buildings - North light roof structures - Trusses 06
6. Perspective view of one and two storey buildings 06

Total 45 sessions

Text/Reference Books:

1. Subhash C Sharma & Gurucharan Singh (2005), "Civil Engineering Drawing", Standard Publishers
2. Ajeet Singh (2002), "Working with AUTOCAD 2000 with updates on AUTOCAD 200I", Tata- Mc Graw-Hill Company Limited, New Delhi
3. Sham Tickoo Swapna D (2009), "AUTOCAD for Engineers and Designers", Pearson Education,
4. Venugopal (2007), "Engineering Drawing and Graphics + AUTOCAD", New Age International Pvt. Ltd.,
5. Balagopal and Prabhu (1987), "Building Drawing and Detailing", Spades publishing KDR building, Calicut,
6. (Corresponding set of) CAD Software Theory and User Manuals.
7. Malik R.S., Meo, G.S. (2009) Civil Engineering Drawing, Computech Publication Ltd New Asian.
8. Sikka, V.B. (2013), A Course in Civil Engineering Drawing, S.K.Kataria& Sons,

Darbhanga College of Engineering, Darbhanga — wef: 31/08/2019

3rd Semester

DAY	Dept.	09:00-10:00 (1)	10:00-11:00 (2)	11:00-12:00 (3)	12:00-1:00 (4)	01:00-02:00	2:00-3:00 (5)	3:00-4:00 (6)	4:00-5:00 (7)
MONDAY	EE (S1)	REMIDAL CLASSES		El. M/C	EMFT	LUNCH	DE	ECA	
	CSE (S4)		Math-III	TW			DS		
	ME (S2)	TD(T1)	BE	MATH III	Biology		E.M LAB-M1		
	CE (S5)	EM	HUMANITIES	M-III	SURVEY		BE LAB(L-2)/CAD (L-1)		
TUESDAY	EE (S1)	E.M	El. M/C	HVPE	EMFT		ECA		
	CSE (S4)		Math-III	TW	AE		DS LAB-SK		
	ME (S2)	E.M	MD	MATH III	BE(T1)		REMIDAL CLASSES		
	CE (S5)	BIO	BE	M-III	ICE		SURVEY(L-1)/BIO LAB (L-2)		
WEDNESDAY	EE (S1)	El. M/C Lab(2)			HVPE		EM(T1)	EM(T2)	EMFT(T2)
	CSE (S4)	AE-Lab(1)			AE				
	ME (S2)	MACHINE DRAWING LAB			TD		REMIDAL CLASSES		
	CE (S5)	SURVEY	EM	HUMANITIES	ICE				
THRUSDAY	EE (S1)	ECA	HVPE	El. M/C	DE		ECA(T2)	EMFT	
	CSE (S4)		Math-III	TW	OOPS		OOPS Lab		
	ME (S2)	BE	E.M LAB-M2				TD(T2)	Bio. (T1)	
	CE (S5)		CAD	SURVEY	EM		SURVEY(L-2)/BIO LAB (L-1)		
FRIDAY	EE (S1)	HVPE	E.M	DE	El. M/C		El. M/C Lab(1)		
	CSE (S4)	AE	Math-III	DS	OOPS		TW		
	ME (S2)	MATH III	E.M	BE	TD		MACHINE DRAWING LAB		
	CE (S5)	M-III	BIO	BE LAB(L-1)/CAD (L-2)			BE LAB(L-2)/CAD (L-1)		
SATURDAY	EE (S1)	DE	E.M	EMFT	ECA		HVPE	EMFT(T1)	ECA(T1)
	CSE (S4)	AE-Lab(2)			OOPS				
	ME (S2)	MATH III	E.M	TD	Biology		Bio. (T2)	BE(T2)	
	CE (S5)	M-III	HUMANITIES	EM	BIO				

Sl.No.	Electrical and Electronics Enginering	
1	ECA	Mr. Sanjay Kumar
2	El. M/C	Mr. Prabhat Kumar
3	DE	Dr. Sweta Kumari
4	E.M	Mr. Vikash Kumar
5	EMFT	Ravi Kumar/Amit Kumar
6	HVPE	Ms. Ratnakshi Roy
7	CD Project	ALL faculty

Sl.No.	Mechanical Enginering	
1	Math-III	Mr. Amrit Mahto
2	E.M	Mr. Vikash Kumar
3	TD	Prof. C P Singh
4	BE	Mr. Deepak Singh
5	MD	Dr. Asjad Mokhtar
6	Biology	Any faculty from Dept.

Sl.No.	Computer Science and Engineering	
1	DS	Mr. Anand Kamal
2	AE	Dr. Ravi Ranjan
3	OOPS	Mr. Dhirendra Kumar
4	Math-III	Mr. Amrit Mahto
5	TW	Ms. Ratnakshi Roy

Sl.No.	Civil Engineering	
1	BE	Dr. Ravi Ranjan
2	Bio	Mr. Prashant Kumar
3	CAD	Mr. Akash
4	EM	Shri S.S. Chaoudhary & Mr. A.R.
5	Survey	Mr. Jitendra Kumar
6	M-III	Shri R K Jha
7	HUM	Ms. Ratnakshi
8	ICE	Mr. Ahshan Rabbani

30/08/19

Co-Ordinator (Time Table)
(Mr. Ravi Kumar)

30/8/19

Time Table Incharge
(Dr. A K Choudhary)

CPSingh
30/08/19
PRINCIPAL

List of Students		
B.Tech Civil Engineering (2018-22 Batch)		
S.N.	**Registration No.**	**Student Name**
1	18101111002	Saurav Kumar Suman
2	18101111004	Raju Kumar Mishra
3	18101111005	Aryan Kumar
4	18101111006	Md. Istaba
5	18101111007	Kumar Shubhendu Shubham
6	18101111008	Kanhaiya Kumar
7	18101111009	Satish Kumar
8	18101111010	Sagar Kumar
9	18101111011	Pradeep Kumar
10	18101111012	Nivedita Kumari
11	18101111014	Suraj Kumar
12	18101111015	Kunal Kumar
13	18101111016	Ankit Chandra
14	18101111018	Ashutosh Anand
15	18101111019	Rahul Kumar
16	18101111020	Kaushal Kumar
17	18101111021	Md Naimuddin
18	18101111023	Kartik Kumar
19	18101111024	Nikita Raj
20	18101111025	Bandna Kumari
21	18101111027	Ganesh Kr. Sah
22	18101111028	Robins Kumar
23	18101111029	Rahul Dutta
24	18101111030	Manish Kumar
25	18101111031	Raja Kumar
26	18101111032	Bipin Kumar
27	18101111033	Mohit Kumar
28	18101111034	Md. Shahadat

29	18101111035	Bharat Pandit
30	18101111036	Kumar Purnendu Shekhar
31	18101111037	Rahul Kumar Das
32	18101111038	Shubham Kumar
33	18101111039	Karanjeet Kumar
34	18101111040	Anand Kumar
35	18101111041	Kamaljee Mandal
36	18101111045	Rishav Kumar
37	18101111046	Rajiv Ranjan
38	18101111047	Abdul Kalam
39	18101111049	Siddharth Raj
40	18101111050	Gajendra Kr. Sharma
41	18101111051	Sahil Raj
42	18101111052	Ram Kumar Suman
43	18101111053	Prahlad Kumar
44	18101111054	Rishav Krishna
45	18101111055	Mayank Vishwabandhu
46	18101111056	Prince Kumar
47	18101111057	Dhirendra Kumar Verma
48	18101111058	Ankit Kumar
49	18101111059	Aashish Kumar Choudhary
50	19101111901	Satya Prakash
51	19101111902	Anjali Sahani
52	19101111903	Manoj Kumar
53	19101111904	Rima Kumari
54	19101111905	Sanyukta Kumari
55	19101111906	Om Prakash Singh
56	19101111907	Himanshu Ranjan
57	19101111908	Avinash Kumar
58	19101111909	Prince Raj
59	19101111910	Anshu
60	19101111911	Manzar Imam

Institute/College Name:	Darbhanga College of Engineering, Darbhanga
Program Name:	B.Tech (CE,3rd semester)
Course Code:	101303
Course Name:	COMPUTER AIDED CIVIL ENGINEERING DRAWING
Lecture/Tutorial (per week):	1/0
Course Credits:	2
Course Co-ordinator Name:	Mr. Akash

LECTURE PLAN:

1	1	1.1	Introduction to concept of drawings, Interpretation of typical drawings, Planning drawings to show information concisely and comprehensively; optimal layout of drawings and Scales;
		1.2	Introduction to computer aided drawing, coordinate systems, reference planes. Commands: Initial settings, Drawing aids, Drawing basic entities, Modify commands, Layers, Text and Dimensioning, Blocks. Drawing presentation norms and standards
2	2	2.1	Symbols and Sign Conventions Materials, Architectural, Structural, Electrical and Plumbing symbols. welding symbols; dimensioning standards
		2.2	Rebar drawings and structural steel fabrication and connections drawing symbols,
3	3	3.1	Masonry Bonds: English Bond and Flemish Bond – Corner wall and Cross walls - One brick wall and one and half brick wall
4	4	4.1	Building Drawing: Terms, Elements of planning building drawing,
		4.2	Methods of making line drawing and detailed drawing. Site plan, floor plan, elevation and section drawing of small residential buildings. Foundation plan.
		4.3	Roof drainage plans. Depicting joinery,
		4.4	Standard fittings & fixtures, finishes. Use of Notes to improve clarity
5	5	5.1	Pictorial View: Principles of isometrics and perspective drawing. Perspective view of building.
		5.2	Fundamentals of Building Information Modelling (BIM)

Darbhanga College of Engineering, Darbhanga

Department Of Civil Engineering

Course: Computer aided Civil Engineering Drawing

Assignment _1

BRICK MASONRY BOND

1. Draw two consecutive courses for ***corner joints*** of the following walls in **English Bond**
    a. One brick thick wall
    b. One and half brick thick wall
    c. Two brick thick wall
    d. Two and half brick thick wall
2. Draw two consecutive courses for ***corner joints*** of the following walls in **Double Flemish Bond**
    a. One brick thick wall
    b. One and half brick thick wall
    c. Two brick thick wall
3. Draw two consecutive courses for ***corner joints*** of the following walls in **Single Flemish Bond**
    a. One and half brick thick wall
    b. Two brick thick wall

SECTIONAL VIEW OF FOUNDATION OF LOAD BEARING WALL

4. Draw cross-section of a foundation to be provided for a load bearing wall of 230 mm thick in burnt brick masonry in superstructure of a residential building for the following given details.

    Width of the foundation=1000 mm

    Depth of the foundation below GL=1050 mm

    Thickness of PCC =150 mm

    Width of PCC =1000 mm

    Width of plinth beam=300 mm

    Thickness of plinth beam=300 mm

    Thickness of DPC in 1:2:4= 25 mm

    Width of 1st footing above PCC =740 mm

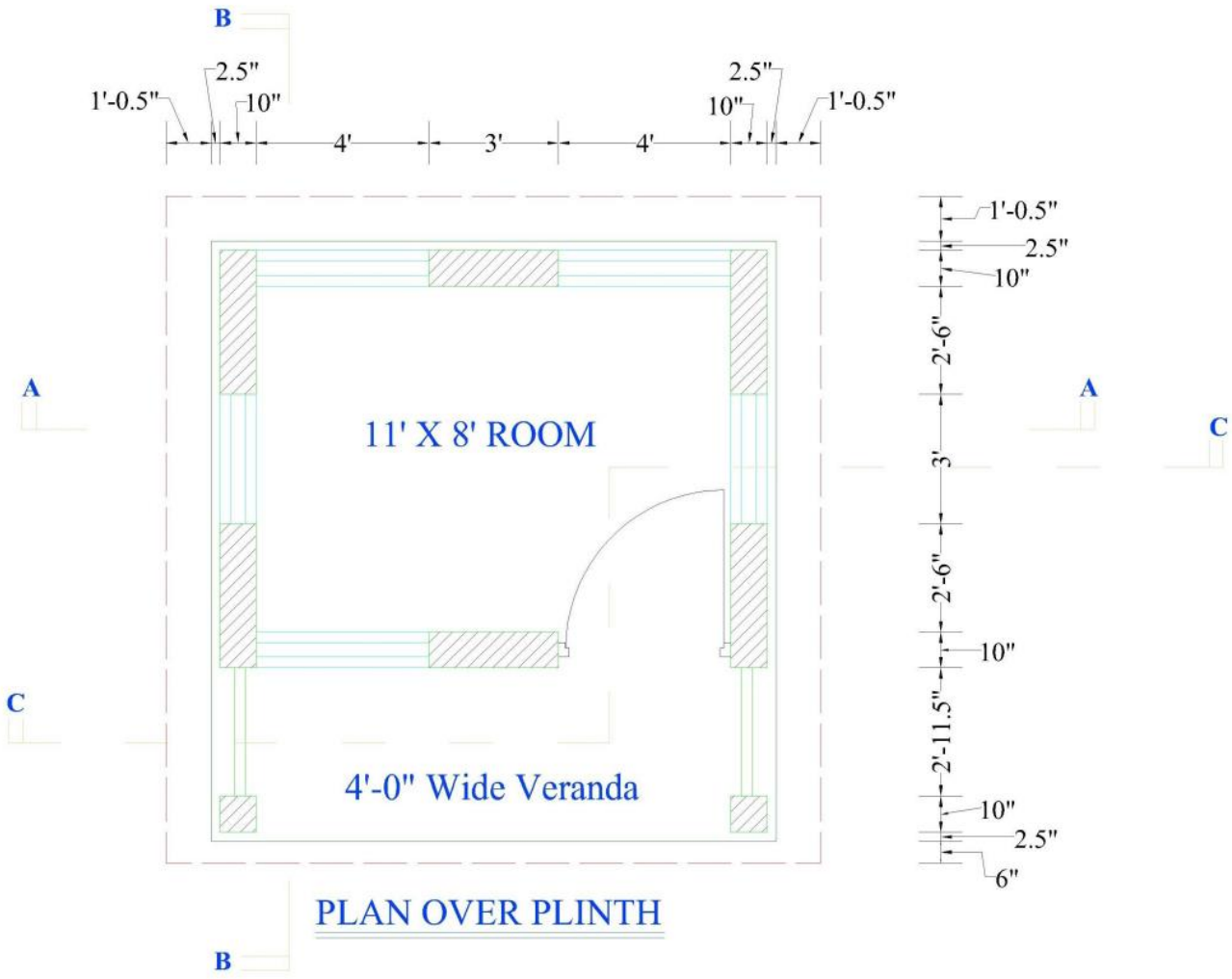
    Width of 2nd footing above PCC=570 mm

    Width of 3rd footing above PCC= 300 mm

    Depth of each footing = 300 mm

Plinth level is 500 mm above the ground level.

PLAN, ELEVATIONS AND SECTIONAL ELEVETIONS OF A BUILDING WITH LOAD BEARING WALLS INCLUDING DETAILS OF DOORS AND WINDOWS



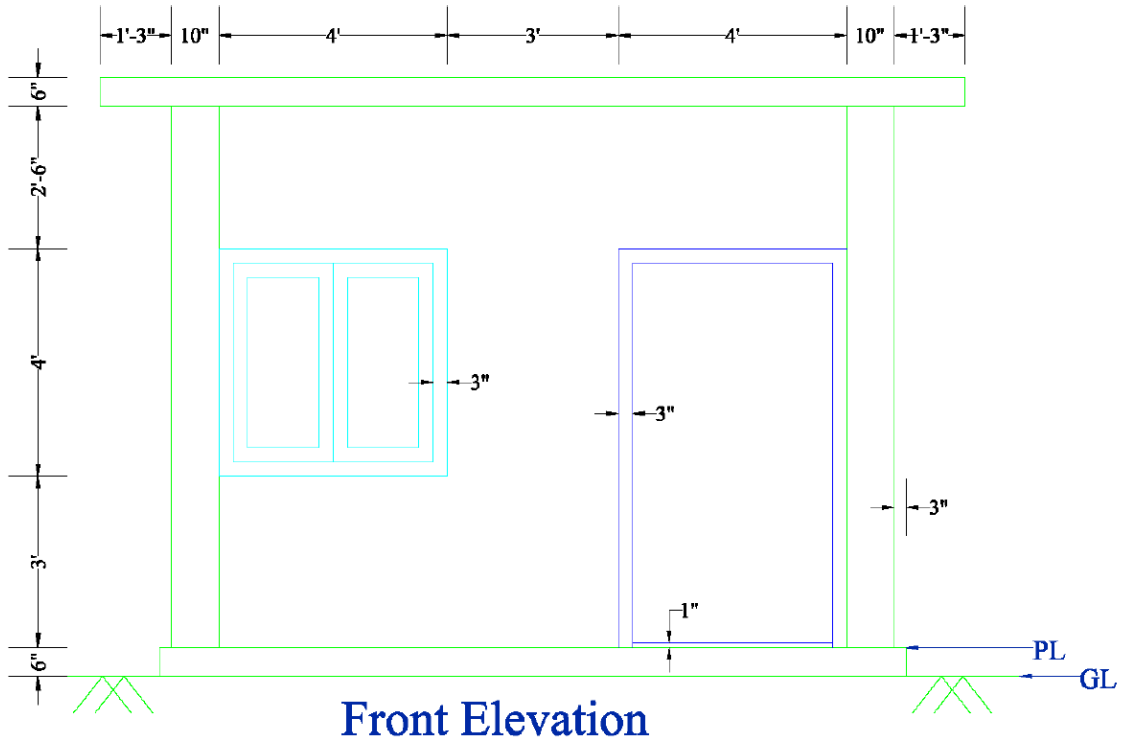
PLAN OVER PLINTH

Darbhanga College of Engineering, Darbhanga

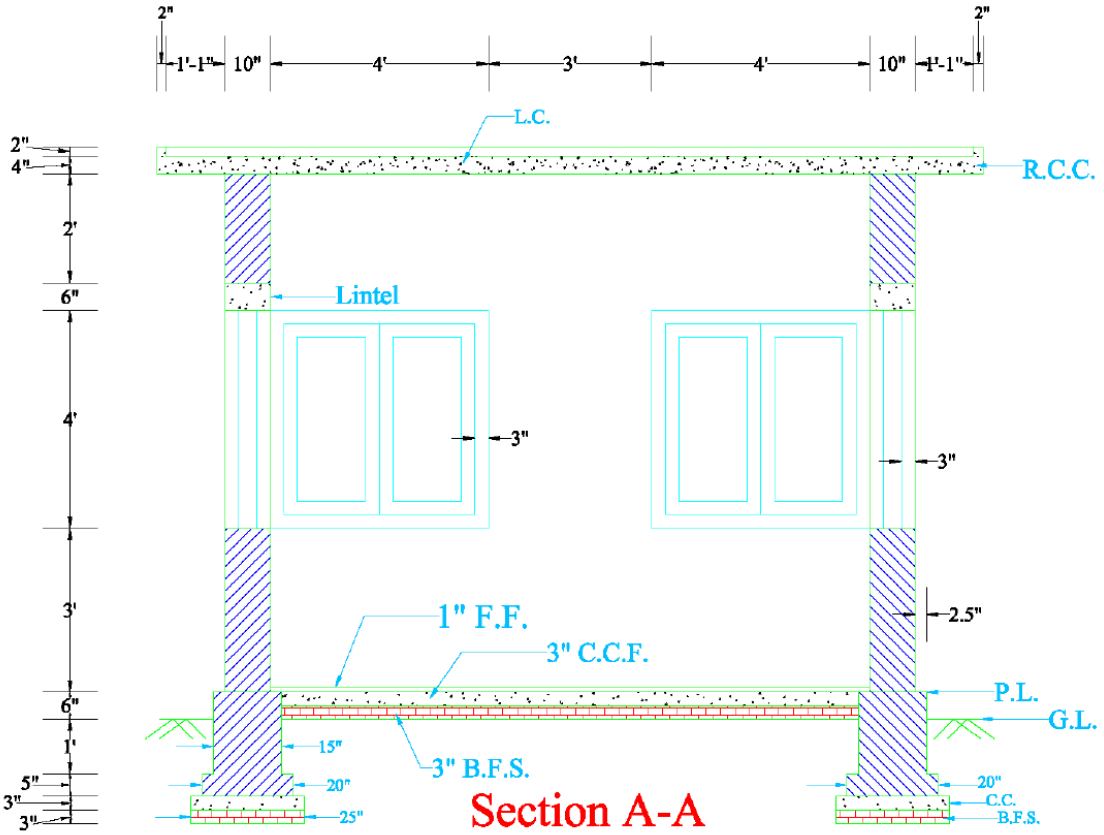
Department Of Civil Engineering

Course: Computer aided Civil Engineering Drawing

Assignment _1



Front Elevation



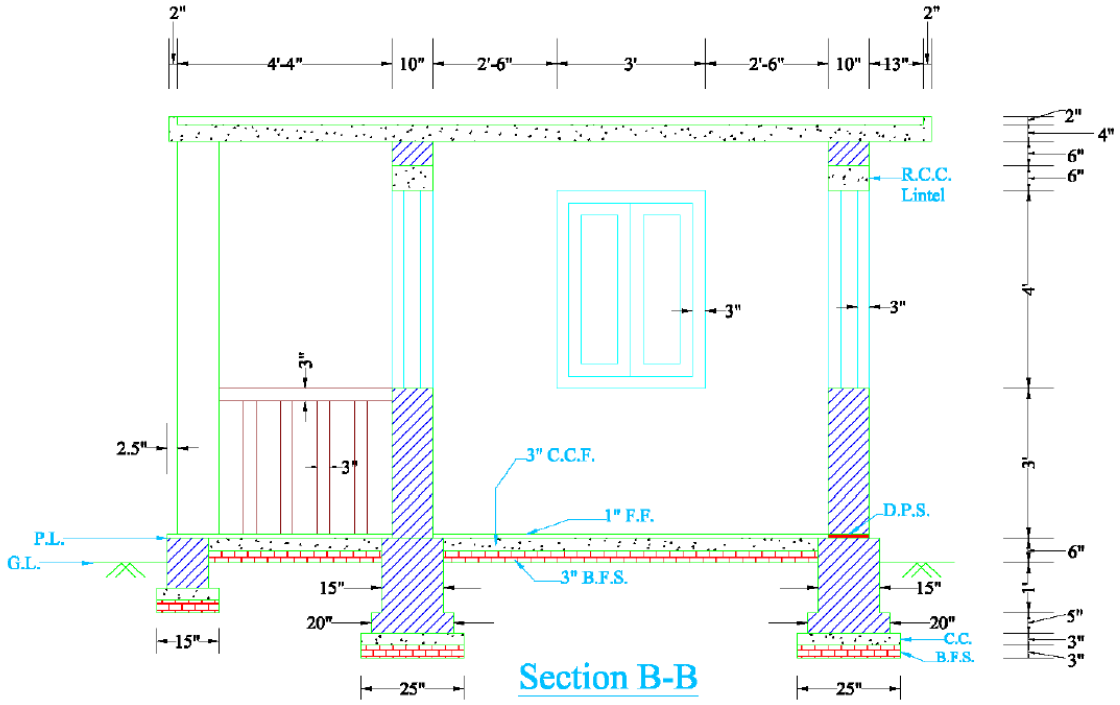
Section A-A

Darbhanga College of Engineering, Darbhanga

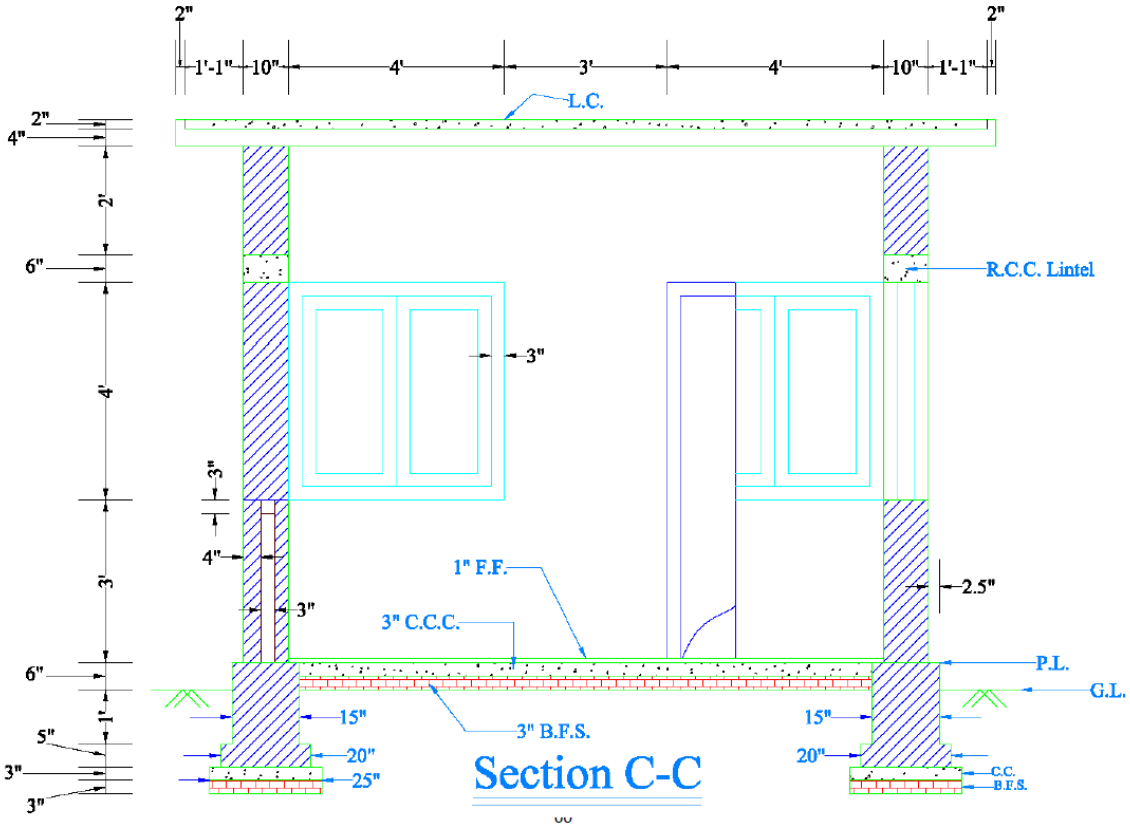
Department Of Civil Engineering

Course: Computer aided Civil Engineering Drawing

Assignment _1



Section B-B



Section C-C

DARBHANGA COLLEGE OF ENGINEERING, DARBHANGA

Department of Civil Engineering

B.Tech. 3rd Semester Mid Exam., 2019

Computer-Aided Civil Engineering Drawing

Subject Code – 101303

Reg. No…….

Time: 2 hours **Full Marks: 20**

Instructions: Answer all questions.

Si. No.	Questions	Marks	CO	BL
1.	Draw the conventional signs for the following represented in sectional elevation (a) Brick (b) Concrete (c) Wood (d) Indian type water closet **OR,** Discuss usefulness of AutoCAD over manual drawing in Civil Engineering	04	CO1	L2
2.	Draw two consecutive courses for corner joints of walls in English Bond – *Two brick thick wall (i.e. 400 x 400)* **OR,** Draw two consecutive courses for corner joints of the walls in Double Flemish Bond – *One brick thick wall (i.e. 200 thick).*	04	CO2	L3
3.	Draw two consecutive courses for corner joints of the walls in Single Flemish Bond – *One and a half brick thick wall (i.e. 300 thick*) **OR,** Differentiate Single and Double Flemish Bond in Brick Masonry with neat sketch.	04	CO2	L3
4.	(i) State the minimum area (in m^2) for the following places of activities as per Building Bye-Laws. (a) Bedrooms (b) Kitchen (c) Drawing room/Living room (d) Water Closet (W.C.) (e.) Bathroom (f) Bath and W.C. (ii) Define following (a) Site Plan (b) Line Plan (c) Foundation Plan **OR,** Explain detailed drawing of a building and describe its different views.	04	CO3	L2
5.	(i) How to draw following in AutoCAD. (a) Line (b) Rectangle (c) Circle (d) Arc (e.) Ellipse (ii) Write some of Editing Commands used in AutoCAD. **OR,** (i) Differentiate Cartesian and Polar Coordinate System in AutoCAD. (ii) What do you mean by Layer and Block in AutoCAD?	04	CO4	L6

DARBHANGA COLLEGE OF ENGINEERING, DARBHANGA

Department of Civil Engineering

B.Tech. 3rd Semester Mid Exam(LE), 2020

Computer-Aided Civil Engineering Drawing

Subject Code – 101303

Reg. No…….

Time: 2 hours **Full Marks: 20**

Instructions: Answer all questions.

1. Draw the conventional signs/symbols for the following;
   (a) Brick (b) Concrete (c) Sink with left hand drainer (d) Indian type water closet (e.) Wash Basin

2. Define the following

   (a) Line Plan (b) Foundation Plan (c) Detailed Floor Plan (d) Elevation View

   (e.) Sectional Elevation

3. Draw two consecutive courses for corner joints of the walls in Double Flemish Bond – *One brick thick wall (i.e. 200 thick).*

4. Draw typical floor plan of 2 BHK (Stilt+2) storied residential building. Provide adequate entrance, lobby, passage, staircase, circulation area etc.

Code : 101303

B.Tech 3rd Semester Exam., 2019
(New Course)

COMPUTER AIDED CIVIL ENGINEERING DRAWING

Time : 3 hours *Full Marks* : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct answer (any *seven*) : 2×7=14

(a) Which of the following publications made by Bureau of Indian Standards includes standard techniques for line conventions and lettering in detail?

(i) SP 46

(ii) BIS 9609

(iii) ASME Y14.2M

(iv) ISO 9000

(b) The length to height ratio of a closed filled arrowhead is

(i) 1 : 3

(ii) 3 : 1

(iii) 1 : 2

(iv) 2 : 1

(c) Which of the following is not a specified method for dimensioning?

(i) Parallel dimensioning

(ii) Perpendicular dimensioning

(iii) Continuous dimensioning

(iv) Dimensioning by coordinates

(d) For drawing the components of a wrist-watch, the scale used is

(i) reducing scale

(ii) full scale

(iii) enlarging scale

(iv) Any of these

(e) Scale used for two systems of units measurement is

(i) plain scale

(ii) diagonal scale

(iii) comparative scale

(iv) Vernier scale

(f) Why should you pay attention to when learning AutoCAD?

(i) The Command Line

(ii) The Status Bar

(iii) The Title Bar

(iv) Floating Toolbar

(g) Units command of AutoCAD is not used to set

(i) units for linear measurement

(ii) units for angular measurement

(iii) limits of drawing

(iv) direction in which angle is to be measured

(h) To obtain parallel lines, concentric circles and parallel curves; _____ is used.

(i) array

(ii) fillet

(iii) copy

(iv) offset

(i) Which line is drawn to make the section evident?

(i) Long-break line

(ii) Chain thick

(iii) Borderline

(iv) Hatching line

(j) Guidelines for dimensions at International level on a drawing is controlled by

(i) Bureau of Indian Standards

(ii) Corporate Drafting Standards

(iii) ANSI

(iv) ISO

2. (a) What do you understand by building drawing? Explain about coordinate systems and reference planes. 8

(b) What do you mean by—

(i) plan;

(ii) elevation;

(iii) section? 6

3. *(a)* Differentiate between substructure and superstructure of a building with neat sketch.

(b) Explain the various types of line used in civil engineering drawing. 14

4. It is proposed to construct a residential apartment (Stilt + 4) storied on a plot area of 38 into 34. The building, RCC framed structure, is having two flats : 1BHK and 2BHK. Provide adequate entrance, lobby, passage, staircase, lift, circulation area, etc. Draw typical floor plan. 14

5. Propose suitable drainage plan for the residential building as mentioned in Question No. **4**. Also propose an appropriate foundation plan. 14

6. Give neat sketches to indicate the conventional signs for the following : 1×14=14

(a) Glass

(b) Brick Masonry

(c) Stone Masonry

(d) Plaster

(e) Plain Concrete

(f) Rock

(g) Timber

(h) Steel

(i) Slope in Embankment

(j) Earth in Section

(k) Woodwork

(l) Railway Line

(m) Random Rubble Masonry

(n) Reinforced Concrete

7. (a) Show, with the help of sketch, the various types of closer brick. Also explain its importance in different masonry bond systems.

(b) Draw plans of alternate courses of—

(i) 1-brick thick wall in English and Flemish bond;

(ii) 2-brick thick wall in English and Flemish bond. 14

8. (a) Explain the various dimension methods of AutoCAD. 8

(b) What are the steps to followed in a planning of a drawing? 6

9. List the basic editing commands of AutoCAD. Explain the following commands with neat sketch : 14

(a) Break

(b) Mirror

(c) Trim

(d) Hatch

★ ★ ★

Result Analysis

Coomputer-aided Civil Engineering Drawing (2018-22 Batch)

S.N.	Registration No.	Student Name	Theory		Practical	
			ESA	IA	ESA	IA
			70	30	30	20
1	18101111002	Saurav Kumar Suman	60	18	25	16
2	18101111004	Raju Kumar Mishra	58	23	25	17
3	18101111005	Aryan Kumar	59	19	29	17
4	18101111006	Md. Istaba	62	22	28	18
5	18101111007	Kumar Shubhendu Shubham	52	25	27	19
6	18101111008	Kanhaiya Kumar	27	24	26	19
7	18101111009	Satish Kumar	55	23	24	18
8	18101111010	Sagar Kumar	38	24	28	18
9	18101111011	Pradeep Kumar	48	19	24	17
10	18101111012	Nivedita Kumari	60	26	27	19
11	18101111014	Suraj Kumar	59	23	23	18
12	18101111015	Kunal Kumar	56	24	24	18
13	18101111016	Ankit Chandra	34	24	28	18
14	18101111018	Ashutosh Anand	46	22	28	19
15	18101111019	Rahul Kumar	55	24	26	18
16	18101111020	Kaushal Kumar	32	23	26	18
17	18101111021	Md Naimuddin	53	23	25	18
18	18101111023	Kartik Kumar	60	19	28	16
19	18101111024	Nikita Raj	55	17	22	16
20	18101111025	Bandna Kumari	62	22	22	18
21	18101111027	Ganesh Kr. Sah	50	21	24	18
22	18101111028	Robins Kumar	54	24	27	18
23	18101111029	Rahul Dutta	60	25	28	18
24	18101111030	Manish Kumar	56	23	24	18
25	18101111031	Raja Kumar	57	19	26	16
26	18101111032	Bipin Kumar	57	23	23	17
27	18101111033	Mohit Kumar	61	24	25	18
28	18101111034	Md. Shahadat	61	23	27	17
29	18101111035	Bharat Pandit	40	24	27	18
30	18101111036	Kumar Purnendu Shekhar	45	22	26	17
31	18101111037	Rahul Kumar Das	56	21	25	17
32	18101111038	Shubham Kumar	58	22	28	18
33	18101111039	Karanjeet Kumar	37	20	27	17
34	18101111040	Anand Kumar	56	22	25	17
35	18101111041	Kamaljee Mandal	31	25	27	18
36	18101111045	Rishav Kumar	56	25	22	18
37	18101111046	Rajiv Ranjan	57	19	23	16
38	18101111047	Abdul Kalam	49	16	25	16
39	18101111049	Siddharth Raj	53	22	26	18
40	18101111050	Gajendra Kr. Sharma	55	22	26	18
41	18101111051	Sahil Raj	59	23	27	18
42	18101111052	Ram Kumar Suman	32	26	28	19

43	18101111053	Prahlad Kumar	42	23	26	18
44	18101111054	Rishav Krishna	57	18	26	16
45	18101111055	Mayank Vishwabandhu	35	18	24	16
46	18101111056	Prince Kumar	55	22	28	18
47	18101111057	Dhirendra Kumar Verma	54	17	23	17
48	18101111058	Ankit Kumar	59	22	25	16
49	18101111059	Aashish Kumar Choudhary	33	17	27	18
50	19101111901	Satya Prakash	55	19	26	16
51	19101111902	Anjali Sahani	57	21	25	16
52	19101111903	Manoj Kumar	58	21	27	17
53	19101111904	Rima Kumari	56	22	27	17
54	19101111905	Sanyukta Kumari	48	18	25	16
55	19101111906	Om Prakash Singh	58	20	27	17
56	19101111907	Himanshu Ranjan	52	23	27	17
57	19101111908	Avinash Kumar	58	18	27	16
58	19101111909	Prince Raj	53	19	26	16
59	19101111910	Anshu	46	14	26	16
60	19101111911	Manzar Imam	54	13	28	16
		Average	51.68	21.33	25.85	17.32
Average/Max. Marks of Question			0.74	0.71	0.86	0.87
No. of students who got more than average			32	37	38	30
Percentage of students who scored more than the average %			53.33	61.67	63.33	50.00
Attainment Level			3	3	3	3

% OF STUDENTS	ATTAINMENT LEVEL
50% OF STUDENTS SCORING MORE THAN AVERAGE % MARKS	3
40% OF STUDENTS SCORING MORE THAN AVERAGE % MARKS	2
30% OF STUDENTS SCORING MORE THAN AVERAGE % MARKS	1