

**Huzurpaga Mahila Vanijya Mahavidyalaya**

**BBA(CA)**

**SYBBA(CA) Semester IV (CBCS) Pattern 2019**

**Networking**

**Course code 401**

**Credit 3**

**Teacher Name: Mayuri Padhye**

**Program Outcome (POs)**

After successfully completing BBA(CA) Programme students will be able to:

PO1	To provide the students with the conceptual knowledge and understanding of the fundamental in the domain of Computers, Mathematics, Commerce and Management.
PO2	To acquire practical skills along with the hands-on experience on emerging technologies among students.
PO3	To sharpen the application, analytical and decision making skill of the students and make use cyber security in the computing fields.
PO4	To develop entrepreneurship, communication and managerial skills in students.
PO5	To develop a sound academic base for students, to advance their career in Computer Applications.

**Program Specific Outcomes (PSOs)**

After successfully completing BBA(C.A.) Programme students will be able to:

<b>PSO1</b>	Knowledge of computers, Operating system, Networking, Programming Language, Database concept and electronic commerce.
<b>PSO2</b>	Students will get well knowledge of design, testing, implementation and deployment of Window based and Web Applications and latest trends in technology.
<b>PSO3</b>	Blending of Computer, Commerce and Management gives keen knowledge of all three disciplines to provide wide area of job opportunities for the students.

**Course Outcomes: (CO 401)**

<b>Learning Outcomes</b>	<b>Teaching learning strategies /Activities</b>	<b>Assessment tasks/tools</b>
Students will be able CO401.1 Understand Basics of computer network;	Lecture method, Use of ICT	Assignment Test
CO401.2 Learn different network model	Lecture method Use of ICT	Assignment Test
CO401.3 To learn Transmission media		
CO401.4 Understand Wire and Wireless LAN	Lecture method , Use of ICT	Assignment Test
CO401.5 Learn different network devices	Lecture method, Use of ICT	Assignment Test
CO401.6 Understand Required security constraint		

**Course Specific Outcomes:**

<b>Unit</b>	<b>Course Cs-401 SY.BBA(CA) Course</b>	<b>Specific Outcomes: CSO</b>
<b>1</b>	<b>Introduction to Computer Network</b> 1.1Basics of Computer Network 1.1.1Definition 1.1.2Goals 1.1.3Applications, 1.1.4Network Hardware –Broadcast, Point to Point 1.1.5Components of Data Communication 1.2 Network Topologies 1.2.1Mesh 1.2.2 Star, 1.2.3 Bus, 1.2.4Ring 1.3Types of Networks 1.3.1LAN,MAN,WAN, 1.3.2 Internetwork, 1.3.3 Wireless Network 1.4 Modes of Communication 1.4.1 Simplex, 1.4.2 Half Duplex, 1.4.3 Full Duplex 1.5. Server Based LANs & Peer-to-Peer LANs 1.6. Protocols and Standards 1.7. Network Software 1.7.1 Protocol Hierarchies, Layers, Peers ,Interfaces 1.7.2 Design Issues of the Layers 1.7.3 Connection Oriented and Connectionless Service	Get the knowledge of the basic concept of Computer network. Understand the concept of Network topologies, modes of communication and Network software.
<b>2</b>	<b>Network Models</b> 2.1OSI Reference Model : Functions of each Layer 2.2 TCP/IP Reference Model, Comparison of OSI and TCP/IP Reference Model 2.3 TCP/IP Protocol Suite 2.4 Addressing 2.4.1Physical Addresses	Students will understand OSI and TCP/IP reference model, Protocol suite and Addressing, IP addressing.

	2.4.2 Logical Addresses 2.4.3Port Addresses, 2.4.4 Specific Addresses 2.5 IP Addressing 2.5.1 Classful Addressing 2.5.2 Classless Addressing	
<b>3</b>	<p>Transmission Media</p> <p>3.1Introduction, Types of Transmission Media 3.2 Guided Media: 3.2.1Twisted Pair Cable- Physical Structure, Categories, Connectors &amp;Applications 3.2.2Coaxial Cable – Physical Structure, Standards, Connectors &amp; Applications 3.2.3Fiber Optic Cable- Physical Structure, Propagation Modes, Connectors &amp; Applications 3.3 Unguided Media: 3.3.1Electromagnetic Spectrum for Wireless Communication 3.3.2Propagation Modes Ground, Sky, Line-of-Sight 3.3.3Wireless Transmission: Radio Waves, Microwaves, Infrared</p>	Students understand transmission media that is guided and unguided.
<b>4</b>	<p>Wired and Wireless LAN</p> <p>4.1 IEEE Standards 4.2 Standard Ethernet MAC Sublayer, Physical Layer 4.3 Fast Ethernet – Goals, MAC Sublayer, Topology, Implementation 4.4 Gigabit Ethernet – Goals, MAC Sublayer, Topology, Implementation 4.5 Ten-Gigabit Ethernet – Goals, MAC Sublayer, Physical Layer 4.6 Backbone Networks -Bus Backbone, Star Backbone 4.7 Virtual LANs Membership, IEEE standards advantages 4.8 Wireless LAN 4.8.1 IEEE 802.11 Architecture, 4.8.2 Bluetooth Architecture (Piconet, Scatternet)</p>	Know the concepts of Wired and Wireless LAN, IEEE 802.11 Architecture.
<b>5</b>	<p>Network Devices</p> <p>5.1 Network Connectivity Devices 5.1.1 Active and Passive Hubs 5.1.2 Repeaters 5.1.3 Bridges- Types of Bridges 5.1.4 Switches 5.1.5 Router 5.1.6 Gateways</p>	Students understand the different Network Connectivity Devices.
<b>6</b>	<p>Network Security</p> <p>6.1 Introduction 6.2 Need for Security 6.3 Security Services : 6.3.1 Message- -Confidentiality, Integrity, Authentication, Non repudiation. 6.3.2 Entity (User)- Authentication. 6.4 Types of Attack 6.5 Cryptography, Plain Text, Cipher Text, Encryption, Decryption, Symmetric Key and Asymmetric Key Cryptography 6.6 Substitution Techniques, Caesar Cipher, and Transposition Cipher (Problems should be covered.) 6.7 Firewalls- Packet Filter firewall, Proxy firewall 6.8 Steganography, Copyright</p>	Students understand the basic network security, Cryptography, Steganography, Copyright and Firewalls.

**Table1**

<b>Course Outcome</b>	<b>Course Outcome</b>
CO 401.1	Understand Basics of computer network;
CO 401.2	Learn different network model
CO 401.3	To learn Transmission media
CO 401.4	Understand Wire and Wireless LAN
CO 401.5	Learn different network devices
CO 401.6	Understand Required security constraint

**Table 2**

<b>CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
CO 401.1	3	-	3	2	3
CO 401.2	3	-	3	2	3
CO 401.3	3	-	3	2	3
CO 401.4	3	-	3	2	3
CO 401.5	3	-	3	2	3
CO 401.6	3	-	3	2	3
CO 401	3	-	3	2	3

**Table 3**

<b>CO</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>
CO 401.1	3	-	3
CO 401.2	3	-	3
CO 401.3	3	-	3
CO 401.4	3	1	3
CO 401.5	3	1	3
CO 401.6	3	1	3
CO 401	3	0.5	3

Sr no	Roll no	Name Of Students	Tool No 1 Presentation	Target >=40	Tool No 2 Assignments	Target >=40	Tool No 3 Test 1	Target >=40	Tool No 4 Test2	Target >=40	Tool No 5 Final Exam	Target >=28
			4		6		10		10		70	
1	1	LABHANSHI JOSHI	3	Yes	6	Yes	10	Yes	10	Yes	69	Yes
2	2	SAKSHI MUKUNDRAJ KAMBLE	2	Yes	5	Yes	10	Yes	9	Yes	52	Yes
3	3	KONGALE VAISHNAVI VIVEKANAND	2	Yes	6	Yes	9	Yes	9	Yes	64	Yes
4	4	VAISHNAVI SANTOSH VAWAL	3	Yes	6	Yes	7	Yes	7	Yes	63	Yes
5	5	VAISHNAVI TODKAR	2	Yes	6	Yes	8	Yes	8	Yes	49	Yes
6	6	SANDHYA DILIP MHASKE	3	Yes	6	Yes	10	Yes	9	Yes	62	Yes
7	7	JADHAV SHREYA C	3	Yes	6	Yes	10	Yes	10	Yes	67	Yes
8	8	APURVA ANIL DEDGE	3	Yes	6	Yes	9	Yes	8	Yes	69	Yes
9	9	PRITI UTTAM PARMAR	2	Yes	6	Yes	10	Yes	9	Yes	69	Yes
10	10	NIDHI NEHERE	3	Yes	6	Yes	10	Yes	10	Yes	70	Yes
11	11	MEERA DEVIDAS UMBARJE	2	Yes	4	Yes	9	Yes	9	Yes	53	Yes
12	12	NIKITA ANKUSH JADHAV	2	Yes	6	Yes	9	Yes	7	Yes	53	Yes
13	13	KANDE SAKSHI RAJENDRA	2	Yes	3	Yes	10	Yes	9	Yes	70	Yes
14	14	SAKSHI GANESH KUMBHAR	3	Yes	6	Yes	10	Yes	9	Yes	70	Yes
15	15	SONALI NIKAM	3	Yes	5	Yes	10	Yes	10	Yes	69	Yes
16	16	AISHWARAYA KAMTHE	2	Yes	4	Yes	9	Yes	7	Yes	64	Yes
17	17	ARPITA MADHUKAR JAMKHEDKAR	2	Yes	6	Yes	6	Yes	8	Yes	50	Yes
18	18	KALYANI GORAKH MAHANAVAR	2	Yes	6	Yes	9	Yes	10	Yes	55	Yes
19	19	JANHAVI AMIT PHADTARE	2	Yes	5	Yes	10	Yes	10	Yes	66	Yes
20	20	AMRUTA LAYGUDE	2	Yes	5	Yes	10	Yes	10	Yes	70	Yes
21	21	VAISHNAVI SANTOSH FALKE	3	Yes	5	Yes	10	Yes	10	Yes	63	Yes
22	22	DONGRE SAKSHI SANDIP	2	Yes	4	Yes	9	Yes	9	Yes	70	Yes
23	23	GAIKWAD VAISHNAVI VIJAY	2	Yes	5	Yes	10	Yes	10	Yes	63	Yes
24	24	SHARDA PANCHGALLE	2	Yes	6	Yes	9	Yes	8	Yes	60	Yes
25	25	POOJA RAMDAS RODE	3	Yes	6	Yes	10	Yes	9	Yes	62	Yes

26	26	PRANALI SANTOSH DESHMANE	2	Yes	6	Yes	9	Yes	9	Yes	66	Yes
27	27	RAKH PRATIKSHA PANDURANG	2	Yes	6	Yes	9	Yes	9	Yes	59	Yes
28	28	TANVI MOHAN TAPKIR	AB	NA	6	Yes	9	Yes	0	Yes	46	Yes
29	29	RAJNANDINI SHIVAJI KAMBLE	2	Yes	5	Yes	9	Yes	9	No	43	Yes
30	30	PALAK M KHANDELWAL	2	Yes	3	Yes	10	Yes	10	Yes	59	Yes
31	31	SHWETA NALGIRE	AB	NA	6	Yes	9	Yes	9	Yes	39	Yes
32	32	SANJANA JADHAV	2	Yes	AB	NA	9	Yes	10	Yes	50	Yes
33	33	VAISHNAVI BHAUBANDE	2	Yes	3	Yes	9	Yes	10	Yes	60	Yes
34	34	SIDDHI DHAPODKAR	2	Yes	4	Yes	10	Yes	9	Yes	69	Yes
35	35	GAYATRI MAHADEV SURVASE	2	Yes	4	Yes	9	Yes	8	Yes	56	Yes
36	36	SHWETA NAGPURE	2	Yes	4	Yes	9	Yes	10	Yes	66	Yes

**1 Tool No 1 Presentation**

Yes= 36 No=00 NA=02

Total No. of Yes/Total No. of Students

34/36

0.94

**2 Tool No 2 Assignments**

Yes= 35 No=00 NA=01

Total No. of Yes/Total No. of Students

35/36

0.97

**3 Tool No 3 Test1**

Yes= 36 No=00 NA=00

Total No. of Yes/Total No. of Students

36/36

1

**4 Tool No 4 Test2**

Yes= 36 No=00 NA=00

Total No. of Yes/Total No. of Students

36/36

1

**5 Tool No 5 Final Exam**

Yes= 36 No=00 NA=00

Total No. of Yes/Total No. of Students

36/36

1

Internal Average Assessment=Presentation+Assignment+Test1+Test2

$$(0.94+0.97+1+1)/4=3.91/4=0.977$$

0 To 0.40	1
0.41 To 0.60	2
0.61 To 1.00	3

AVRAGE ATTAINMENT VALUE IS 0.977 = ATTAINMENT LEVEL= 3

EXTERNAL AVRAGE ATTAINMENT

AVRAGE ATTAINMENT VALUE IS 1 = ATTAINMENT LEVEL= 3

Overall course Attainment= 0.5xIA attainment+ 0.5xUR attainment

Overall course Attainment= 0.5x3+ 0.5x3 Overall course Attainment= 3

### **PO Attainment**

PO1=(corresponding cell value in table 3 X Overall CO attainment value) /3

PO1 (3X3)/3=3

PO2 (0X 3)/3 =0

PO3 (3 X 3)/3= 2

PO4 (2X3)/3=2

PO5 (3 X 3 )/3= 3

Average PO attainment=1.66

### **PSO Attainment**

PSO1=(corresponding cell value in table 3 X Overall CO attainment value)/3

PSO1 (3X3)/3=3

PSO2 (0.5X3)/3=0.5

PSO3 (3X3)/3=3

Average PSO attainment=2.16

**Huzurpaga Mahila Vanijya Mahavidyalaya**

**BBA(CA)**

**FY BBA(CA) Semester II (CBCS) Pattern 2019**

**Relational Data Base**

**Course code 204**

**Credit 3**

**Teacher Name: Mayuri Padhye**

**Program Outcome (POs)**

After successfully completing BBA(CA) Programme students will be able to:

PO1	To provide the students with the conceptual knowledge and understanding of the fundamental in the domain of Computers, Mathematics, Commerce and Management.
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<b>PSO3</b>	Blending of Computer, Commerce and Management gives keen knowledge of all three disciplines to provide wide area of job opportunities for the students.



**Course Outcomes: (CO 204)**

<b>Learning Outcomes</b>	<b>Teaching learning strategies /Activities</b>	<b>Assessment tasks/tools</b>
Students will be able CO204.1 To understand concept of RDBMS and Understand various RDBMS products.	Lecture method, , Use of ICT	Assignment Test
CO204.2 Understanding of various programming aspects of PL/SQL, Writing of function, Procedure, triggers, Cursor and Packages;	Lecture method, Practical Demonstration, , Use of ICT	Assignment Test Practical
CO204.3 To understand basic transaction processing concepts.	Lecture method , problem solving sessions , , Use of ICT	Assignment Test
CO204.4 To learn how to prevent deadlock situation and Data recovery from Various failures with different techniques	Lecture method, Use of ICT	Assignment Test

**Course Specific Outcomes:**

<b>Unit</b>	<b>Course Cs-204 F.Y.BBA(CA) Course</b>	<b>Specific Outcomes: CSO</b>
<b>1</b>	Introduction to RDBMS Introduction to popular RDBMS product and their features Difference Between DBMS and RDBMS Relationship among application programs and RDBMS	Get the knowledge of the core concept of RDBMS Create tables using SQL DDL and can specify primary key and foreign key constraints.
<b>2</b>	PL/SQL Overview of PLSQL Data Types PLSQL Exception Handling Functions , Procedures Cursor Trigger Package	Students will able to write a program i.e. PL/SQL block that interact with DBMS server. Understand constraints, function, procedure, cursor triggers and packages and how to use them.
<b>3</b>	Transaction Management Transaction Concept Transaction Properties Transaction States Concurrent Execution Serializability	Students understand transactions and their properties (ACID). Understand the concept of serializability.
<b>4</b>	Concurrency control Lock Based Protocol Timestamp Based Protocol	Know the concepts of Lock based protocol and understand locking protocols used to ensure isolation.

	Deadlock Handling Failure Classification Recovery & Atomicity Recovery with concurrent transaction	Understand the concept of Timestamp Based protocol, validation based protocol and deadlock handling. Identifies the recovery management and Understand the recovery with concurrent transaction and transaction rollback.
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**Table1**

<b>Course Outcome</b>	<b>Course Outcome</b>
CO 204.1	To understand concept of RDBMS and Understand various RDBMS products.
CO 204.2	Understanding of various programming aspects of PL/SQL, Writing of function, Procedure, triggers, Cursor and Packages;
CO 204.3	To understand basic transaction processing concepts
CO 204.4	To learn how to prevent deadlock situation and Data recovery from Various failures with different techniques

**Table 2**

<b>CO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>
CO 204.1	<b>3</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
CO 204.2	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>
CO 204.3	<b>2</b>	<b>2</b>	<b>-</b>	<b>1</b>	<b>2</b>
CO 204.4	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
CO 204	<b>2.5</b>	<b>2</b>	<b>1.5</b>	<b>1</b>	<b>2.25</b>

**Table 3**

<b>CO</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>
CO 204.1	<b>3</b>	<b>1</b>	<b>2</b>
CO 204.2	<b>3</b>	<b>3</b>	<b>3</b>
CO 204.3	<b>3</b>	<b>1</b>	<b>1</b>
CO 204.4	<b>3</b>	<b>1</b>	<b>1</b>
CO 204	<b>3</b>	<b>1.5</b>	<b>1.75</b>

Sr no	Roll no	Name Of Students	Tool No 1 Presenta tion	Target ≥40	Tool No 2 Assignm ents	Target ≥40	Tool No 3 Test 1	Target ≥40	Tool No 4 Test2	Targ et≥4 0	Tool No 5 Final Exa m	Tar get ≥4 0
			4		6		10	4	10	4	70	28
1	1	SURYAVANSHI DIPTI DEEPAK	4	yes	6	Yes	8	Yes	9	Yes	67	Yes
2	2	RATHOD SNEHA SACHIN	3	yes	6	Yes	7	Yes	7	Yes	63	Yes
3	3	HAGAWANE TANVI RAMDAS	3	yes	6	Yes	8	Yes	10	Yes	50	Yes
4	4	CHAUDHARI JANHAVI GANESH	4	yes	6	Yes	10	Yes	10	Yes	70	Yes
5	5	KAMBLE PURVA VISHAL	4	yes	6	Yes	8	Yes	9	Yes	64	Yes
6	6	WAGHMARE PRIYANKA SHIVPUTRA	3	yes	6	Yes	10	Yes	10	Yes	70	Yes
7	7	CHORGHE ISHA SANJAY	3	yes	6	Yes	10	Yes	10	Yes	70	Yes
8	8	HULAWALE KANCHAN RAM	4	Yes	6	Yes	3	Yes	8	Yes	53	Yes
9	9	DAYAL TEJAS RAVINDRA	3	Yes	6	Yes	10	Yes	10	Yes	70	Yes
10	10	SAROLKAR MANSI DHARMENDRA	3	Yes	6	Yes	7	Yes	10	Yes	AA	NA
11	11	JINGARE RAVINA SANJAY	3	Yes	6	Yes	10	Yes	10	Yes	70	Yes
12	13	SONAWANE SHRUTI SHARAD	3	Yes	6	Yes	8	Yes	9	Yes	57	Yes
13	14	BHOSALE PURVA VASANT	4	Yes	6	Yes	10	Yes	10	Yes	70	Yes
14	15	TOUR PRIYA ASHOK	AB	NA	AB	NA	8	Yes	10	Yes	70	Yes
15	16	BARTAKKE VEDICA RAJENDRA	3	Yes	6	Yes	8	Yes	8	Yes	70	Yes
16	17	CHAVAN PRERNA RAVI	2	Yes	6	Yes	8	Yes	10	Yes	70	Yes
17	18	CHANDANE DIKSHITA BALASAHEB	3	Yes	6	Yes	9	Yes	9	Yes	70	Yes
18	19	KUMBHARE SAKSHI ANAND	4	Yes	6	Yes	8	Yes	9	Yes	67	Yes
19	20	KAMBLE SHWETA VISHWANATH	3	Yes	6	Yes	10	Yes	10	Yes	32	Yes
20	21	KACHI AISHWARYA RAJENDRA	3	Yes	6	Yes	10	Yes	10	Yes	70	Yes
21	22	RANAWADE ANKITA ANKUSH	3	Yes	6	Yes	10	Yes	10	Yes	63	Yes
22	23	KAMBLE ANJALI AJAY	1	Yes	AB	NA	7	Yes	10	Yes	70	Yes
23	24	DAREKAR ADITI SAMADHAN	AB	NA	6	Yes	7	Yes	10	Yes	50	Yes
24	25	AHIR UNNATI VINAYAK	4	Yes	6	Yes	9	Yes	10	Yes	70	Yes
25	26	GHARAT AKANSHA ANIL	4	Yes	6	Yes	9	Yes	10	Yes	70	Yes
26	27	PARMAR PALLAVI UTTAM	3	Yes	6	Yes	10	Yes	10	Yes	70	Yes
27	28	GHATUL NIKITA SOMNATH	3	Yes	6	Yes	5	Yes	9	Yes	66	Yes
28	30	CHOUHAN SANSKRITI LAKHANLAL	3	Yes	6	Yes	8	Yes	9	Yes	70	Yes
29	31	KHAN ALIYA ZAHOOOR	2	Yes	AB	NA	7	Yes	10	Yes	67	Yes
30	32	CHAVAN SANIYA MANOHAR	3	Yes	6	Yes	8	Yes	9	Yes	53	Yes

31	33	GHONE ISHA SACHIN	3	Yes	6	Yes	6	Yes	9	Yes	45	Yes
32	34	CHAVAN ROHINI BABASAHEB	3	Yes	6	NA	7	Yes	AB	NA	62	Yes
33	35	DHANASHREE DHORE	3	Yes	6	Yes	9	Yes	10	Yes	55	Yes
34	36	NEETA DHANGAR	3	Yes	6	Yes	8	Yes	10	Yes	52	Yes

**1 Tool No 1 Presentation**

Yes= 32 No=00 NA=02

Total No. of Yes/Total No. of Students

32/34

0.94

**2 Tool No 2 Assignments**

Yes= 33 No=00 NA=03

Total No. of Yes/Total No. of Students

31/34

0.91

**3 Tool No 3 Test1**

Yes= 34 No=00 NA=01

Total No. of Yes/Total No. of Students

34/34

1

**4 Tool No 4 Test2**

Yes= 33 No=00 NA=01

Total No. of Yes/Total No. of Students

33/34

0.97

**5 Tool No 5 Final Exam**

Yes= 33 No=01 NA=00

Total No. of Yes/Total No. of Students

33/34

0.97

Internal Average Assessment=Presentation+Assignment+Test1+Test2

(0.94+0.91+1+0.97)/4=3.82/4=0.955

0 To 0.40	1
0.41 To 0.60	2
0.61 To 1.00	3

AVRAGE ATTAINMENT VALUE IS 0.95 = ATTAINMENT LEVEL= 3

EXTERNAL AVRAGE ATTAINMENT

AVRAGE ATTAINMENT VALUE IS 0.97 = ATTAINMENT LEVEL= 3

Overall course Attainment=  $0.5 \times \text{IA attainment} + 0.5 \times \text{UR attainment}$

Overall course Attainment=  $0.5 \times 3 + 0.5 \times 3$  Overall course Attainment= 3

#### **PO Attainment**

PO1=(corresponding cell value in table 3 X Overall CO attainment value) /3

PO1  $(2.5 \times 3)/3=2.5$

PO2  $(2 \times 3)/3=2$

PO3  $(1.5 \times 3)/3=1.5$

PO4  $(1 \times 3)/3=1$

PO5  $(2.25 \times 3)/3=2.25$

Average PO attainment=1.85

#### **PSO Attainment**

PSO1=(corresponding cell value in table 3 X Overall CO attainment value)/3

PSO1- $(3 \times 3)/3=3$

PSO2- $(1.5 \times 3)/3=1.5$

PSO3- $(1.75 \times 3)/3=1.75$

Average PSO attainment=2.08