

Bachelor of Computer Applications (BCA) SCHEME

Fourth Semester

Academic Session:2022-23

				Marks Distribution					
S.N	Subject Code	Subject Name	CAA	Theory	Practical Marks			Credits	
0	Subject Code	Subject Nume	(Contin uous Assess ment & Assign ment)	Marks	Int ern al	Ext ern al	Total Marks		
1	BCA-401/M1T Major (Core)	Database Management System Using PL/SQL	40	60	40	60	200	06 = 4T+2P	
2	BCA-402/M2T (Minor)	Optimization Techniques	40	60	-	-	100	06	
3	BCA (GEC)-403 (Generic Elective)	 Organisational Behaviour Rural Development in India Corporate Law Political Science:- Basic of Public Administration English- Language, Literature and Culture History-Constitutional History(1773 to 1947) Sociology- Sociology of Journalism and Media Personality Development 	40	60	-	-	100	04	
4	BCA (SEC)-404 (Skill Enhancement Course)	 Communication Skill Financial Services and Insurance Art Appreciation an introduction to Indian Art Your Law & Your Right Social Welfare and Security 	40	60	-	-	100	04	
Gran	d Total	•	160	240			500	20	

Note:- The Student may opt for any one of the Generic Elective Course.

The Student may opt for any one of the Skill Enhancement Course.



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	Major	Database Management System Using PL/SQL	BCA-401/M1T
Total Credit: 4			Aarks:100 0+External:60)

Course Outcomes:

After completing this course student will be able to:

- 1. Explain the features of database management systems and relational database.
- 2. Design conceptual models of a database using ER modeling for real life applications and construct queries in relational algebra.
- 3. Create and populate a RDBMS for a real life application, with constraints and keys, using SQL.
- 4. Retrieve any type of information from a database by formulating complex queries in SQL.
- 5. Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database.

Unit	Topics	Duration (In Hours)
I	Introduction to DBMS: Why database? Characteristics of data in database, DBMS. What are database advantages of DBMS? Database Architecture and Modeling: Conceptual, Physical and logical database models, Role of DBA, Database design. Entity Relationship (ER) Model: Components of ER-model, ER modeling symbols, Relationships. Enhanced Entity Relationship(EER) Model: An introduction, Superclass and Subclass entity types, Specialization, Generalization, Attribute inheritance, categorization & Aggregation.	12
	Keywords : DBMS, DBA, Entity Relationship(ER), EER, Superclass, Subclass, Specialization, Generalization, Categorization & Aggregation.	
II	The Relational Data Model: Fundamental Concepts: Relations, Null Values, Keys, Foreign keys, Integrity Constraints- Entity Integrity & Relational Integrity. Normalization Process: First normal Form, Functional Dependencies, Second Normal Form, Third Normal Form, Boyce-Cod Normal Form (BCNF), Fourth Normal Form; Other Normal Forms- Fifth Normal Form & Domain/Key Normal Form. Transforming a Conceptual Model to a Relational Model: Transforming Objects Sets and attributes, Transforming Models without External Keys, Transforming Specialization and Generalization Object sets, Transforming Relationships: One-One Relationships, One-Many Relationships, Many-Many Relationships; Transforming Aggregated Object Sets, Transforming Recursive Relationships. Keywords: Keys, Normalization, BCNF, Aggregated Object Sets, Recursive	12
III	Relational database implementation: (a) Relational Algebra and Calculus Relational Algebra: Union, Intersection, Difference, Product, select, Project, Join- Natural, Theta & Outer Join, Divide, Assignment. Relational Calculus: Target list & Qualifying Statement, The Existential Quantifier, The Universal Quantifier.	12
	Keywords: JOIN, Target list, Existential Quantifer, Universal Quantifier.	

	Relational databse implementation (continued):	
IV	(b) Relational Implementation with SQL	
	Relational Implementations: An Overview.	12
	Schema and Table Definition: Schema definition, Data types & domains,	
	Defining Tables, Column Definition.	
	Data Manipulation: Simple Queries (SELECT, FORM, WHERE), Multiple-	
	Table Queries, Subqueries, Correlated Subqueries, EXISTS and NOT	
	EXISTS operators, Bulit-In Functions (SUM, AVG, COUNT, MAX and	
	MIN), GROUP BY and HAVING clause, Built-In Functions with	
	Subqueries.	
	Relational Algebra Operations: UNION, INTERSECT, EXCEPT, JOIN.	
	Database Change Operations: INSERT, UPDATE, DELETE. Using SQL	
	with Data Processing Languages; View Definition, Restrictions on View	
	Queries and Updates.	
	Keywords: Schema, SELECT, Data Manipulation, Database Change	
	Operation, View.	
	Physical Database Systems	
V	Introduction, Physical Access of the Database.	12
	Physical Storage Media: Secondary Storage, Physical Storage Blocks.	
	Disk Performance Factors: Access Motion Time, Head Activation Time,	
	Rotational Delay, Data Transfer Rate, Data Transfer Time.	
	Data Storage Formats on Disk: Track Format, Recorded Format-Fixed-Length	
	Records & Variable-Length Records, Input/output Management.	
	File Organizing and Addressing Methods: Sequential File Organization,	
	Indexed- Sequential File Organization, Direct File Organization, Hashing:	
	Static Hash Functions and Dynamic Hash Functions.	
	Keywords: Disk Performance Factors, Sequential File Organization, Indexed-	
	sequential File Organization, Direct File Organization, Hashing.	

Recommended Text Books:

- 1. Gary W.Hansen & James V. Hansen, "Database Management and Design", 2nd Ed., Prentice Hall of India Pvt Ltd.
- 2. Instructional Software Research & Development (ISRD) Group, Lucknow "Introduction to Database Management Systems", 2006, Ace Series, Tata McGraw Hill Publishing Company Limited, New Delhi
- 3.Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", 7th Edition, 2016, Pearson

Reference Book

- **1.** Raghu Ramakrishnan & Johannes Gehrke, "Database Management Systems", 3rd Edition,2014, McGraw Hill Education
- 2. C.J. Date, "An Introduction to Database System", 8Tyh Edition, 2003, Pearson
- 3.Abraham Silberschatz, Henry F.Korth, S. Sudharshan, "Database System Concepts", 6th Edition,2010, Tata McGraw Hill
- 4. Books published By M.P. Hindi Granth Academy, Bhopal.

Recommended Web Reference:

http://en.wikipedia.org/wiki/Relational model

http://en.wikipedia.org/wiki/Relational algebra

cs.nyu.edu/courses/Fall12/CSCI-GA.2433-001/lecture4.pdf

https://www.w3schools.in/dbms/database-normalization/

https://beginnersbook.com/2015/05/normalization-in-dbms/

https://ecomputernotes.com/fundamental/what-is-a-database/functional-dependence

http://www.mphindigranthacademy.org/



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	Major	Database Management System Using PL/SQL Lab	BCA-401/M1P
Total Credit: 2			Aarks:100 0+External:60)

Course Outcomes:

This lab is based on the theory course of DBMS. This lab course involves the development of the practical skills in DBMS using MS-Access/Visual-FoxPro/SQL-Server/etc. This course is an attempt to upgrade and enhance students' theoretical skills and provide the hands-on experience.

After completing this lab course sessions, student will be able:

- to create Databases & Views,
- execute simple & advance SQL queries,
- use DBMS tools in the areas of database applications.

Topics to be covered in the lab syllabus

- Introduction to MS-Access/Visual-FoxPro/SQL-Server/ etc
- Hands on practice on the application package used in the lab (i.e. on MS Access/Visual-FoxPro/SQL-Server/etc)
- Database creation using MS-Access/Visual-FoxPro/SQL-Server/etc
- Simple SQL queries (Single table retrieval)
- Use of Advanced SQL queries
- Implementation of Views

PRACTICAL

Experiment-1

Aim: To draw ER Model and Relational Model for a given database. Show ER to Relational Model reduction.

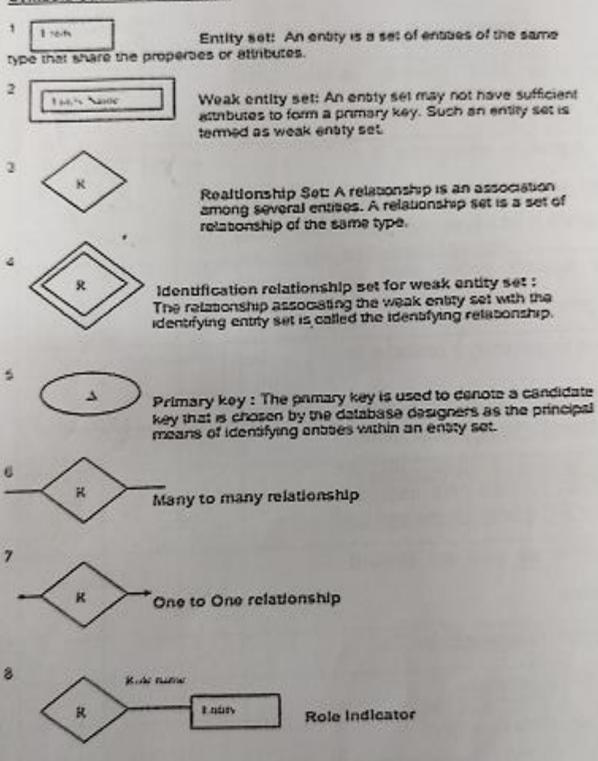
Resources Used: MS-Access/Visual-Fox Pro/SQL-Server/etc.

Problem Definition: List the data requirements for the database of the company which keeps track of the company employee, department and projects. The database designers provide the following description:

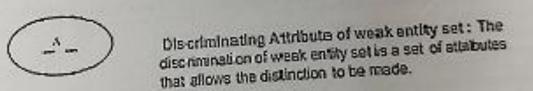
- 1. The company is organized into departments. Each department has unique name, unique number and particular employee to manage the department. We keep track of the start date and the employee begin managing the department. The department has several locations.
- 2. The department controls a number of projects each of which has a unique name, unique number and single location.
- 3. We store each employee names social security number, address, salary, sex and dob. An employee is assigned one department but may work on several projects which are not necessarily controlled by the same department. We keep track of the department of each employee works on each project and for insurance purpose. We keep each dependent's first name, sex, dob and relation.

Theory: The ER data model was developed to facilitate the database design by allowing specification of an enterprise schema that represents the overall logical structure of the database. The ER model data model is one of the several data models. The semantic aspect of the model les in its representation of the meaning of the data. The ER model is very useful many database tools drawn on concepts from the ER model. The ER model employs 3 Basic notations: entity set, relationship set and attributes.

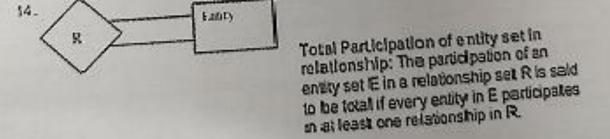
Symbols Used in ER Notation

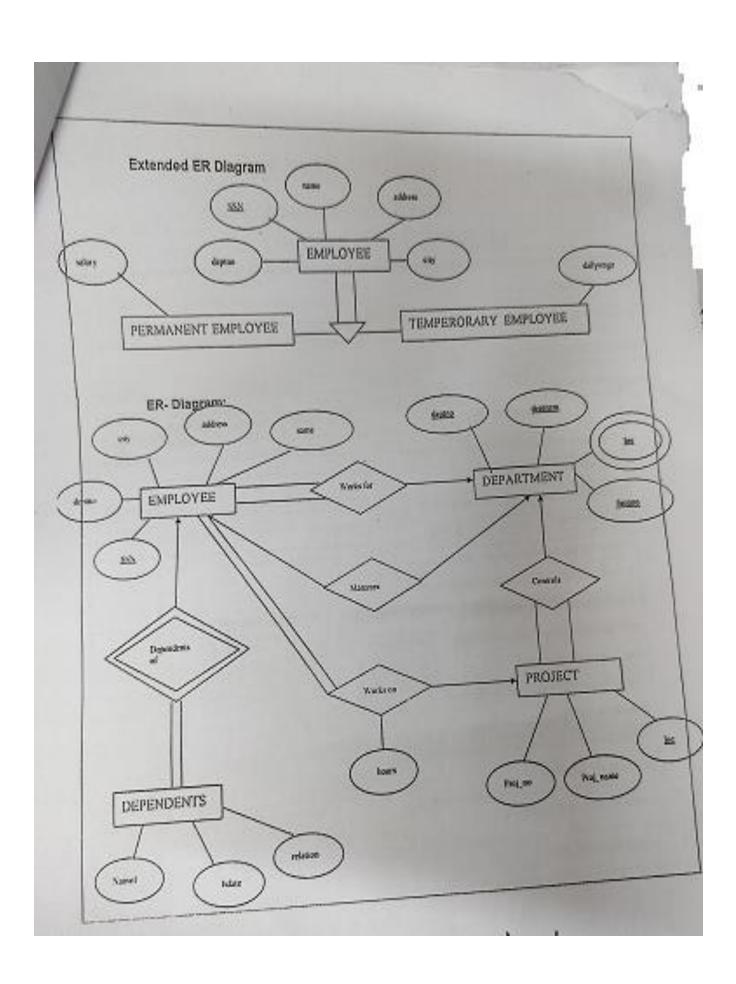


13.



Derived Attribute





Relationa						
Employe	9					
fname	SSN	and a				
_		address	salary	city	Identes	
Departme					deptno	
deptno	ent			-		
		deptname		mgr SS	N	
Departme	ent Location					
deptno			deptioc			
Tarana and a			Total Maria			
Project						
projno	pr	ojname	location	d	deptno	
Works or SSN	1	1.				
2214		hours	hours pr		ojname	
			-			
Depender						
name1	rel	ation	bdate		SSN	
Employee	Departn	nent	Department	Location		
SSN	deptno		deptno			
name	deptnan	ne	deptiloc			
ddress	mgr_SS		depuoc			
salary						
eptno						
100			Danandant			
roject	Works on		Dependents			
rojno	SSN		name1			
rojname	hours		relation			
cation	projno		bdate SSN			

Conclusion: We have drawn ER model and Relational Model for the same.

Experiment-2

Aim: Implementation Database

- 1. Creation of Database with proper constraints(Pk,Fk,.....etc)
- 2. Insert into database using different types of insert statements
- 3. Display

Resources used: MS-Access/Visual –Fox Pro/SQL-Server/etc.

Theory: The set of relations in a database must be specifies to the system by means of a data definition language (DDL). The SQL DDL allows Specification of not only a set of relations but also specific information about the relation including:

- 1. The Schema for each relation
- 2. The domain of values associated with each attribute
- 3. The integrity constraints
- 4. The set of indices to be maintained for each relation
- 5. The security and authorization information for each relation.
- 6. The physical storage structure of each relation on disk.

Create Table

Create table tab (A1D1, A2D2,...., AnDn<integrity constraint-1>,

Where tab is the name of the relation each A1 is the name of the attribute in the schema of relation tab and D1 is the domain type of the values in the domain of attribute A1. There are a number of different allowable integrity constraints. We specify here only the primary key for the relation.

Insert

A newly created relation is empty initially. We can use the insert command to load data into the relation.

Insert into values(A1,A2,...,An)

The values are specified in the order in which the corresponding attributes are listed in the relation schema.

Display

To display the table after creation and insertion we use the following syntax.

Select*from

Select clause is used to list the attributes desired in the result of query. It corresponds to the projection operation of the relational algebra. From clause lists the relations to be scanned in the evaluation of the expression. The asterisk symbol("*") is used to denote "all attributes".

Conclusion

Thus, we have successfully created the database of company and inserted values in the database.

Experiment-3

Aim: Data Defintion (schema) Modification

- 1. Alter table: add column, remove column, add constraint, remove constraint
- 2. Drop table
- 3. Show schema of any table

4. Applying different constraints check, not null, etc.

Resources used: MS- Access/Visual-Fox Pro/SQL-Server/etc

Theory: The various command, clauses, functions used for the modification of database are as follows:

(1) Alter table: Alter table command is used to add attribute to an existing relation. All the tuples are assifned to null as the values for the new attribute. The form of the alter table command is Alter table r add A D

Where, r is the name of an existing relation. A is the name of the attribute to be adde and D us the domain of the added attribute. We can drop attribute from a relation by the command:

Alter table r drop A

(2) Update: In certain situation we may wish to change a value in a tuple without changing all values in the tuple. For this purpose, the update statement can be used, as we could for insert and delete. We can choose the tuple be updated by using a query.

eg, update EMPLOYEE

set age=20

where SSN=514065

The preceding update statement is applied only to tuple wher SSn=514065. If we want same changes in al tuples, then we write

Update EMPLOYEE

Set age=20

(3) Drop Table: To remove a relation from an SQL database we use the drop table command. The drop table command deletes all information about the dropped relation from the database drop table r

The relation r and to delete all tuples from r, the following command is used. delete from r

(4) Adding and Removing Columns: To add a column to an existing relation, we use alter table r

add A D

Eg. alter table EMPLOYEE

add age int

To remove a column from an existing relation we use

alter table r

drop column A

Eg. alter table EMPLOYEE

drop column age

(5) Not Null: The not null specification prohibits the insertion of a null value. For a attribute any database modification that would cause null to be inserted in an attribute declared to be not null generates an error diagnostic. If an attribute is declared as the primary key then it cannot take a null value.

Eg. Alter table EMPLOYEE

Alter column salary int NOT NULL.

(6) Check: The heck clause in SQL can be applied to relation declarations as well to doain declarations when applied to a relation declaration, the clause check(p) specified a predicate p

that must be specified byt every tuple in a relation. A common use of the check clause is to ensure that the attribute value satisfy specified condition.

Eg, alter table EMPLOYEE

Add constraint em_age

Check(age>19)

Conclusion: A Thus, we have executed all the queries required for the modification of database.

Experiment-4

Aim: Simple SQL queries (single table retrieval)

- 1. Make use of different operators (relational, logical etc.)
- 2. Selection of rows and columns, renaming columns, use of distinct keyword
- 3. String handling(%,etc.)
- 4. Update statement, case update
- 5. Delete, cascade delete(if Possible)

Resources used: MS-Access/Visual-FoxPro/SQL-Server/etc

Theory:

1. Select clause: Select clause is used to list the attributes desired in the result of a query. It correspond to the projection operation of the relational algebra:

Eg. Select *from EMPLOYEE

-all attributes

Select frame, SSN from EMPLOYEE

- -only frame and SSN
- 2. From clause: From clause lists the relations to be scanned in the evaluation of the expansion.
- 3. Where clause: AThe where clause corresponds to the selection predicate of the relational algebra. It consists of a predicate involving attributes of the relations that appear in the from clause.
- (i) and: and clause is used when we want a result and all the conditions are satisfied in the where clause.

True and unknown=true

False and unknown= unknown

Unknown or unknown=unknown

(ii) as (rename operator): SQL provides a mechanism for renaming both relations and attributes.

It uses the as clause taking the form

Old name as new name

(iii) distinct: If we want to eliminate duplicates, we use the keyword distinct in the aggregation expression.

Eg. Select distinct salary

from EMPLOYEE

(iv) String operations: The most commonly used operations on strings are pattern matching using the operation like we describe the patterns by using the two special characters% and_.

%: The % character matches any substring

_:The character matches any character

Eg. 'Perry%' matches any string beginning with "perry"

'%idge%' matches any string containing "idge" as substring

"___" matches any string of exactly three characters

- " matches any string of at least three characters.
- (v) Update and Cause Update: In certain situations, we may wish to change a value in a tuple without changing all the values in the tuple. For this purpose, the update statement can be used. Eg. Update EMPLOYEE

Set age =20

Where SSN=514065

SQL provides a case construct which we can use to perform both the update with a single update statement avoiding the problem with the order of updates.

Eg. Update account

Set balance=case

When balance*1.05

Then balance*1.06

End

(vii) delete: To delete a tuple from relation r, we use the following command

Delete from r

Where, r is the name of the relation

Conclusion: Thus, we have executed simple queries in SQL.

Experiment-5

Aim: Advanced SQL Queries-1

- 1. Group by, having clause, aggregate function
- 2. Set operations like union, union all and use of order by clause.
- 3. Nested queries: in, not_in, exists,not exists and any, all

Resources used: MS-Access/Visual-FoxPro/SQL-Server/etc

Theory:

1. Group by clause: These are circumstances where we would like to apply the aggregate functions to a single set of tuples but also to a group of sets of tuples, we would like to specify this wish in SQL using the group by clause. The attributes given by the group by clause are used to from groups. Tuples with the same value on all attributes in the group by clause placed in one group. Eg.

Select dept_no, avg(sal)as avg_sal

From EMPLOYEE

Group by dept_no.

- 2. Having Clause: A having clause is like a where clause but only applies only to groups as a whoke whereas the where clause applies to the individual rows. A querry can contain both where clause and a having clause. In that case
 - a. The where clause is applied first to the individual rows in the tables or table structures objects in the diagram pane. Only the rows that meet the conditions in the where clause are grouped.
 - b. The having clause is the applied to the row in the result set that are produced by grouping. Only the groups that meet the having conditions appear in the query output.

Eg.
Select dept_no from EMPLOYEE
Group_by dept_no
Having avg (salary)>=all
(select avg(salary)
From EMPLOYEE
Group by dept_no)

3. Aggregate functions: Aggregate functions such as SUM, AVG, Count, count(*), MAX and MIN generate summary values in Query result sets. An Aggregate functions(with the expection of count(*) processes all the selected values in a single column to produce a single result value:

Eg.

Select dept_no,count(*)

From EMPLOYEE

Group by dept_no

Eg.

Select max(salary)as maximum

From EMPLOYEE

Eg.

Select sum(Salary)as total_salary

From EMPLOYEE

Eg. Select min(salary)as minsal

From EMPLOYEE

- 4. Union and Union operators: Combines the result of two or more queries into a single result set consisting of all the rows belonging to all queries in the union. This is different from using joins that combine columns from two tables. Two basic rules for combining the result sets of two queries with union are:
 - A. The number and the order of the columns must be identical in all queries.
 - B. The data types must be compatible:

Select max(salary)as maximum

From EMPLOYEE

Union

Selct min(salary)

From EMPLOYEE

Union

Specifies that multiple result two or more queries into a single result set consisting of all the rows belonging to all queried into single result set consisting of all the rows belonging to all queries in the union. This is different from using joins that combine columns from two tables. Two basic rules are followed.

- 5. Order by clause: SQL allows the user to order the tuples in the result set of the query of a query by the values of one or more attributes using the order by clause. The default order is in the increasing order of values. We can specify the keyword DES if we want values in descending order.
- 6. Exists and not exists: Subqueries introduced with exists and not queries can be used for two set theory operations: Intersection and Difference. The intersection of two sets contains all elements that belong to both of the original sets. The difference contains elements that belong to only first of the two sets.

Eg.

Select*from DEPARTMENT

Where exists (select*from PROJECT

Where DEPARTMENT.dept_no=PROJECT.dept_no)

7. IN and NOT IN: SQL allows testing tuples for membership in a relation. The "IN" connective tests for set membership where the set is a collection of values produced by select clause. The

"NOT IN' connective tests for the absence of set membership. The IN and NOT IN connectives can also be used on enumerated sets.

Eg.

Select proj_name from PROJECT

Wher dept_no not in (select dept_no from DEPARTMENT

Where dept name="chemistry")

Eg

select frame from EMPLOYEE

Where SSN in (select mgr_SSN from DEPARTMENT)

Conclusion: Thus, we have studied and executed all the queries mentioned using various clauses.

Experiment-6

Aim: Advanced SQL Queries-2

- (1) Join (Inner & Outer)
- (2) Exists & Union

Resources used: MS-Access/Visual-FoxPro/SQL-Server/etc

Theory:

JOINS: SQL Join are used to query data from two or more tables, based on a relationship between certain columns in these tables.

Types of JOIN:

• Equi Joins:

This operation allows to connect, with a relation of equality, the tables which have at least a common attribute. One must have n-1 conditions of join, n being the number of tables which intervene in the query.

If no condition of join is specified, the corresponding query will realize the Cartesian product of the implied tables.

Syntax:

SELECT TABLE.col1, TABLE.col2...

TABLE2.coll, TABLE2.col2...

FROM table_name1, table_name2

WHERE table name1.coll=table name2.col2

TYPE OF Equi-Joins:

An equi-join is further classified classified into two categories:

- Inner Join
- Outer Join

(a) Inner Join:

The INNER JOIN Keyword return rows when there is at least one match in both tables.

Syntax:

SELECT column_name(s)

FROM table name 1

INNER JOIN table name2

ON table_name1.column_name=table_name2.column_name

(b) Outer Joins:

The outer join is returning all the rows returned by simple join or equijoin as well as those rows from one table that do not match any row from the outer table, the symbol (+) represents outer join. The outer table operator can appear only on side of the expression. Type of Outer Joins:

• **Left OUTER JOIN**: Return all rows from the left table, even if there are no matches in the right table.

Syntax:

SELECT TABLE1.column.....

TABLE2.column.....

FROM table_name1,table_name2

WHERE table_name1.column(+)=table_name2.column;

• **Right OUTER JOIN**: Return all rows from the right table, even if there are no matches in the left table.

Syntax:

SELECT TABLE1.column.....

TABLE2.column.....

FROM table name1,table name2

WHERE table_name1.column=table_name2.column(+);

EXISTS

EXISTS uses a subquery as a condition, where the condition is TRUE if the Subquery returns any rows, and False if the subquery does not return any rows.

Syntax:

SELECT columns

FROM tables

WHERE EXISTS(subquery);

UNION

There are occasions where you might want to see the results of multiple queries together, combining their output, use UNION.

THE SQL UNION operator combines two or more SELECT Statements.

Syntax:

SELECTcolumn_name(s)FROM table_name1

UNION

SELECT columne_name(s) FROM table_name2

Notice that SQL requires that the select list (of Columns) must match, Column-by-column, in data type this concept is useful in situations where a primary key is related to a foreign key, but the foreign key value for some primary keys is NULL. For example, in one table, the primary key is a salesperson, and in another table is customers, with their salesperson listed in the same row. However, if a salesperson has no customers, that person's name won't appear in the customer table.

Conclusion: Thus, we have studied and executed all the queries mentioned using various clauses.

Experiment-7

Aim: Implementation of views.

- 1. Creation of views
- 2. Usage of views
- 3. Creation of views using views
- 4. Drop view

Resources used: MS-Access/Visual-FoxPro/SQL-Server/etc Theory:

Views: Any relation that is not part of any logical model but is made visible to the user as a virtual relation is called as a view. It is possible to support a large number of views on the top of any given set of actual database relation. Views help in 2 ways:

- 1. For security purpose
- 2. Create a personalized collection of relation that is better user's intuition than is logical model

Creation of Views:

- 1. Views is defined using 'create view' command
- 2. To define a view we must give the view a better name and must state the query that computes the view.

Syntax:

Create view<view name>as<query expression>

Where query expression is any legal query expression.

- 3. Once we have defined a view, we can use the view name to refer to the virtual relation that the view generation.
- 4. Attribute name of the view can be specified explicitly as:
 Create viewV(VA1, VA2,.....Van)as select(A1,A2,....,An)from R1 where(p)

Where,p:predicate

R1:relation

A1-An: attribute of view

V:view name

Creation of views using VIEW:

Since, view relations may appear in any place that a relation name may appear, except for restrictions on the use of views in update expressions. Thus, one view may be used in the expression defining another view. For eg. Let Emp_work_info is a view with attribute F_name, SSN, Project no, Work hrs. Then creation of other view can be done as:

Create view new_view

Select f_name,work_hrs

From emp work info

Updating of views

Although views are useful for the queries, they present a serious problem. If we express update insertion or deletion on view as the modification done to the database in terms of the views must be translated to a modification to actual relations in the logical methods of database,

Drop view

A view creates earlier can be dropped using 'Drop View' command

Syntax:

Drop view 'r'

Where, r: View name

It deletes all the information about view from the database.

Recommended Text Books:

- Dr. Rajeev chopra, "Database Management System(DBMS) A Practical Approach",2010, S Chand
- 2. Jitendra Patel, "DBMS Lab Manual" Kindle Edition, 2012
- 3. Books published by M.P. Hindi Granth Academy, Bhopal

Recommended Web Reference:

 $\frac{https://gfgc.kar.nic.in/raibag/FileHandler/270-101d616b-255a-4add-8d9b-dd2c22fec7c1.pdf}{}$

https://pesitsouth.pes.edu/pdf/2019/Julv/CS/LM DBMS%20LAB.pdf http://www.mphindigranthacademy.org/



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code	
BCA	Minor	Optimization Techniques	BCA -402/M2T	
Total Credit: 6			Marks:100 l0+External:60)	

Course Outcomes:

The course will enable the students to:

- Formulate real life problems into linear programming problem.
- Apply the simplex method to find an optimal vector for the standard linear programming problem and the corresponding dual problem.
- Find optimal solution of transportation.
- Formulate and solve linear programming model of two person zero sum game.
- Solve nonlinear programming problems using Kuhn Tucker conditions..

Unit	Topics	Duration
		(In Hours)
I	Linear Programming Problem: 1.1Basic concepts of linear programming problem 1.2Simplex method and algorithm 1.3 Artificial variables technique 1.4 Two-phase method 1.5 Big-M method	15
II	Duality: 2.1 Definition and formulation of the dual problem 2.2 Primal-dual relationships 2.3 Economic interpretation of the dual 2.4 Dual simplex Method 2.5 Sensitivity analysis	15
ш	Transportation Problems: 3.1 Mathematical model 3.2 Balanced and unbalanced problems 3.3 Degeneracy 3.4 Optimality conditions	20
	 3.5 Methods to find starting solution and optimal solution 3.6 Algorithm for solving transportation problem 3.7 Northwest-Comer method 3.8 Least cost method 3.9 Vogel approximation method for determination of starting basic solution 	
IV	Network Analysis: 4.1 Constraints in network 4.2 Construction of network 4.3 Critical Path Method (CPM) 4.4 PERT calculation 4.5 Resource leveling by network techniques 4.6 Advances of network (PERT/CPM)	20
v	Game Theory: 5.1 Formulation of two person zero sum games 5.2 Solving two person zero sum games 5.3 Games with mixed strategies 5.4 Graphical solution procedure 5.5 Linear programming solution of games 5.6 Non-Linear programming techniques 5.6.1 Kuhn-Tucker conditions 5.6.2 Non-negative constraints	20

Keywords/Tags:

Linear Programming Problem, Duality, Transportation Problems, Network Analysis, Game Theory.

Recommended Text Books:

- 1. KantiSwarup, P.K. Gupta and Manmohan: Opertions Research, Sultan Chand and Sons, New Delhi, 2014,
- 2. Guillermo Owen: Game Theory, Emerald Publishing Limited, 4 edition, 2013.
- 3.S.D. Sharma: Operations Research, KedarNath Publication, 2012.,
- 4. Nita H. Shah, Ravi M. Gor and HardikSoni: Operations Research, PHI Learning Pvt. Ltd., 2007.
- 5 Book published by M.P. Granth Academy, Bhopal

Reference Book

- 1. Mokhtar S. Bazaraa, John J. Jarvis and Hanif D. Sherali:Linear Programming and Network Flows 2 Ed., John Wiley and Sons, India, 2004.
- 2. F.S. Hillier and G.J. Lieberman:Introduction to Operations Research, 9 Ed., Tata McGraw Hill, Singapore, 2009.
- 3. Hamdy A. Taha: Operations Research, An Introduction, 8 Ed., Prentice-Hall India, 2006.
- 4.Prem Kumar Gupta and D.S.Hira: Operations Research-An Introduction, S.Chand & SonsCompany Ltd.,New Delhi, 1995.

Recommended Web Reference:

https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=25 https://www.highereducation.mp.gov.in/?page=xhzlQmpZwkylQo2b9%2FYSG7w3D%3D



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Organization Behavior	BCA GEC-403/1 Generic Elective
Total Credit: 4		•	x.Marks:100 l:40+External:60)

Course Outcomes:

After the completion of this course, a student shall be able to do the following:

- 1. Understand the effect of interpersonal behavior in an organizational work-life
- 2. Understand perspective in diverse cultural environment.
- 3. Understand the principles of organizational human behavior with relevance to the Indian business context.

Unit	Topics	Duration
		(In Hours)
I	Concept of Organizational Behavior, Evolution of OB, Contributing Disciplines to Organizational Behavior, Framework of OB, Challenges and opportunities in the field of OB.	12
	Individual Behavior, Personality, Perception, Social Perception and Impression Management, Attitude-characteristics, components, formation and measurement, Values, Learning and Re-enforcement	
п	Leadership Concepts and Theories of Leadership, Qualities of a good Leader. Group Dynamics- group formation, Nature of groups, Types at Group, Group Member Resources, Reasons of joining groups, Functions of group within organization	12
III	Stress Management- Meaning, Causes, Effects and coping strategies for stress Work Stress, Concepts and theories of motivation	12
IV	Organizational change, conflict and peer Forces of change, planned change, resistance, approaches. Conflict management and negotiation techniques. Organization structure and personnel management	12
v	International Dimensions of Organizational Behavior, Equal Employment Opportunities, Organizational Culture, Managing Cultural Diversity, Learning Organization. Case Studies	12

Recommended Text Books:

- Udai Pareek, Understanding Organization Behaviour, 3rd Ed., Oxford University Press, 2011
- Robbins S. P., Organizational Behaviour, 7 Ed., New Delhi, PHI, 1996
- Huse, FE and Cunnings TG, Organization Development and Change, 3rd ed., New York. West, 1985
- Shekcharam Uma, Organizational Behaviour, Text & cases, New Delhi THM, 1989.
- Singh Dalip, Emotional Intelligence at work, Response Books, Sage Publication, Delhi 2001.
- Book published by M.P. Granth Academy, Bhopal

Reference Book

- Luthans Fred, "Organizational Behaviour", McGraw Hill.
- Hellriegel, Slocum and Woodman, Organizational Behavior, South-Western, Thomson Learning, 9th edition, 2001.
- Behavior in Organizations, Jerald Greenberg, Sih ed, Pearson Education.
- Amold, John, Robertson, Ivan L and Cooper, Cary, L, "Work psychology: understanding behavior in the workplace", Macmillan India Ltd., Delhi.
- Dwivedi, R. S., "Human relations and Organizational Behaviour: a global perspective", Macmillan India Ltd., Delhi.

Recommended Web Reference:

https://www.coursera.org/courses?query=economics

https://www.mooc-list.com/tags/economics

https://www.coursera.org/learn https://ocw.mit.edu/courses

https://nptel.ac.in/courses/macr_o economics https://nptel.ac.in/courses/economics

https://nptel.ac.in/courses/Managerial Economics http://www.mphindigranthacademy.org/



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Riiral Develonment in India	BCA GEC-403/2 Generic Elective
Total Credit: 4			Marks:100 0+External:60)

Course Outcomes:

- 1. The Student will be able to know the problems of rural development along with the strategy of rural development.
- 2. Students will be able to get Information about various dimensions of rural development.
- 3. The student will be familiar with the role of agriculture and industries in rural development.
- 4.Students will be able to get information about various schemes and policies of the Government regarding rural development.
- 5. Students will develop an understanding of the contribution of Panchayati raj to rural development.

Unit	Topics	Duration (In Hours)
		(III Hours)
I	Basics of Rural Development: Concept and Objectives of Rural Development, Significance of Rural Development, Indicators of Rural development, Rural Development Strategies: Aims & Objectives, Problems of the rural development in India -(Poverty, indebtedness & Unemployment), Major Initiatives for inclusive growth in rural India. Keywords: Rural Development, Indicators of Rural Development, Strategy, Poverty, Indebtedness, Unemployment, inclusive growth.	12
II	Infrastructure Development in Rural India: Social Infrastructure - Education, Health, Women and Child Welfare, livelihood mission, sanitation: physical Infrastructure Irrigation, Energy, Road, Transportation. Role of infrastructure in Rural Development. Keywords: Social Infrastructure, livelihood, sanitation, physical Infrastructure, Irrigation, Energy, Road, Transport.	12
III	Agriculture Development: Role of Agriculture in Rural Development, Characteristics and nature of Indian Agriculture, Green Revolution in Agriculture, Agricultural Production and Productivity, Agriculture Growth in India, Land Utilization, Current Agricultural Policy, Land reforms, Role of MSMES & Self-Help Groups in Rural Development. Keywords: Green Revolution, Agriculture Productivity, Land Utilization, Agricultural Policy, Micro Small Medium Enterprise, Self Help Groups.	12
IV	Programme and Policies of Rural Development: An overview of Current Rural Development Programmes: Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Swachchh Bharat Mission (SBM), Sansad Adarsh Gram Yojna (SAGY), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Gramin Awaas Yojana (PMGAY), Pradhan Mantri Gram Sadak Yojana (PMGSY), Shyama Prasad Mukherji Rurban Mission (SPMRM), Deendayal Antyodaya Yojana National Rural Livelihood Mission (DAY- NRLM), Deendayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), Pradhan Mantri Ujjawala Yojna (PMUY), Pradhan Mantri Fasal Bima Yojna (PMFBY), Atal Pension Yojana (APY) Keywords: Programme, Policies, Overview of Present Policies, Rural Development.	12

	Role of Panchayati Raj in Rural Development:	12
\mathbf{V}	Concept, structure and functions of Panchayati Raj Institutions, Concept and	
	importance of Decentralization in rural development, Constitutional Provisions	
	regarding Panchayati Raj (Including 73rd constitutional amendment), Role of	
	Panchayats in Resources Generation, Poverty Alleviation and Women	
	Empowerment, Linkage between Panchayat and NGOs.	
	Challenges of Panchayati Raj institutions.	
	Keywords: Panchayati Raj, Constitutional Provisions, Women Empowerment,	
	Poverty Alleviation, Resources Generation, NGOs.	

Recommended Text Books:

- 1. Abdul Azeez, N.P.S Akhtar Jawed S.M. Rural Development in India" (Policies and programmes) kapaz publication Ashok vihas, New Delhi 2016.
- 2. Gupta K.R.Rural Development in India" Atlantic publishers and Distributions, New Delhi 2010.
- 3. Dr. Nath V.-"Rural Development and Planning in India" Concept Publishing Co. 2010.
- 4. Pareek, Udai Education and Rural Development D.G.M. Infai Book Publication 2005.
- 5. Sinha, Kumar Rajesh "Sustainablo development goals and panchayat publication Indigo Books 2019.
- 6. Bilgrami S.A. "An Introduction to agriculture Economics" Himalaya Publishing House Mumbai.
- 7. Gupta, U.C.S. Verma Pratik Gramin Vilas pariyojanas (Hindi) Raj publications, New Delhi 2013.
- 8. Dewan, M.L. "Agriculture and Rural Development in India" concept Publishing Co.. (English).
- 9. Singh, Ram Sakal "Rural Development Administration" Anmol Publications Pvt. Ltd. 2006.
- 10. Dhingra L.C. Dec 2019
- 11. Prasad B.K. Sasup & Sons New Delhi 2003.
- 12. Agrawal A.N.-37th Edition 2011 New Age International Publishers.

Reference Book

- Luthans Fred, "Organizational Behaviour", McGraw Hill.
- Hellriegel, Slocum and Woodman, Organizational Behavior, South-Western, Thomson Learning, 9th edition, 2001.
- Behavior in Organizations, Jerald Greenberg, Sih ed, Pearson Education.
- Amold, John, Robertson, Ivan L and Cooper, Cary, L, "Work psychology: understanding behavior in the workplace", Macmillan India Ltd., Delhi.
- Dwivedi, R. S., "Human relations and Organizational Behaviour: a global perspective", Macmillan India Ltd., Delhi.



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Corporate Law	BCA GEC-403/3 Generic Elective
Total Credit: 4			Marks:100 l0+External:60)

Course Outcomes:

The paper aims to import the students working knowledge of the provisions of companies Act

2013. After

completion of the course, Students will be able to:-

- a) Explain the relevant provisions of companies Act 2013
- b) Interpret the corporate functioning in India

Unit	Topics	No. of
		Lectures
I	Preliminary to Companies Act 2013 Company - Definition, Characteristics, Types of Company, Formation of Company. Promotion, Incorporation and Commencement of Business, Memorandum of Association, Articles of Association and Prospectus.	12
II	Management and Administration Board of Directors, Types of Directors; Their qualifications, powers, duties, liabilities. Company Meetings: Types, Quorum, Voting, Resolution and Minutes.	12
III	Dividends Accounts and Audit Declaration and payment of dividend, maintenance and authentication of financial statements, Corporate Social Responsibility (CSR), Auditor; Appointment, Qualification, Duties, Responsibilities, Audit report.	12
IV	Oppression & Mismanagement; Restructuring and Winding up Prevention of Oppression & Mismanagement Provisions related to Compromises & Amalgamation. Concept and modes of winding up.	12
V	National Company Law Tribunal. Definitions, Constitution of NCLT, Constitution of Appellate tribunal, Provisions regarding appeal and punishment. Emerging issues in company law	12

Recommended Reference Books.

- 1. Company Law, Avtar Singh, ABC Publication.
- 2. Company Law, Bloombury, Corporate Law Adviser
- 3. Company Law, Brenda Hannigan, Eastern Publisher
- 4. Company Law, M.C. Kuchhal, Mahaveer Publications
- 5. Introduction to Company Law, Paul Davies, Oxford University Press



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Political Science- Basic of Public Administration	BCA GEC-403/4 Generic Elective
Total Credit: 4			Marks:100 0+External:60)

Course Outcomes:

- 1:-Understand the nature and scope of Public Administration.
- 2:-Understand the administrative theories and concepts to develop sense of administration and the nature of Bureaucracy.
- 3:-Understand the role of public services in India.
- 4:-understand the role of public services india.
- 5:-Acquaint with the system of lokayukt of M.P.

Unit	Topics	Duration (In Hours)
I	Public Administration as a discipline:- a- Meaning Nature and Scope. b- Evolution of Public Administration. c- Public and Private Administration. d- New Public Administration	12
п	Basic principles and concepts'': a. Organization b. Hierarchy c. Span of Control d. Unity of Command	12
III	Theories of Administration a. Scientific Management (Taylor and the Scientific Management Movement b. Classical Theory (Henry Fayol, Luther Gullick) C. Bureaucratic Theory (Max Weber and his Critics) d. Human Relations Theory (Elton Mayo)	12
IV	Personnel Administration a. Civil Services b. Role of Civil Service in India c. Recruitment, Training and Promotion in Civil Service d. Emerging trends and Challenges in Indian Bureaucracy	12
V	Financial Administration (With Special focus on India): a. Budget: Meaning and Significance b. Types of Budgets c. Principles of an Ideal Budget d. Comptroller and Auditor General of India	12

Recommended Text Books:

Jimmy Carter," Jimmy carter Tells Why Hw Will Use Zero -Based Budgeting", Nation's Business. January, (1977).

Elaine YI Lu, Katherine Willoughby, (2018). Public Performance Budgeting Principle and Prectice. Routledge Publication.

K.L. Handa, (1980) Budget Management Techniques: A Perspective for India", The India Journal of Public Administration, July-September

• Thavraja, M.J.K(1994): Financial Administration of India, Sultan Chand & Tyagi, B.P. (1997): Public Finance, Meerut. Suggested Readings:

- Frederickson, H. G. et al. (2015). Decision Theory. The Public Administration Theory Primer, Boulder, CO: Westview Press, pp. 131-164.
- Kanigel, R. (1997). The One Best Way: Frederick Winslow Taylor and the Enigma of Efficiency. New York: Viking.
- O'Connor, E. S. (1999). The Politics of Management Thought: A Case Study of the Harvard Business School and the Human Relations School. The Academy of Management Review, 24(1), pp. 117-131.
- Peng, W. S. (2008). A critique of Fred W. Riggs' ecology of public administration. Public Administration Quarterly, 32(4), pp. 528-548
- Pryor, M. G., & Taneja, S. (2010). Henri Fayol, practitioner and theoretician -Revered and reviled. Journal of Management History, 16(4), pp. 489-503.
- Rodrigues, C. A. (2001). Fayo!'s 14 principles of management then and now. Sarachek, B. (1968). Elton Mayo's Social Psychology and Human Relations. The Academy of Management Journal, 11(2), pp. 189-197.
- Taylor, F. W. (1911). The Principles of Scientific Management. New York: Harper &Brothers.50
- Weber, M., Hans G., & Mills, CW (1958). Bureaucracy. From Max Weber: Essays in Sociology. New York: Oxford University Press, pp.196-244.



Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Hnglish= Language Literature	BCA GEC-403/5 Generic Elective
Total Credit: 4		Max.Marks:100 (Internal:40+External:60)	

Course Outcomes:

CO-1: Understand why language matters, multilingualism, features of Indian literature and trends in contemporary Indian culture, especially as they are reflected in the media

CO-2: Appreciate significant themes and forms of Indian literature through the ages with the help of prescribed texts

CO-3: Assess the relation between language and literature oral and written literature, salient features of ancient and medieval Indian literature and different phases of Indian literature

Unit	Topics	Duration
		(In Hours)
I	Language 1. Why language matters? 2. Functions of language 3. Language and class, gosder, ethnicity, identity. 4. Language variation: dialect, slang, standard and non standard language 5. Bilingualion and mailinglim	12
п	IndianLiterature 1.VedaVyasa:TheMahabarata:TheElavyaEpisode 2.StatrakaMrichchlokurThmakingofaBeach! 3.LlankoAtikal:ClappatikarumTheBookof Mathurai 4.Mirabai-IknowOnlyKrishna. 5. Amir Abdul Hasan Khusrau- Separation	12
III	Indian Literature 1 Asadullah Khan Ghalib Desires Come by Thousand 2. Faiz Ahmad Faiz -Do Not Ask. 3.Subramania Bharati- The Palla Song 4. Rabindranath Tagore -The Cabuliwallah 5. Shrilal Shukla Raag Darbari.	12
IV	Indian Literature 1. Ismat Chugtai: -touch-me-not. 2. Amrita Pritam To Waris Shah 3. Masti Venkatesha iyenger: Venkatashami's Love Affair 4. Indira Goswami: The Journey 5. Omprakash Valmiki: -Joothan 6. Shrikant Mahapatra -Folk Songs	12
v	Culture and Society in Contemporary India 1. The Idea of Culture 2. Culture and the Media	12

Recommended Text Books:

Indian Literature: An Introduction Bhartiya Sahitya: ek Parichay, edited by Anjana Dev, Sanam Khanna and Bajrang Bihari Tiwari, New Delhi. Pearson, 2005: reprinted 2006. Fromkin, Victoria, David Blair and Peter Collins An Introduction to Language 1999. Harcourt Brace, Javanovich NY pp. 362-370.

Crystal, David. The Cambridge Encyclopaedia of Language, 1997. Cambridge CUP. Holmes, Jenet An Introduction to Sociolinguistics. 1992: London & New York: Longman. George Yule The Study of language 2nd edition, 1996. CUP.

Poddar, A. Language and Society in India: 1969. Proceedings of a Seminar: Shimla, pp. 76-88, 136-14, Khubchandani, LM. Plural Languages, Plural Cultures. 1983. University

of Hawaii Press. (Chapters 5&6)

Cummins J and M. Swain. Bilingualism in Education. 1986. Longman: London (chapter 8) Das, Sisir Kumar ed A History of Indian Literature. 1995. New Delhi: Sahitya Akademi.

William, Raymond Keywords, rev, ed. 1983, OUP.

During, Simon, ed. The Cultural Studies -Readers, 1999. London: Routledge. Dines, G & J. M. Humez, eds. Gender. Race and Class in Media: A Text-Reader. 1995. Thousand Oaks, CA:

Sage

Shapiro, Michael and Harold Schiffman. Language and Society in South Asia, 1981. Delhi: Motilal

Banarsida Aurobindo, Sri. "Is India Civilised?" in Foundations of Indian Culture. Vol. 20 pp. 1-13. Gokak, V. K. "Towards a Definition of Culture "in India and World Culture, 1986, New Delhi: Sahitya Akademi

Kumar, Keval J. Mass Communication in India. 3rd edition 2004. Mumbai: Jaico Publishing House. Bastiam, AL The Wonder that was India, 1999, Delhi: Rupa Publications. Chapter 9 "Language and Literature



RKDF UNIVERSITY, BHOPAL

Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	History- Constitutional	BCA GEC-403/6 Generic Elective
Total Cı	redit: 4		Marks:100 0+External:60)

Course Outcomes:

After completing this course student will be able to:

CO-1: Analyze the salient features of the constitutional development during the Company's rule in India from 1773 to 1857 and assess its impact on the freedom struggle of India.

CO-2: Know about the influence of British Crown on India.

CO-3: Critically examine the major reforms by the British government and their impact of the socio-political life of Indians.

Unit	Topics	Duration
		(In Hours)
I	Constitutional Development Under The Company's Rule (1773-1793): 1. Regulating Act, 1773: causes for the passing of the Regulating Act, main provisions of the act. 2. Bengal Judicature Act, 1781. 3. Indian Bill of Dundas, 1783. 4. Fox India Bill, 1783. 5. Pitt's India Act, 1784. 6. Charter Act, 1793.	12
II	 Constitutional Development Under The Crown's Rule: Goverment of India Act, 1858: background, main provisions, evaluation. Queen Victoria's Proclamation: significance. Indian Councils Act, 1861: causes, main provisions, provisions related to provincial legislative assemblies, defects in the act, significance. Indian Councils Act, 1892: causes, main provisions, defects, significance 	12
III	Constitutional Development Under The Crown's Rule 1. Government of India act 1858: background, main provisions, evaluation 2. Queen victoria's Proclamation: significance 3. Indian councils Act 1861: d. Human Relations Theory (Elton Mayo)	12
IV	Constitutional Development During The 20th Century: 1. Morley-Minto reforms and Mont-ford reforms. 2. Government of India Act, 1909: causes, government's outlook towards the reforms, main provisions, defects, significance. 3. Government of India Act, 1919: causes, significance of Montague's declaration, Montague-Chelmsford report, passing of the act, preamble of the act, main features of the act.	12
V	Provincial Autonomy, Indian Independence And Indian Constitution: 1. The Government of India Act, 1935: features of the act, Home Government, advisors of the Indian Secretary, High Commissioner, proposed federal plan - organization, criticism, conclusion; meaning of provincial autonomy. 2. Government of India Act, 1947 - The Mountbatten plan, factors responsible for Indian independence, provisions and significance of the 3. Main features of the Indian constitution.	12

George Rodmann. (2007) Mass Media in a Changing World, McGraw Hill 2. जैन, रमश (1989) दहद की पाक रिश्ता का आल रेचनातमक इततहास प्रकाशन, जयपर

- 8. Kumar, Keval. (1994) Mass communication in India. JaicoPublishing House o MI Stein, Susan Paterno& R. Christopher Burnett (2006) News writer's Handbook An Introduction to Journalism, Blackwell Publishing
- 10. मम षण वारी (1986) दहद की पत्रकाररत भारतीय निपीठ प्रकाशन, नई ददल्ती
- 11 Neelamlar, M (2010) Media Law & Ethics, Pill Learning Private Limited. New Delhi 12 Richard Keeble(2006) The Newspaper's Handbook, Routledge Publication
- 13. Singhal, Arvind (1989) India's Information revolution, Sage Publication, New Delhi
- 14. शमा, श्रीपाल (1985) पत्रक ररता के मूल मसदर्भात, ताकाशन, नई ददल्ली 15. श्रीधर वर्वजयदत्त (1983)

मध्य प्रदेश में पत्रकाररता का इततहास, मध्य प्रदेश, दहदी ग्रन्थ अकादमी, भोपालम.प्र.

16. कुल 1. महश (2001) सधे पकड़ी पत्रकाररता को संध आयाम, कॉमनवेल्थ ब्लगर 17 ततवारी, अजना (1984) आध उनक पाकाररत 1, वदयालय प्रकाशन, वरि-णसी

Suggested equivalent online courses:

http://www.pressclubofindia.org/

https://en.wikipedia.org/wiki/History of journalism https://www.britannica.com/topic/journalism https://en.wikipedia.org/wiki/Yellow journalism http://www.nraisme.com/wp-content/uploads/2017/03/303

PRESS LAW MEDIA ETHICS backun.pdf

http://ervankosh.ac.in/bitstream/123456789/62988/1/Block-1.pdf

Suggested equivalent online courses:

IGNOU & Other centrally/state operated Universities MOOC platforms such as "SWAYAM" in India and Abroad.

Business School and the Human Relations School. The Academy of Management Review, 24(1), pp. 117-131.

Peng, W. S. (2008). A critique of Fred W. Riggs' ecology of public administration. Public Administration Quarterly, 32(4), pp. 528-548

- Pryor, M. G., & Taneja, S. (2010). Henri Fayol, practitioner and theoretician -Revered and reviled. Journal of Management History, 16(4), pp. 489-503.
- Rodrigues, C. A. (2001). Fayo!'s 14 principles of management then and now.

Sarachek, B. (1968). Elton Mayo's Social Psychology and Human Relations. The Academy of Management Journal, 11(2), pp. 189-197.

Taylor, F. W. (1911). The Principles of Scientific Management. New York: Harper &Brothers.50 • Weber, M., Hans G., & Mills, CW (1958). Bureaucracy. From Max Weber: Essays in Sociology. New York: Oxford University Press, pp.196-244.



RKDF UNIVERSITY, BHOPAL

Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Sacialogy Sacialogy of	BCA GEC-403/7 Generic Elective
Total Cı	redit: 4		Aarks:100 0+External:60)

Course Outcomes:

After completing this course student will be able to:

- CO-1: By studying this course student will develop an understanding of the basic concepts of journalism.
- CO-2: Student will be able to get acquainted with the bnew dimensions and forms of journalism.
- CO-3: The study of this course will develop practical understanding of social phenomena in the student.
- CO-4:- Employment opportunities will be available to the student in the field of journalism.

Unit	Topics	Duration (In Hours)
I	Emergence and Development of Journalism 1. Introduction of Journalism:	12
	1.1 Concept 1.2 Objectives	
	1.3 Importance2. Origin and Development of Journalism3. History of Journalism in India: 3.1 Pre-Independence	
	3.2 Post-Independence 4. Journalism as a profession	
	5. Interrelationship between Journalism and Sociology	
п	Journalism and News. 1. Concept of News 2. Development of News value.	12
	3. Changing concepts of News4. Issues and challenges.5. Collection of News.	
	6. Sources of Information7. Sociological aspect of News8. Elements of News	
	9. Precautions for News Writing	

	Journalism as a Career	12
III	Print Media and Electronic Media:	
	1 Editor and Bureau Chief.	
	2 Reporter	
	3 Feature Writer	
	4 Proof Reader	
	5 Photo Journalist and Cartoonist	
	6 Social Media Manager	
	7 News Reader	
	8 Video Producer	
	9 Researcher	
	Social Network :	
	1- Instagram	
	2- Twitter	
	3-Facebook	
	4 -LinkedIn	
	5- Blog	
	6-WhatsApp	
	7 –Telegram	
	Online Network	
	1 e-book	
	2 e-paper	
	3 e-business	
	4 News Agencies in India	
	5.Ethics of Journalism	
	6. Print Journalism	
	7. Media Journalism	
	8.Digital Journalism	
	9. Cyber Journalism	
	10.Investigative Journalism	
	11. Political Journalism	
	12.Crime Journalism	
	13.Professional Journalism	
	14.Educational Journalism	
	15.Sports Journalism	
	16. Photo Journalism	
	17.Yellow Journalism	

	Media and Society	12
IV	1.Role of Media: 1.1 Social Awareness 1.2 Educational Awareness 1.3 Political Awareness 1.4 Cultural Transmission 1.5 Catalyst for Development 2. Impact of Media: 2.1On Society 2.2 On Profession 2.3 On Workplace 2.4 On Children and Youth 2.5 On Women 2.6 Increase in Crime 2.7 Spreading Rumors 2.8 Depression and Anxiety 2.9 As Addiction 2.10 Unhealthy Activities	
V	Journalism in Twenty First Century Media Law and Ethics 1. Freedom of speech and expression 2. Official Secrets act 1923 3. Prasar Bharati act 1990 4. Cabel TV Network Regulation Act 1995 5. Cinematography act 1952 6. Information Technology act 2000 7. Copyright act 1957 8. Media Commission and Committee	12

Text Books, Reference Books, Other resources:

- 1. Arya, P.K.(2006) Career in Media, Prabhat prakashan New Delhi s
- 2 Bruce D. Itule and Douglas A. Anderson(2000). News writing and reporting for today's media
- 3 Carole Flemming and Emma Hemmingway(2006)An Introduction to Journalism, Vistaa PublicationsMcGraw Hill Publication
- 4. George Rodmann, (2007) Mass Media in a Changing World, McGraw Hill Publication,
- 5. Kumar, Keval (1994) Mass communication in India, JaicoPublishing House
- 6 M.L. Stem, Susan Paterno& R. Christopher Burnett (2006) News writer's Handbook AnIntroduction to Journalism, Blackwell Publishing.
- 7. Neelamlar, M (2010) Media Law & Ethics, PIII Learning Private Limited, New Delhi
- 8. Richard Keeble(2006) The Newspaper's Handbook, Routledge Publication
- 9. Singhal, Arvind (1989) India's Information revolution, Sage Publication, New Dell 14.

Suggested equivalent online courses:

http://www.pressclubofindia.org/

https://en.wikipedia.org/wiki/History of journalism

https://www.britannica.com/topic/journalism

https://en.wikipedia.org/wiki/Yellow journalism

http://www.uraisme.com/wp-content/uploads/2017/03/303 PRESS LAW MEDIA ETHICS backup.pdf

http://evankosh.ac.in/bitstream/123456789/62988/1/Block-1.pdf



RKDF UNIVERSITY, BHOPAL

Bachelor of Computer Application Fourth Semester

Course	Category	Subject	Subject Code
BCA	GEC	Personality Develonment	BCA GEC-403/8 Generic Elective
Total Cı	redit: 4		Marks:100 0+External:60)

Course Outcomes:

After completion of course, students will be able to

1. Students will gain knowledge about the basics of Personality Dynamics

- 2- Students will learn to implement techniques of Personality Development 3. Students will develop Skills of self resilience and assertiveness in their personality.
- 4. Students will learn Interview skills.
- 5. Students will be able to understand about the importance of life skills needed for personality development.

Unit	Topics	Duration (In Hours)
I	Dynamics of Personality:- Nature and Determinants, Classification of Personality, Jung, Sheldon, Kretschmer and five factor theory	12
II	Techniques of Personality Development:- Self control, self resilience, self esteem, factors affecting assertiveness pro-social behavior, interpersonal relationships issues Interview skills.	12
III	Attitude & Motivation Attitude: Concept - Significance - Factors affecting attitudes - Positive attitude — Advantages —Negative attitude- Disadvantages - Ways to develop positive attitude - Differences between personalities having positive and negative attitude. Concept of motivation - Significance — Internal and external motives - Importance of self- motivation- Factors leading to de-motivation	12

	Emerging Areas of Personality Development:-	12
IV	Life skills-	
	Social Intelligence and Personality Development (SQ)	
	Emotional Intelligence and Personality Development (EQ)	
	Spiritual Intelligence and Personality Development (SPQ)	
V	Self-esteem Term self-esteem :-	12
	Symptoms - Advantages - Do's and Don'ts to develop positive self-esteem – Low	
	selfesteem - Symptoms - Personality having low self esteem - Positive and	
	negative self esteem. Interpersonal Relationships – Defining the difference	
	between aggressive, submissive and assertive behaviours - Lateral thinking.	

- 1. Andrews, Sudhir (1988) How to Succeed at Interviews. 21" (rep.) Tata McGraw-Hill, New Delihi
- 2. Covey, Stephen. (1989). The 7 Habits of Highly Effective People. NY. Free Press
- 3. Hindle, Tim (2003) Reducing Stress. Essential Manager Series. DK Publishing.
- 4. Lucas, Stephen (2001). Art of Public Speaking Tata- Mc-Graw Hill, New Delhi.
- 5. Petes S.J., Francis (2011). Soft Skills and Professional Communication. Tata McGraw-Hill Education, New Delhi
- 6. Smith, B (2004). Body Language. Rohan Book Company, Delhi.
- 7. Hall, CS Lindzey. G & Campbell, J B (2007) Theories of Personality 4th Edn. Wiley India.
- 8. Kundu. CL (1989) Personality Development. ND Sterling Pub.

Suggested equivalent online courses: e-reading:

- 1. Basics of Communication:- https://www.glowandlovelvcareers.in/en/course-detall/nlit-156/basics- of-communication
- 2. Social Etiquettes-<u>https://www.glowandlovelycareers.in/en/course-detail/englishedge-904/social-</u> stiquitte



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Course	Category	Subject	Subject Code
BCA	SEC	Communication Skill	BCA SEC-404/1 (Skill Enhancement Course)
Total Cı	redit: 4	(In	Max.Marks:100 ternal:40+External:60)

- 1. Understand the fundamental principles and components of effective Communication, including verbal, nonverbal, and written communication.
- 2. Develop skills in active listening, empathy, and feedback to enhance
- 3. Communication effectiveness. Develop skills in effective presentation and public speaking, including organizing ideas, using visual aids, and engaging an audience
- 4. Apply effective communication skills to real-world scenarios, such as job interviews, customer interactions, and team collaborations, for personal and professional success.
- 5. Gain awareness of different communication styles and cultural differences, and how to adapt communication for diverse audiences.

Unit	Topics	Duration (In Hours)
I	Introduction: Definition and Process of Communication, Essentials of Effective Communication, Barriers to Communication, Role of Communication in Organizational Effectiveness.	12
II	Public Speech: Composition, Principles, Speech Delivering Skills, Group Discussion Do's and Don'ts of GD's Communication in Committees, Seminars and Conference.	12
III	Non Verbal Communication: Meaning and Importance. Listening: Difference between Listening and Hearing.	12

IV	Drafting Of Notices, Agendas, Minutes, Job Application Letters, Preparation of Curricular Vitae.	12
V	Business Correspondence: Essentials of Effective Business Correspondence, Structure of Business Letter, Types of Business Letter – Enquiry Reply Orders Complaints Circular Letter. Outcome:	12

- 1. Rodriges M V Effective Business Communication, Concept Pub. Co. New Delhi, 1992
- 2. Sharma R C & Dehi , 1996 Writing, TMH, New Delhi , 1996
- 3. Treece, Maira, Successful Business communications, 3rd ed., 1987, Allyn and Bacon Boston



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Course	Category	Subject	Subject Code
BCA	SEC	Financial Services and	BCA SEC-404/2 (Skill Enhancement Course)
Total Credit: 4			Marks:100 0+External:60)

After studying this Course, the Student will be able to:

- 1. Understand the functions of Banking and Insurance services.
- 2. Know about and able to perform various financial services such as Banking, Investment Advisory, Wealth Management, Mutual Funds, Insurance Consultancy, Stock Market, Capital Restructuring, Portfolio Management etc.
- 3. Enhances knowledge Banking & Insurance.about the legal and regulatory aspects .
- 4. Aware about the financial derivatives.
- 5. Develop skills to work in financial and insurance services.

Unit	Topics	Duration
		(In Hours)
	Financial Consultant :-	12
I	Overview of Financial Services	12
	Meaning, Importance and Scope of financial services, Indian financial	
	system, Brief Study of Financial Institutions - RBI, Commercial and Co-	
	Operative Banks, Non- banking financial institutions, Development Bank,	
	Merchant Bank, Basics of Mutual Funds, Credit Rating. An overview of	
	micro finance.	

II	Financial Markets Money Market in India: Importance, features and instruments, Measures to strengthen money market in India, Recommendations of the working group on	12
	money market. Capital Markets in India: New issue market and stock exchange, Importance of stock exchanges, Role of The Securities and Exchange Board of India (SEBI), Meaning and Classification of Mutual Funds, Operation of the Funds, Net Asset Value, and Regulation of Mutual Funds in India. Financial Instruments: Cash, Derivative, Foreign Exchange, Debt based and Equity based financial instruments.	
III	Principles and Practices of Insurance Concept, Principles & Types of Insurance-Life Insurance, Micro Insurance, Annuities, Health Insurance, General Insurance, Motor Insurance, Marine Insurance, Property 5,6,7 Insurance and Other Miscellaneous Insurance, The Concept of Risk and Classification of Risks, Insurance Documents, Online Insurance, Process of claim and settlement, Policy Terms and Conditions, Legal and Regulatory Aspects of Insurance(IRDA).	12
IV	Practical (1) Practice online bank account opening, e-banking operations, and UPI transfers/ payments. (2) Prepare the documents of a hypothetical insurance claim. (3) Visit to banks and insurance companies to observe the functioning, (4) Presentation by charts and models about various financial functions. (5) Role plays of an Insurance Agent, Mutual Fund Consultant, Stock Broker, Investment Advisor and Portfolio Manager etc.	12
v	Project/Field trip	12

Text Books, Reference Books, Other resources

- (1) R.K. Mishra, IS Yadav, A. P Kumar, S P Mishra, J. Kiranmai, "Risk Management in Banking, Insurance and Financial Services", 2014, Academic Foundation.
- (2) R. Gordan & Natarajan, "Future scenario of Financial services", Himalaya Publication
- (3) Satyadevi, C., Financial Services Banking and Insurance, S.Chand
- (4) Kunjukunju, Benson, Mohanan, S, "Financial Markets and Financial Services In India", New Century Publication
- (5) Dhanesh Kumar Khatri, "Derivatives and Risk Management", Macmillan
- (6) Khan, M. Y. Financial Services. New Delhi: Tata McGraw Hill Education. (2005) (7) Machiraju, H. R. Indian Financial System. New Delhi: Vikas Publishing House (2010).

(8) Agarwal, O. P. Banking and Insurance. New Delhi: Himalaya Publishing (2011).

Suggestive digital platforms web links

- 1 https://ves.ac.in/tulsitech/wp-Rise and grecontent/uploads/sites/16/2017/05/
 Banking Financial Services and Insurance.pdf
- 2 https://www.aicte-india.org/sites/default/files/bvoc/BFSI.pdf
- 3 https://nsdeindia.org/sites/default/files/Banking-Financial-Services-Insurance.pdf
- 4 https://sgp.fas.org/crs/misc/IF10043.pdf
- 5 http://impcollege.org/downloads/BASICS OF FINANCIAL SERVICES 1.pdf



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Course	Category	Subject	Subject Code
BCA	SEC	Art Annreciation: An	BCA SEC-404/3 (Skill Enhancement Course)
Total Credit: 4			Marks:100 0+External:60)

After completing this course student will be able to:

CO-1: learn about the Indian art, from ancient to contemporary times which will help them in understanding and appreciating its diversity and its aesthetic richness.

CO-2: Understand art as a medium of cultural expression

Unit	Topics	Durati on
I	 Definition, Concept and Categorization of Art: 1. Definition, concept and categorization of art. 2. The theory of rasa and bhava in India art. 3. Visual elements of Indian art: color, form, space, symbols, texture etc. 	12
	4. Prehistoric and prehistoric art: rock painting, Harappan art and craft.	

II	Understanding of Architecture: 1. Understanding of the features of India architecture: plan, elevation, section, arches, vaults, domes, pillars, capitals, stops. 2. Indus Valley town planning: rock cut architecture, major styles of 3.Mughal architecture: tomb, places, garden, chattris, 4. Modem and contemporary architecture: colonial building: neoclassical architecture, British forts, churches, high courts, university, Rashtrapati niwas etc. Contemporary structures across India: Lotus temple, New Delhi; Jawahar kala Kendra, Jaipur, British council, Delhi; capital complex, Chandigarh; the Light Box Restroom, Mumbai	12
III	Understanding of Indian Sculpture: 1. Types of sculptures based on media: stone, clay and metal. 2. Stone sculptures: from prehistoric to modern times: - a. Ancient sculpture and terracotta's: Shunga, Mathura, Gandhara. b. Medieval: Chalukya, Pallava, Chola, Odisha. c. Modern Indian sculpture: Well-known marble and ceramic sculptures and some modern maestros of Indian sculpture 3. Metal sculptures: Indus metal figure, Gupta metal sculpture, Palas and Cholas bronze, modern bronze and metal icons and well-known artists. 4. Iconographic classification and identification of Buddhist, Brahmanical, Jain and other sculpture. 5. Wall relief sculpture: history and types.	12
IV	Understanding of Indian Painting: 1. Cave Painting: Prehistoric Rock Painting, Ajanta, Alora And Bagh. 2. Major Style Of Painting: Mughal Rajasthani Deccan, Pahari, Modern, Company. 3. Early Illustrated Manuscripts. 4. Marul Tradition Of Painting. 5. Major School And Artist In Modern Times	12
v	Project 1.Write up about local art heritage site and prepare a report about its History, art, Feature and Condition. 2. Viva-Voce	12

- 1. Agarwal V.S: Indian Art, Varanasi, 1965
- 2. Archer W.G: Indian Painting for the British, 1770-1880. Oxford University
- 3. Beach M.C Rajput painting for the British, 1770-1880. Oxford University Press.
- 4. Brown P.: Indian Painting under Mughals. 1550 A.D. to 1750 A.D.
- 5. Chandra Moti. Studies in Early Indian Painting, Asia Pub. Home
- 6. Coomarswamy A.K: Transformation of nature in Art, Dover Pub. 1956.

Reprint1995

- 7. Ferussion, J: History of Indian and Eastern Architecture. Delhi 1999. 8 Goswamy B.N Essence of Indian Art, Asian Art Museum of San Francisco, 1986 9. Kramrisch Stella: Indian Sculpture, Ancient, Classic and Medieval, Motilal Banarasi
- 10. Majumdar R.C Edited: History and Culture of Indian People (Relevant Volumes and Chapters), Bhartiya Vidya Bhawan, Bombay
- 11. R.S Gupta: Iconography of Hindu, Buddhist and Jain, Advent Book, New Delhi, 1980 12. Rowland, B. Art and Architecture of India, Harmondswarth, 1970
- 13. Saraswati S.K: A survey of Indian Sculpture, Calcutta, 1957 14. Sivarammurti. C Indian painting. Delhi 1970



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Course	Category	Subject	Subject Code

BCA	SEC	Your law & Your Right	BCA SEC-404/4 (Skill Enhancement Course)
Total Cı	redit: 4		x.Marks:100 l:40+External:60)

- 1. Students will come to know about the rights which generally they should act as a vigilant citizen of the country.
- 2. They will come to explain the rights of an individual when one faces arrest or detention or seek to get bail or when one is subjected to investigation by the executive agencies of the state.
- 3. Students will also understand the details of laws catering to rights of different identities challenging exploitative practices against them.
- 4. The students will learn accessing and benefitting out of the social welfare schemes.

Unit	Topics	Duration (In Hours)
I	Rule of law the Criminal Justice System in India:	12

	Laws relating to criminal justice administration	12
II	a. How to file a complaint, First Information Report (FIR)	
	b. Detention, Arrest and Bail.	
	Equality and Non-discrimination	12
III	a. Gender: the protection of women against domestic violence, rape and	
	sexual harassment.	
	b. Caste: laws abolishing untouchability and providing protection against	
	atrocities.	
	C. Class: laws concerning minimum wages.	
	d. Disability and equality of participation and opportunity.	
	Women and child welfare	12
IV	a) Women Empoerment	
	b) Domestic violence	
	c) Child crime	
	d) Social and legal rights of women's	
	Access to Identification documents and Social Security Schemes	12
V	(exercises only)	
	a. Familiarise yourself with the following: Procedure for obtaining an	
	Election Commission of India Identity Card, Filing RTI, Driving license,	
	Ration Card, Rashtriya Swasthya Bima Yojna, Old Age Pension Scheme.	
	Textbooks, Reference Books, Other Resources	

- 1. P. Mathew, and P. Bakshi, (2005) 'Indian Legal System', New Delhi: Indian Social Institute.
- 2. P. Mathew, and P. Bakshi, (2005) 'Women and the Constitution', New Delhi: Indian Social
- 3. N. Menon, (2012) 'Sexual Violence', in Seeing Like a Feminist, New Delhi: Zubaan and Penguin,
- 4. M. Mohanty et al. (2011) Weapon of the Oppressed, Inventory of People's Rights in India. Delhi:
- 5. Centre for Good Governance, (2008) Right to Information Act, 2005: A Citizen's Guide.
- 6 . K. Sankaran, and U. Singh, (eds.) (2008) Towards Legal Literacy. New Delhi: Oxford University Press
- 7. A. Pandey, (2004) Rights of the Consumer. New Delhi: Indian Social Institute.

Suggestive digital platform web links

Consumer Protection Act, 1986, Available at

http://chdslsa.gov.in/right_menu/act/pdf/consumer.pdf Criminal law Act,2013, Available

http://egazette.nic.in/WriteReadData/2013/E 17 2013 212.pdf Protection of Women Against Domestic Violence Act, 2005, Available at http://wcd.nic.in/wdvact.pdf Amendment

Right to Information Act, 2005, Available at http://righttoinformation.gov.in/rtiact.pdf The Persons with Disabilities (Equal Opportunities, Protection of Rights, Full Participation) Act, 1995,

Available at http://bhind.nic.in/Sparsh disability%20act%201995.pdf



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Course	Category	Subject	Subject Code
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BCA	SEC	Social welfare and Security	BCA SEC-404/5 (Skill Enhancement Course)
Total Cı	redit: 4		x.Marks:100 l:40+External:60)

After completing this course student will be able to:

- 1.Students will understand the importance and necessity of social welfare and social security
- 2.We can help the needy person on families or having the information about the various social welfare scheme
- 3. They will be motivated for making their career in the field of social welfare.
- 4.The student will be inspired to work in the field after understanding the structure organization and function of NGOs, Self Help Groups. The curriculum and practical work of this paper will be helpful to students for preparing various competitive examination and interviews.
- 5.Get opportunities of job in various government department semi government organization and corporate sector as human resource coordinator, corporate social responsibilities, community welfare officer etc.

Unit	Topics	Duration
		(In Hours)

	1. Tradition of social welfare in Indian society	
l i	2. Social welfare 1,5,7	12
_	2.1 Meaning, definition, Characteristics	
	2.2 Aims and importance	
	3. Development of social welfare in India	
	4. Social welfare Models 1,5,7	
	5. Social Security	
	5.1 Meaning definition and characteristics 5.1 History of social security	
	6. Approaches of social security	
	7. Social security program and policy in India 5,7	10
	1.Health and Family welfare	12
II	2.Child welfare and women welfare 1	
	3. Youth welfare 3	
	4. Welfare for old age 3	
	5. Welfare for weaker section	
	6. Social welfare policy and program 7	
	Social Welfare Voluntary Organization and Self Help Group5,6,7	12
III	1. Voluntary organization	
	1.2 Meaning and characteristics	
	1.3 Structure	
	1.4 Function of voluntary organisation	
	2. Structure process scope	
	3. Weaknesses of voluntary organization	
	4. Suggestion to improve Voluntary Organisation	
	2 Help group Group	
	2.1 Concept of self help group	
	2.2 Need purpose and importance	
	2. 3 Constructions process of self help group	
	3. Micro and small Finance	
	Practical:	12
IV	1. Collect information about child and women welfare schemes through the	
	visit of nearby Anganwadi or woman and child development office.	
	2. Making report on the structure and function of any voluntary organization.	
	3. Visit and write report on any micro and small finance agency.	
V	Study of any self-help group of any nearby area	12
L		1

- 1. Dasgupta sweater Towards a Philosophy of Social Work in India.
- 2. Fredlander W.A. Introduction to social welfare New York Prentice, Hall 1955
- 3.Sachdeva, Bharat meinSamaj KalyanPrashasanKitabMahal Allahabad 2010
- 4.Shastri, Raja Ram Samajkary Uttar Pradesh Hindi SansthanLucknow NABARD's Hand book on formation of SHG's trainers manual by SERP

Suggestive digital platform web links
Equivalent Courses (NPTELJUGC/IGNOU/etc):

1. Web course - - https://nptel.ac.in/courses/117/102/117102061/