

DIPLOMA IN BAKERY AND CONFECTIONERY

Eligibility:	Senior Secondary (10+2) or equivalent with English as a subject.
Duration:	One Year + six months in industry
Teaching hours per week:	35 Hours
Effective teaching:	34 weeks
Industrial training:	24 weeks after the annual examinations.

TEACHING AND EXAMINATION SCHEME

No.	Subject code	Subject	Hours per week	Term Marks*
THEORY				
1	DBC-01	Bakery	3	100
2	DBC-02	Confectionery	3	100
3	DBC-03	Commodities	2	50
4	DCS-01	Hygiene & Sanitation	2	50
5	DCS-02	Food Costing	2	50
TOTAL			12	350
PRACTICAL				
7	DBC-11	Bakery	12	100
8	DBC-12	Confectionary	08	100
9	DCS-11	Computer Awareness	01	-
10	DCS-12	Library	02	-
TOTAL			23	200
GRAND TOTAL			35	550

* Term marks will comprise 30% Mid Term Exam & 70% End Term Exam Marks.

RULES AT A GLANCE

NO.	TOPIC	REQUIREMENT
1.	Attendance required to become eligible for exam	75% in aggregate
2.	Minimum pass marks for each theory subject	40%
3.	Minimum pass marks for each practical subject	50%
4.	Maximum duration to pass/clear all subjects/ papers	03 academic years



BAKERY THEORY (DBC - 01)

TIME ALLOTTED: 3 HOURS PER WEEK

MAXIMUM MARKS: 100

ACTIVITY	MAXIMUM MARKS
Marks for attendance	5
Mid-term exam marks	25
Total (Incourse Assessment Marks)	30
End term exam marks	70
Total	100

Learning Objectives : At the end of the term / course the Students will be able to:

1. Draw the organization chart and kitchen hierarchy of bakery department
2. Explain the different ingredients used in bakery
3. Explain the different working temperatures for bakery products
4. Define the bread faults and remedies of bakery products
5. Draw and explain the layout of a bakery
6. Write recipes of different breads, pastries and gateaux

UNIT	CONTENT	HOURS ALLOTTED	WEIGHTAGE FOR EXAM
1	• Introduction • Scope of Bakery & Confectionery, • Bakery terms. • Organisation chart of Bakery.	10	15%
2	Wheat and Flour • Different types of flours available, • Constituents of flours, • pH Value of flour, • Water absorption power of flour, • Gluten, diastatic capacity of flour, • Grade of flour. • Temperature/ Weight conversions 1 unit; °F/ °C /gms / lb serving size	15	15%
3	Raw material required for bread making: - Role of flour, water, yeast, salt - Sugar, milk and fats	10	10%
4	Yeast • An elementary knowledge of Baker's yeast, the part it plays in the		



	fermentation of dough and conditions influencing it's working. • Effect of over and under fermentation and under proofing of dough and other fermented goods.	05	05%
5	Bread improvers-improving physical quality	05	05%
MID TERM EXAM			
6	Oven & Baking: • Knowledge and working of various types of oven. • Baking temperatures for bread, confectionery goods.	05	05%
7	Methods of bread making : • Straight dough method • Delayed salt method • No time dough method • Sponge and dough method	10	10%
8	Characteristics of good bread • External characteristics • Volume, symmetry of shape • Internal characteristics - colour, texture, aroma, clarity and elasticity	10	10%
9	Bread faults and their remedies	05	10%
10	Bakery layout – The required approvals for setting up of a Bakery – Government procedure and Bye-laws. • Selection of site • Selection of equipment. • Layout design • Electricity.	10	10%
11	Quality control • of raw material • of finished products	05	05%
Total		90	100%



CONFECTIONERY (DBC-02)

TIME ALLOTTED: 3 HOURS PER WEEK

MAXIMUM MARKS: 100

ACTIVITY	MAXIMUM MARKS
Marks for attendance	5
Mid-term exam marks	25
Total (Incourse Assessment Marks)	30
End term exam marks	70
Total	100

Learning Objectives : At the end of the term / course the Students will be able to:

1. Explain the different ingredients used in confectionery
2. Differentiate different cake mixing methods
3. Define and explain different pastries and derivatives
4. Operation of different types of oven
5. Define the internal and external characteristics of cakes
6. Describe the different cake faults and remedies
7. List down the steps in preparing cookies and biscuits
8. Explain the procedure in preparing Ice Creams
9. Demonstrate working knowledge of Chocolate and Sugar confectionery

UNIT	CONTENT	HOURS ALLOTTED	WEIGHTAGE FOR EXAM
1	Ingredient used in Cake Making Types & Varieties • Flour • Sugar • Shortening – Fats and oil • Egg • Moistening agent • Leavening Agents	10	15%
2	Cake Making Methods • Sugar butter process, • Flour butter process, • Genoise method • Blending and rubbing method.	10	10%
3	Basic Pastries Pastry making, principles & derivatives	10	10%
4	Characteristic of Cakes Balancing cake formula External characteristics Internal Characteristics	15	15%



	Cake Faults and remedies		
MID TERM EXAM			
5	Chocolate Identify different forms in which coco and chocolate are available Explain the process of chocolate tempering Chocolate designs, garnishes and presentations	10	15 %
6	Sugar Identify and describe the different stages of cooking sugar Caramelized Sugar preparations Sugar for desserts and presentations	10	15 %
7	Types of icing	05	05%
8	Preparation of cookies and biscuits . Factors affecting the quality of biscuits / cookies.	08	05%
9	Various types ice creams and bombs.	07	05%
10	Storage of confectionery product	05	05%
Total		90	100%



COMMODITIES (DBC-03)

TIME ALLOTTED: 02 HOURS PER WEEK

MAXIMUM MARKS: 50

ACTIVITY	MAXIMUM MARKS
Marks for attendance	2 ½
Mid-term exam marks	12 ½
Total (Incourse Assessment Marks)	15
End term exam marks	35
Total	50

Learning Objectives : At the end of the term / course the Students will be able to:

1. Explain the composition of wheat and wheat products
2. Describe the different types of sugar and its substitutes.
3. List the different types and quality of eggs and dairy products
4. Define yeast and explain its role in bakery and confectionery
5. Explain the types of shortenings and its role in bakery and confectionery.
6. Elaborate the role of gelling agents, stabilizers and preservatives in bakery and confectionery.
7. Define the food laws and follow H.A.C.C.P Principles

UNIT	CONTENT	HOURS ALLOTTED	WEIGHTAGE FOR EXAM
1	Wheat • composition, production, grade and quality • wheat products, • other flours, meals and starches	10	15 %
2	Sugar • sugar substitutes • syrups, jams and marmalades • Cocoa production • Cocoa by-products	05	10%
3	Eggs and dairy products • types • importance in bakery and confectionery • grading, quality and selection	10	15%
4	Leavening agents • Yeast and its varieties	05	10%



	• Role in raising bakery products • Chemical leavening agents		
MID TERM EXAM			
5	Shortenings • Role of shortening • Types • Usage in bakery and confectionery	06	10%
6	Gelling agents and stabilizers • Their role in bakery and confectionery • Food additives and preservatives • Edible garnishes • Canned food	12	20%
7	• Introduction to food laws • Storage and preservation of bakery and confectionery products • Organic and genetically modified foods	12	20%
Total		60	100%



HYGIENE AND SANITATION (DCS-01)

TIME ALLOTTED: 02 HOURS PER WEEK

MAXIMUM MARKS: 50

ACTIVITY	MAXIMUM MARKS
Marks for attendance	2 ½
Mid-term exam marks	12 ½
Total (Incourse Assessment Marks)	15
End term exam marks	35
Total	50

LEARNING OBJECTIVES: After completion of the subject a student will be able to:

1. Understand Food Microbiology, Food Contamination and Spoilage;
2. Follow sanitary procedure during food handling;
3. Understand the importance of personal hygiene
4. Analyze critical control points; and
5. Practice laws governing the food safety and standards

No	CONTENT	TIME ALLOTTED	WEIGHTAGE FOR EXAM
1	FOOD MICROBIOLOGY • Introduction • Microorganism groups important in food microbiology - Viruses - Bacteria - Fungi (Yeast & Molds) - Algae - Parasites • Factors affecting the growth of microbes • Beneficial role of Microorganisms	10	15%
2	FOOD CONTAMINATION AND SPOILAGE • Classification Of Food • Contamination And Cross Contamination • Spoilages Of Various Food With The Storing Method	05	10%
3	SANITARY PROCEDURE FOLLOWED DURING FOOD HANDLING • Receiving, • Storage, • Preparation, • Cooking,	10	20%



	• Holding, and • Service Of The Food		
MID TERM EXAM			
4	SAFE FOOD HANDLER • Personal Hygiene discussing all the standard. • Hand Washing Procedure • First Aid definition, types of cuts, wounds, lacerations with reasons and precautions.	10	15%
5	HAZARD ANALYSIS CRITICAL CONTROL POINT • Introduction to HACCP • History • Principles of HACCP	10	15%
6	FOOD SAFETY STANDARDS AUTHORITY OF INDIA (FSSAI) • Introduction to FSSAI • Role of FSSAI • FSSAI Compliance	05	15%
7	GARBAGE DISPOSAL • Different Methods • Advantages & Disadvantages • Municipal Laws and Swachh Abhiyan	10	10%
Total		60	100%



FOOD COSTING (DCS-02)

TIME ALLOTTED: 02 HOURS PER WEEK

MAXIMUM MARKS: 50

ACTIVITY	MAXIMUM MARKS
Marks for attendance	2 ½
Mid-term exam marks	12 ½
Total (Incourse Assessment Marks)	15
End term exam marks	35
Total	50

Learning Objectives : At the end of the term / course the Students will be able to:

1. Know different pricing methods and explain the different types of Menu.
2. Explain the importance of food costing and costing techniques.
3. Develop standard recipes and adjust the quantities using adjustment factor.
4. Define and explain Material Costing.
5. Explain in controlling food cost, labour cost, overhead cost etc.
6. Define yield and its types.
7. Calculate standard food cost and explain the techniques in portion cost and dinner cost.

UNIT	CONTENT	HOURS ALLOTTED	WEIGHTAGE FOR EXAM
1	Pricing • Menu pricing styles • Types of menu • Different methods in pricing	08	15 %
2	Costing • Importance of food costing • Methods of costing • Costing techniques	07	10%
3	Standard recipes • Use of standardized recipes • Developing standardized recipes • Adjustment factor	07	10%
4	Material costing • Through purchasing • receiving • issuing • production • sales and accounting	08	15%



MID TERM EXAM			
5	Control of • food cost • labour cost • overhead cost • miscellaneous cost	10	15%
6	Yield • butchers yield • cooking yield • portion control	10	15%
7	Costs • determining standard food cost • calculating portion cost • calculating dinner cost	10	20%
Total		60	100%



BAKERY PRACTICAL (DBC - 11)

TIME ALLOTTED: 12 HOURS PER WEEK

MAXIMUM MARKS: 100

ACTIVITY	MAXIMUM MARKS
Marks for attendance	5
Mid-term exam marks	25
Total (Incourse Assessment Marks)	30
End term exam marks	70
Total	100

Learning Objectives : At the end of the term / course the students will be able to:

1. Identify and differentiate the small and large equipment in bakery
2. Identify and check for quality of different types of ingredients used in bakery
3. Prepare and Present yeast fermented products
4. Prepare and Present flavoured breads
5. Prepare and Present Breakfast breads
6. Prepare and Present laminated breads
7. Prepare International breads
8. Prepare toppings and stuffing for pizza and burgers

UNIT	CONTENT	HOURS ALLOTTED
1	Introduction to ingredients / Equipment • Identification and uses of equipment – large, small and utilities • Ingredients – Types of flour, Sugar, Nuts and Dry fruits, Shortenings, leavening etc.	36
2	Quality Checking & Basic Mixing Methods • Flour : W.A.P Test, Gluten Content • Yeast : Flying fermentation	36
3	Mixing Methods • Basic steps involved in mixing ingredients – Kneading, stirring, whipping, creaming etc.	36
4	Simple yeast fermented products • Bread Sticks, Bread Rolls, hand and Soft Rolls, sour dough etc.	36
5	Flavoured Breads • Basic Buns, Fruit Buns, Hot Cross Buns,	



	Tomato Rolls and Garlic Rolls	36
6	Rich Yeast Fermented Breads Brioche, Fermented Doughnuts, Baba au Rhum, Savarin	36
7	Bread Loafs: Milk Bread, Bread Loaf, Currant Loaf, Whole Meal Bread, Masala Bread, Raisin Bread	36
8	International Bread French Bread, Chelsea Buns	36
9	Laminated Yeast Breads Danish pastry croissants	36
10	Burger Buns, Pizza Base	36
Total		360



**MARKING SCHEME FOR PRACTICAL EXAMINATION
BAKERY PRACTICAL (DBC - 11)**

Maximum Marks	100	Pass Marks	50
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Part 'A' 25 Marks

		MARKS
1. Uniform & Grooming	:	05
2. Journal	:	10
3. Viva	:	10
Total	:	25

Part 'B' 75 Marks

- Each student to prepare three different breads from the syllabus
- Each item shall carry 20 marks
- Parameters of assessment of each item.

a) Appearance & colour	:	03
b) Volume & symmetry of shape	:	03
c) Texture	:	03
d) Aroma	:	03
e) Elasticity	:	03
f) Correct recipe& equipment	:	05
Total	:	20
- Adherence to Hygiene & Food Safety : 15

NOTE:

- Journal is not allowed during indenting or practical. It must be handed over to the examiner before commencement of examination.
- Assessment will be done by both internal and external Examiner.
- Extra ingredients may be made available in case of failure but of limited types and quantity. Only one extra attempt may be permitted.
- Uniform and grooming must be checked by the examiners before commencement of examination.
- Students are not allowed to take help from books, notes, journal or person.
- The Examiners will ensure that examinee adheres to Good Hygiene and Food safety practices during the examination.



CONFECTIONERY PRACTICAL (DBC – 12)

TIME ALLOTTED: 8 HOURS PER WEEK

MAXIMUM MARKS: 100

ACTIVITY	MAXIMUM MARKS
Marks for attendance	5
Mid-term exam marks	25
Total (Incourse Assessment Marks)	30
End term exam marks	70
Total	100

Learning Objectives : At the end of the term / course the Students will be able to:

1. Identify and check for quality of different types of ingredients used in confectionery
2. Identify and differentiate the small and large equipment used in confectionery
3. Prepare and Present basic sponges
4. Prepare and Present different cookies and biscuits
5. Prepare and Present basic pastries and its derivatives
6. Prepare basic icings and toppings
7. Prepare and Present international cakes and puddings
8. Prepare and Store Ice Creams, Toffees and Indian Sweets
9. Ability to work with chocolate and sugar to create design, plates and show pieces

UNIT	CONTENT	HOURS ALLOTTED
1	Basic Cake Making Plain Sponge Madeira Cake, Rock Cake, Fruit Cake Fatless Sponge Swiss Rolls Genoise Sponge	22
2	Biscuits & Cookies: Plain biscuits; piping biscuits; cherry knobs; langue –de – chats; (cats tongue) salted biscuits; nut biscuits; coconut biscuits; melting moment; macaroons; tricolour; chocolate biscuits; marble biscuits; nan-khatai; short bread biscuits. Ginger biscuits; cheese biscuits; cream fingers.	22
3	Basic Pastry & derivatives: (i) Short Crust Pastry Jam tart, Lemon curd tart Apple Pie, Banana Flan, Fruit Tartlets.	22



	(ii) Choux Pastry Chocolate Éclairs, Profit role Cream puff (iii) Puff Pastry & flaky pastry Khara Biscuits, veg patties, chicken patties Mutton patties, Cheese Straws, patty case Bouchee, vol-au-vents, Mille Feuillet, Jalousie, Creams Horns Apple Strudel Filo or phyllo pastries such as baklava	
4	Icings and Toppings Fondant; American frosting; butter cream icing; royal icing; gum paste; marzipan; marshmallow; lemon meringue; fudge; almond paste; glace icing	22
5	Pastry & Special Cakes Queen cakes, Easter Egg Chocolate dippings Cheese cake, Baba-cum Rhum Savarin Chantilly, meringues chantilly. Madeline cake Pineapple pastry, chocolate pastry	22
6	Icing Cakes Birthday cake Wedding cakes	22
7	Gateaux Black forest Gateaux, gateaux religious	16
8	Puddings and Desserts Hot dessert : Caramel Custard, soufflé chaud Bread and Butter pudding, Crème brûlée Cold Desserts: Bavarois; ginger pudding; cold lemon soufflé; chocolate mousse; charlotte royale; charlotte russe; charlotte harlequin; bavarois urbane; soufflé praline; fruit trifle.	22
9	Ice Cream Vanilla, strawberry, chocolate, pineapple, mango, Sorbets, Bombe, Sundaes, Parfaits	22
10	Toffees:	



	Milk Toffee, Chocolates Stick Jaws, liquor chocolates Indian Confectionery: Chenna - Rasgulla, Chamcham, Pakiza, Chenna Toast, Rasmalai Khoya - Gulab Jamun, Barfi Sugar - Mysore Pak, Ghewar Flour / Besan - Patisa, Shakarpare, Halwa, Laddoo, Pedas. Milk - Kheer, Rabri Nuts - Barfi, Chekki	22
11	Chocolate Work Fundamentals of the science of chocolate. Established industry standards in - Tempering, moulding, modelling, enrobing, filling, show pieces, stencils, chocolate couverture. Chocolate candies, ganache fillings, hand-dipped candies, molded bonbons, Danish pastry and truffles, use of an enrobing machine. Clean and store chocolate candy moulds and other equipment used in chocolate candy making Sugar Work Chemical properties and changes in sugars at various stages of the cooking and cooling processes. Pulled, blown, Spun, Poured, caramelized sugar. Casting of sugar. Pastillage and Saltillage fondant, gum paste and royal icing Produce sugar confectioneries such as fruit paste, guimauve (marshmallow), praline, caramels, nougats, lollipops, marzipans and gummies. Prepare sugar sticks, nest, bow, ribbon, flower, leaf, bubble sugar and decorations Appropriate package and display of candies. Plate styling techniques, buffet displays, calories in bakery and confectionery What is Michelin Star, restaurants and chefs	28
Total		242



MARKING SCHEME FOR PRACTICAL EXAMINATION CONFECTIONERY PRACTICAL (DBC – 12)

Maximum Marks **100** **Pass Marks** **50**

Part 'A' 25 Marks

	MARKS
1. Uniform & Grooming	: 05
2. Journal	: 10
3. Viva	: 10
Total	: 25

Part 'B' 75 Marks

1. Each student to prepare three different items as under
 - i) One small cake with icing
 - ii) One pastry item
 - iii) One hot/cold dessert
2. Each item shall carry 20 marks
3. Parameters of assessment of each item

a) Appearance & Colour	:	03
b) Texture	:	03
c) Aroma & Flavour	:	03
d) Consistency	:	03
e) Taste	:	03
f) Correct recipe & Equipment	:	05
TOTAL	:	20
4. Adherence to Hygiene & Food Safety : 15

NOTE:

1. Journal is not allowed during indenting or practical. It must be handed over to the examiner before commencement of examination.
2. Assessment will be done by both internal and external Examiner.
3. Extra ingredients may be made available in case of failure but of limited types and quantity. Only one extra attempt may be permitted.
4. Uniform and grooming must be checked by the examiners before commencement of examination.
5. Students are not allowed to take help from books, notes, journal or person.
6. The Examiners will ensure that examinee adheres to Good Hygiene and Food safety practices during the examination.



COMPUTER AWARENESS (DCS-11)

TIME ALLOTTED: 01 HOURS PER WEEK

MAXIMUM MARKS: Nil

Learning Objectives:- After the completion of Computer Awareness subject, the Students will be able to:

1. Understand computer and its hardware & software.
2. To produce word document with proper formatting
3. To work on an excel sheet with basic functions.
4. Brows on net and communicate through e-mail
5. Prepare small power point presentations.

UNIT	CONTENT	HOURS ALLOTTED
1	KNOWING COMPUTER • What is computer? ➤ Basic Applications of Computer • Components of Computer System ➤ Central Processing Unit ➤ Keyboard, mouse and VDU ➤ Other Input devices ➤ Other Output devices ➤ Computer Memory • Concept of Hardware and Software ➤ Hardware ➤ Software ❖ Application Software ❖ Systems software • Concept of computing, data and information • Applications of IECT ➤ e-governance ➤ Entertainment • Bringing computer to life ➤ Connecting keyboard, mouse, monitor and printer to CPU ➤ Checking power supply	4
2	OPERATING COMPUTER USING GUI BASED OPERATING SYSTEM • Basics of Operating System ➤ Operating system ➤ Basics of popular operating system (LINUX, WINDOWS) • The User Interface ➤ Task Bar ➤ Icons ➤ Menu	4



	➤ Running an Application • Operating System Simple Setting ➤ Changing System Date And Time ➤ Changing Display Properties ➤ To Add Or Remove A Windows Component ➤ Changing Mouse Properties ➤ Adding and removing Printers • File and Directory Management ➤ Creating and renaming of files and directories	
3	UNDERSTANDING WORD PROCESSING • Word Processing Basics ➤ Opening Word Processing ➤ Menu Bar ➤ Using The Help ➤ Using The Icons Below Menu Bar • Opening and closing Documents ➤ Opening Documents ➤ Save and Save as ➤ Page Setup ➤ Print Preview ➤ Printing of Documents • Text Creation and manipulation ➤ Document Creation ➤ Editing Text ➤ Text Selection ➤ Cut, Copy and Paste ➤ Spell check ➤ Thesaurus • Formatting the Text ➤ Font and Size selection ➤ Alignment of Text ➤ Paragraph Indenting ➤ Bullets and Numbering ➤ Changing case • Table Manipulation ➤ Draw Table ➤ Changing cell width and height ➤ Alignment of Text in cell ➤ Delete / Insertion of row and column ➤ Border and shading	5
4	USING SPREAD SHEET • Elements of Electronic Spread Sheet ➤ Opening of Spread Sheet ➤ Addressing of Cells ➤ Printing of Spread Sheet ➤ Saving Workbooks • Manipulation of Cells	5



	➤ Entering Text, Numbers and Dates ➤ Creating Text, Number and Date Series ➤ Editing Worksheet Data ➤ Inserting and Deleting Rows, Column ➤ Changing Cell Height and Width • Formulas and Function ➤ Using Formulas ➤ Function	
5	INTRODUCTION TO INTERNET, WWW AND WEB BROWSERS • Basic of Computer Networks ➤ Local Area Network (LAN) ➤ Wide Area Network (WAN) • Internet ➤ Concept of Internet ➤ Applications of Internet ➤ Connecting to the Internet ➤ Troubleshooting • World Wide Web (WWW) • Web Browsing Softwares ➤ Popular Web Browsing Softwares • Search Engines ➤ Popular Search Engines / Search for content ➤ Accessing Web Browser ➤ Using Favorites Folder ➤ Downloading Web Pages ➤ Printing Web Pages • Understanding URL • Surfing the web • Using e-governance website	4
6	COMMUNICATIONS AND COLLABORATION • Basics of E-mail ➤ What is an Electronic Mail • Using E-mails ➤ Opening Email account ➤ Mailbox: Inbox and Outbox ➤ Creating and Sending a new E-mail ➤ Replying to an E-mail message ➤ Forwarding an E-mail message ➤ Sorting and Searching emails • Document collaboration • Instant Messaging and Collaboration ➤ Using Instant messaging ➤ Instant messaging providers ➤ Netiquettes	3
7	MAKING SMALL PRESENTATIONS • Basics	5



	➤ Using PowerPoint ➤ Opening A PowerPoint Presentation ➤ Saving A Presentation • Creation of Presentation ➤ Creating a Presentation Using a Template ➤ Creating a Blank Presentation ➤ Entering and Editing Text ➤ Inserting And Deleting Slides in a Presentation • Preparation of Slides ➤ Inserting Word Table or An Excel Worksheet ➤ Adding Clip Art Pictures ➤ Inserting Other Objects ➤ Resizing and Scaling an Object • Presentation of Slides ➤ Viewing A Presentation ➤ Choosing a Set Up for Presentation ➤ Printing Slides And Handouts • Slide Show ➤ Running a Slide Show ➤ Transition and Slide Timings ➤ Automating a Slide Show	
TOTAL		30

