GARGI EDUCATION INSTITUTE NASHIK
GARGI AGRICULTURE RESEARCH AND TRAINING INSTITUTE, (GARTI) NASHIK

Course Outcomes, Programme Outcomes at UG/PG Level
Faculty of WBAT, Computer Science and Commerce

B.Sc. (Wine, Brewing and Alcohol Technology)

Statement of programme outcomes (PO)

By the of this programme, the students will be able to ;

PO1: Understand the contribution of various scientist in wine brewing and alcohol technology and scope of various branches.

PO2: Understand the concept of alcoholic beverage and their types

PO3:Understand the basic concept of yeast technology, fermentation technology and brewing technology.

PO4: Students absorb knowledge about diverse basicproduction steps in wine and beer Production.

PO5: Understand and explain various process of chemical Plant engg. And wine marketing

PO6:Explain and describe importance of health benefits of wine, by product and waste management.

PO7:Understand the fundamental concept of viticulture, biochemistry and sensory evaluation of wine, waste management and environmental awareness etc.

PO8: Students develop the skills to think independently plan wine fortification technique and execute it in different fields of wine technology especially the environment sustainability.

PO9: Students will acquire and demonstrate competency in laboratory techniques

Semester-I

Course Outcomes:

Course code WT-101 basic microbiology papers-1

At the end of the courses, the students will be able to

CO1: Describe different structural parts and its arrangement of microbial cell.

CO2: Describe how microbiology developed and what the scope of the various is branches of the subject.

CO3: Understand the contribution of eminent scientist in the microbiology.

CO4: Understand the ultra structure of bacterial cell.

CO5: Classify the bacteria on the basis of various parameters.

CO6: Compare prokaryotic organism with eukaryotic organism.

Course code WT -102 Industrial Microbiology P-1

By the end of the course the students will be able to

CO1: Acquainting students with scope of industrial microbiology.

CO2: Understand and learn various sterilization techniques.

CO3: Describe the nutritional requirement of bacteria.

CO4: This course acquaints students with various types of preservation technique.

CO5: Understand and describe design and preparation of media.

CO6: Understand and describe filtration,disinfection and fumigation techniques.

CO7: Familiarize historical development in fermentation industry

Course code WT -103 Introductions to Botany

At the end of courses the students will be able to .

CO1: Acquire knowledge on ultra structure of cell.

CO2: Understand the structure and chemical composition of chromatin and concept of cell division.

CO3: Interpret the Mendel s Principal, acquire knowledge on cytoplasmic inheritance and

sex linked in hesitance.

CO5: Understand the fundamental concepts of plant anatomy.

CO6: Evaluate the structural organization of flowers and the process of pollination.

Course code WT-104 plant development and anatomy

At the end of courses the students will be able to

CO1: To gain knowledge of plant cells tissue and their functions.

CO2: Understand the process of microsprogenesis, megasprogenesis and double fertilization,

CO3: Enable to know the internal structure of stem, leaf and root in monocot and dicot.

CO4: Understand endosperm and its types and know the structures and development of monocot and dicot embryos.

CO5: Understand the meristematic tissue system.

CO6: Understand the plant growth and their regulators.

Course code WT-105 Basic Biochemistry paper-1

At the end of courses the students will be able to-

CO1: Understand the role of biomolecule and their functions.

CO2: Understand and describe scope of biochemistry in the field of wine technology.

CO3: Understand the structure and functions of biomolecules.

CO4: Understand the chemical structures of carbohydrate, lipid , their structural and metabolic role in callus system.

CO5: Understand the get practical knowledge of preparation of buffers and measurement of pH

CO6: Understand and describe classification of carbohydrate and lipid.

Course code WT -106 metabolic pathways paper-1

At the end of courses the students will be able to-

CO1: Understand the chemical bonding , strong and weak interactions and biological reactions.

CO2: Understand the importance of electron transport chain, synthesis of ATP under aerobic and anaerobic conditions.

CO3: To acquire knowledge related to TCA cycle in central carbon metabolism.

CO4: Understand fundamentals of high energy bond and high energy compound.

CO5: To acquire knowledge to differentiate Exothermic reactions and Endothermic reactions.

CO6: Understand the concept of fermentation.

Course code WT -107 Basic Wine Technology:

At the end of courses the students will be able to-

CO1: Understand the concept of viticulture and their terminologies.

CO2: Familiarize basic production step in white and red wine

CO3: Understand the classification of wine.

CO4: To acquire knowledge about grape vine and different grape varieties used in wine production

CO5: Understand the chemical constituents of wine.

CO6: Understand role of oak barrel in wine.

Course code WT -108- Sensory Evaluation of wine Paper – I

At the end of courses the students will be able to-

CO1: Understand and gain knowledge about the basic taste, color and aroma of wine.

CO2: Understand application of the aroma wheel and score card.

CO3: To acquire knowledge about the taste of the wine on basis of vision, smell and palate structure.

CO4: Understand and learn about the tasting room ,serving of wine.

CO5: Understand the concept of Neurophysiologic mechanism of tasting.

CO6: Understand the factors which influencing taste perception.

Semester-II

Course code WT -201 – Basic Microbiology Paper-II

At the end of course the students will be able to-

CO1: Understand the basic of microscopy, their parts, working distance, resolving power, resolution and magnification.

CO2: Understand the principal and application of bright field and dark field microscope.

CO3: Understand the bacterial growth curve.

CO4: Understand and learn various staining technique.

CO5: Understand the properties and role of fixative, mordents, decolorizer and accentuates in staining.

CO6: Understand the difference between monochrome and differential staining, gram staining.

Course code WT-202 Industrial microbiology Papers- II

At the end of the courses the students will be able to-

CO1: Understand the basic components of typical fermentation medium.

CO2: To acquire knowledge about the role of nutrients in microbial growth.

CO3: Understand the concept of stock culture and its maintenance.

CO4: Understand the fermentation process and types of fermentation.

CO5: Understand the concepts of up stream and down stream processing.

CO6: To acquire knowledge about the culture collection centers and their objective and working.

Course code WT -203 Plant Physiology.

At the end of the course the students will be able to-.

CO1: Understand the concepts of transpiration and gutation.

CO2: Understand the relations between plant water and their metabolism.

CO3: Understand the concept of pathways translocation and source sink relationship.

CO4: Understand the plant and its interaction with surrounding, biotic & Abiotic components.

CO5: To acquire knowledge about metabolic changes during seed germination and fruit ripening.

CO6: Understand the response of plant to biotic stress and abiotic stresses

Course code WT-204 Applied Botany.

At the end of the course the students will be able to-

CO1: Understand the concept of plant propagation.

CO2: To acquire knowledge of various types of propagation like sexual propagation, vegetative propagation and artificial propagation.

CO3: Understand the concept of cell theory and callus totipotency.

CO4: Understand the organ culture technique.

CO5: Understand the concept of embryo and endosperm culture.

CO6: Understand the micro propagation and somaclonal variations.

Course Code WT-205 Basic Biochemistry Paper-II

At the end of the course the students will be able to-

CO1: Understand the classification of biomolecules, like Proteins. Enzymes, Nucleic acid and vitamins.

CO2: Understand the general properties of enzyme their activation and inhibition.

CO3: Understand the general structure of DNA & RNA.

CO4: Understand the biochemical functions of fat soluble and water soluble vitamins.

CO5: To acquire the knowledge about protein denaturation and renaturation.

CO6: Understand the function of proteins.

Course Code WT-206 Metabolic Pathways Paper-II

At the end of the course the students will be able to-

CO1: Understand the protein metabolism.

CO2: To acquire the knowledge about transamination and oxidative domination.

CO3: Understand the metabolic fates of amino acid and learn about urea cycle.

CO4: Understand the biochemistry of fermentation process.

CO5: Understand the concept of homeostasis.

CO6: Understand the regulation of enzyme at different level and it's types.

Course Code WT-207 Basic of Beer, Wine and Alcohol Technology:

At the end of the course the students will be able to-

CO1: Understand the fundamentals of traditional and commercial winemaking practices.

CO2: To acquire knowledge about raw materials and equipment use in wine production.

CO3: To gain knowledge about the history of brewing.

CO4: Understand the various type of alcoholic beverages.

CO5: Understand the anatomical and chemical constituents of oak and its role.

CO6: To gain knowledge about the role of sulfur dioxide in vilification.

Course Code WT-208 Sensory Evaluation of Wine Paper-II:

At the end of the course the students will be able to-

CO1: Acquainting students with wine clarity and wine aroma.

CO2: To acquire knowledge about various wine tasting sheet.

CO3: Familiarize the students with tasting exercises and tasting situations.

CO4: To acquire knowledge about new trends in the world of wine.

CO5: Understand the rules of matching food with wine

CO6: To gain knowledge and understand the primary, secondary and tertiary wine aroma.

S.Y.B.Sc. (WBAT)

Semester-III

Course Code WT-301 Yeast Technology Paper-I :

At the end of the course the students will be able to-

CO1: Understand the yeast cell morphology, taxonomy and functions.

CO2: Understand the importance of yeast strains in wine making.

CO3: To acquire knowledge about various yeast strain preservation techniques.

CO4: To gain knowledge about normal micro floraand pathogens of grape wine.

CO5: Understand the concept of spoilage and their preventive measures in wine.

CO6: Understand the primary and secondary metabolites produced by yeast.

Course Code WT-302 Fermentation Technology Paper-I :

At the end of the course the students will be able to-

CO1: Understand the types of fermenter and fermenter configuration.

CO2: To acquire knowledge about the parts of fermenter, their body construction and temperature control.

CO3: Understand the concept of sterilization process.

CO4: To gain knowledge about how to maintenance aseptic conditions during fermentation process

CO5: Understand the fermenter operation modes.

CO6: To acquire knowledge about the utilities required for fermentation.

Course Code WT-303 Brewing Technology-I:

At the end of the course the students will be able to-

CO1: Understandthe how different beer styles are created.

CO2: Understand the fundamentals of various brewingproduction steps.

CO3: To acquire knowledge about the structure and function of barley and malt.

CO4: Understand the culture characteristic which used in brewing technology.

CO5: To gain knowledge about malt production process.

CO6: Understand diverse beer style produced in world

Course Code WT-304 Alcohol Technology-I:

At the end of the course the students will be able to-

CO1: To acquire knowledge about the raw materials used in alcohol production.

CO2: Understand various alcoholic product produced by distillation in distillery

CO3: Familiarize molasses handing, sterilization/pasteurization in distillery.

CO4: Understand the conventional batch process for distillery in fermentation.

CO5: Understand the basic and application of enzyme in alcohol production

CO6: Understand the saccharification process.

Course Code WT-305 Biochemistry Paper-I:

At the end of the course the students will be able to-

CO1: Understand the concept of extraction and purification of metabolites from fermented broth.

CO2: Understand the biological degradation of malic acid.

CO3: Understand the methodology for the microbiological stabilization of must and wine.

CO4: Understand the controlling of microbial flora and spoilage.

CO5: To acquire knowledge about fermentation and production of H_2S during wine fermentation.

C06: Understand the technique which used to determine a wine's propensity to develop turbidity and identification of sediment in wine.

C07: Understand bacterial degradation of citric acid, tartaric acid and glycerol.

Course Code WT-306 Vineyard Technology Paper-I:

At the end of the course the students will be able to-

CO1: Understand the basic concept of pedology.

CO2: Understand the relationship between grape wine and climatic factors.

CO3: To acquire knowledge about the selection of grape varieties for plantation and its various method of plantation.

CO4: To acquire knowledge about canopy management and their techniques.

CO5: Understand the concept of macro and micronutrients.

CO6: Understand the principles of weathering of rocks and materials.

Course Code WT-307 Environment Awareness:

At the end of the course the students will be able to-

CO1: Students will learn about the detailed environmental statuses.

CO2: Students will be able to understand the various varied ecosystem.

CO3: Students will understand regarding various Renewable and Non Renewable resources.

CO4: Students will learn about conservation of biodiversity.

Course Code WT-308 English Communication:

At the end of the course the students will be able to-

CO1: Reading and Understanding ability enhanced.

CO2: Discussion and reasoning ability enhanced.

CO3: Self Improvement ability enhanced.

CO4: Interviewing Techniques Enhanced.

Semester-IV

Course Code WT-401 Yeast Technology Paper-II:

At the end of the course the students will be able to-

CO1: Understand the preparation of yeast starter cultures.

CO2: Understand the concept of killer factors in fermentation.

CO3: Understand the importance of yeast in grape flavor development.

CO4: To gain knowledge about role of bacterial enzyme in varietal characteristic of wine.

CO5: Understand the controlling degree in alcoholic fermentation.

CO6: Understand aromatic substances and their transformation by yeast.

Course Code WT-402 Fermentation Technology Paper-II:

At the end of the course the students will be able to-

CO1: Understand the principles of media sterilization.

CO2: Understand the concept of media formulation.

CO3: To gain knowledge about the types of inoculums.

CO4: To acquire knowledge of microbial production of organic and amino acids.

CO5: Understand the autolysis of yeast cell.

CO6: Understand the concept of media optimization.

Course Code WT-403 Wine Technology-I:

At the end of the course the students will be able to-

CO1: To acquire knowledge about various grape varieties used in production of different red wine styles.

CO2: Comparative studies on basic production step of white and red wine

CO3: Understand pre fermentation production step in red wine making

CO4: Understand the study of different yeast strain used for red wine making.

CO4: Understand post fermentation production step in red wine making

CO5: Understand the effect of temperature on grape maturation.

CO6: To acquire knowledge about how to control wine quality.

Course Code WT-404 Wine Technology-II:

At the end of the course the students will be able to-

CO1:To acquire knowledge about various grape varieties and yeast strain used in white wine Production.

CO2: Understand pre fermentation production step in white wine making

CO3: To gain knowledge about sweet wine, sparkling wine and fortified wine

production.

CO4: To acquire knowledge about bottling like corking, sealing adjustment of sulfur dioxide.

CO5: Understand post fermentation production step in white wine making

CO6: Understand the chemical composition of grape juice.

Course Code Wt-405 Waste Treatment Paper-I:

At the end of the course the students will be able to-

CO1: To gain knowledge about waste water treatment plant design.

CO2: Understand the concept of fermentation industry waste.

CO3: Understand the types of waste, waste water treatment objectives and regulation.

CO4: Understand physical, chemical and biological process to treat waste water

CO5: Understand the sludge treatment and disposal.

CO6: Understand the concept of waste water composition and studies their characteristic.

Course Code WT-406 Vineyard Technology Paper-II:

At the end of the course the students will be able to-

CO1: understand the harvesting techniques and machinery.

CO2: To acquire knowledge about propagation technique.

CO3: Understand the bench grafting and budding technique.

CO4: Understand the reproductive and vegetative cycle of grapes.

CO5: Understand the evaluation of organic acids, minerals and nitrogen and their origin.

CO6: Understand the development stages of grape.

Course Code WT-407 Environment Awareness:

At the end of the course the students will be able to-

CO1: Students will learn about the detailed environmental statuses.

CO2: Students will be able to understand the various varied ecosystem.

CO3: Students will understand regarding various Renewable and Non Renewable

resources.

CO4: Students will learn about conservation of biodiversity.

Course Code WT-408 English Communication:

At the end of the course the students will be able to-

CO1: Reading and Understanding ability enhanced.

CO2: Discussion and reasoning ability enhanced.

CO3: General and reasoning ability enhanced.

CO4: Interviewing Techniques Enhanced.

T.Y.Bsc. (WT)

Course Code WT-331 Project 1 Viticulture Establishment:

At the end of the course students will be able to-

CO1: Track project work on viticulture topics .

CO2: Independently acquire the knowledge of viticulture research topics discussed.

CO3: Present the acquire knowledge and the results of their research to the public .

CO4: Undertake problem, identification, formulation and solution.

CO5: Project based learning connects students to the real world.

CO6: To gain practical knowledge about viticulture on field.

Course code WT-332 Basic chemical engineering principals

At the end of the course students will be able to-

CO1: Understand the fluid mechanism and properties of liquid .

CO2: Understand the concept of liquid filtration.

CO3: Understand the relationship between chemical kinetics and thermal processing Parameter.

CO4: To acquire knowledge about the energy required in wine processing

CO5: Understand the thermal properties and heat transfer.

CO6: Understand the basic design of chilling system and refrigeration system.

Course code WT-333. Winery equipment's and utilities.

At the end of the course students will be able to-

CO1: Understand the significance of winery utilities like water, electric supply, chilling systems, Computers etc.

CO2: Understand the equipment process, functions and its types.

CO3: To acquire knowledge about cleaning, hygiene and sanitation equipments.

CO4: To gain knowledge about the special lab equipments types, working and functions.

CO5: Introduce sparkling wine making equipments, their types and function.

CO6: Understand the application of packaging equipments.

Course Code WT-334 Pre & Post Fermentation Processing in Winery:

At the end of the course students will be able to-

CO1: To gain knowledge about sampling, handling, pressing, destemming process of grapes.

CO2: To acquire knowledge about the selection of yeast & consumables.

CO3: Understand the barrel fermentation and aging process.

CO4: Understand the process of malolactic fermentation.

CO5: To gain knowledge about post fermentation racking, blending, fining and filtration process.

CO6: To acquire knowledge about packaging and bulk wine as well as bottled wine storage.

Course Code WT-335 Contribution of Wine to Human Health:

At the end of the course students will be able to-

CO1: Understand the fundamentals of antioxidants

CO2: To gain knowledge about emerging research on mealtime alcohol consumption.

CO3:.Understand the moderate alcohol consumption and their associated health benefits.

CO4: To learn about usefulness of various antioxidants present in wine

CO5: Understand the role of wine antioxidants in preventing health diseases.

CO6: Understand the concept of synergism of alcohol & antioxidants in wine.

Course Code WT-336 Winery by Products and Waste Management:

At the end of the course students will be able to-

CO1: To acquire knowledge about various byproductsof winery.

CO2: Understand the methods of extraction and uses of byproducts.

CO3: Understand the cattle feed which is from winery waste.

CO4: To gain knowledge about the types of waste and their characteristics.

CO5: Understand the concept of 4R principle in waste treatment.

CO6: Understand the biological methods and integrated approach of waste treatment.

Course Code WT-341 Project-2 Winery establishment:

At the end of the course students will be able to-

CO1: Track project work on wine technology basetopics.

CO2: Independently acquire the knowledge of wine technology research topics discussed.

CO3: Present the acquire knowledge and the results of their research to the public.

CO4: Undertake problem, identification, formulation and solution.

CO5: Project based learning connects students to the real world.

CO6: To gain practical knowledge about wine technology in laboratory.

Course Code WT-342 Fruit & Fortified Wines:

At the end of the course students will be able to-

CO1: To acquired theoretical knowledge of sparkling wine production.

CO2: Understand the concept of fruit beer and alcoholic wine as compared to synthetic beverages.

CO3: Understand basic of various production step of dessert wine making

CO4: Understand the fundamentals of fortification and different fortified wine styles.

CO5: To acquired knowledge about various fruit wine preparation.

CO6: Understand the evaluation of winery for sustainable production.

Course Code WT-343 Wine Defects-Identification and Rectification:

At the end of the course students will be able to-

CO1: To acquired theoretical knowledge about identification of wine defects observed during wine production

CO2: Understand the impact of oxidation and sulfur compounds on wine quality as well as adverse effect of microbial and environmental faults in wine

CO3: Understand the effects of wine aging factors and influences.

CO4: To acquire knowledge about various practical techniques to solve defects during processing of wine.

CO5: Understand the grape aroma flavor characteristics.

CO6: Understand the utilization of various additives allowed in wine making process.

Course Code WT- 344 Wine Laws, Management & Taxation:

At the end of the course students will be able to-

CO1: Understand the historical background of wine laws.

CO2: Understand the state distribution laws.

CO3: Understand the state governing wine sales.

CO4: Understand the state governing taxation of wine.

CO5: Understand the state governing shipping of wine.

CO6: Understand the fundamentals of patents and secret process.

Course Code WT-345 Wine Market and Marketing:

At the end of the course students will be able to-

CO1: Understand the concept of wine marketing.

CO2: To acquire knowledge about global wine market.

CO3: Understand the wine marketing & sales principles, logistics and strategies.

CO4: Understand the concept of case studies.

CO5: To acquire knowledge about market and finding a niche and developing a

successful plan.

CO6: Study of the facts & figures of Indian wine market.

Course Code WT- 346 Term papers and seminars:

At the end of the course students will be able to-

CO1: Analyze a particular industry based problem or topic in depth.

CO2: Analyses their results & present the same in the form of seminars.

CO3: Investigation in advanced topics of research.

CO4: Improve fundamentals research and analysis skills.

CO5: Improve knowledge about their scientific work.

CO6: Improve their presentation skills.

M.Sc. Wine, Brewing and Alcohol Technology

Programme outcomes:

This programme intends to blend the theoretical knowledge with practical learning skills with a view to prepare students for careers in industry, notably alcoholic beverages industry such as winery, distillery and brewery etc

PO-1: Knowledge: students are encouraged to apply the knowledge of fundamentals of wine ,beer and alcohol production while dealing with complex technical problem and . A student is exposed to a wide range of topics in wine, beer and alcohol production and is given intensive training in laboratory related work. The students are encouraged to develop an ability to be a specialist in wine/beer/alcohol production.

PO-2: Problem Analyses: students will be able to conduct research literature survey, identify, formulate and analyze complex problems in wine,beer and alcohol production and reach concrete solutions using fundamental principles. Students will be able to interpret and analyze results from various experiments and draw suitable conclusions against their supported data acquired.

PO-3: Designing Solutions: students are trained to design solutions for production problems and develop a process that can meet specific needs.

PO-4: Modern tool usage: As an outcome students are trained to create, select, and apply appropriate techniques, resources and tools in the analysis and synthesis of data with an understanding of the limitations.

PO-5: Communication Development: Students will be able to communicate effectively on scientific issues with the scientific community and society at large in writing effective reports and designing documentation, make effective presentations and give and receive appropriate instructions.

PO-6: Employability: Along with academic excellence, we aim at making our students suitable for employment in alcoholic beverages industry. In the effort to train our students for industry, we attempt to seek collaboration and co-operation from various industries for organizing internship and on-campus interview.

PO-7: Ethics: Along with spirit of competitiveness among students, we give importance in developing a strong sense of ethics among Students by manifesting the impact that science has on social, economic and environmental issues. At the end of this programme students will be able to apply ethical principles and commit to professional ethics and responsibilities and norms of the wine practice.

PO-8: Environment and Sustainability: This programme facilitates understanding of the impact of the professional solutions in societal and environmental contexts through classroom discussions and research projects. At the end of this programme students will be able to identify and analyse problems deterrent to environmental sustainability and provide creative solutions towards the same.

PO-09: Science and Society: students are encouraged to apply logical reasoning based on the knowledge, skills, designing solutions to evaluate societal, health, safety issues and the responsibilities that go along with the scientific practice.

PO-10: Life-long learning: students are encouraged to volunteer and be self-motivated that will enhance society values, active involvement, personality development, self-sustainability, and employability. As such, students will be able to recognize the need for the preparation and have the ability to engage in independent and life-long learning in every broad context of technological changes

SEMESTER- I

COURSE CODE: WT-1.1 VITICULTURE

After successfully completing this course, students will be able to:

CO1: Demonstrate an advanced understanding of viticulture including operations, Physiology, vineyard management, soils, and integrated pest management.

CO2: Understand the sites selection, planting material and grapevine propagation.

CO3: Acquainting students with vineyard designing, grapevine pests and diseases.

CO4: To acquire knowledge about biotechnological tools to access genetic purity and diversity.

COURSE CODE:WT 1.2 Microbiology of Alcohol, Beer and Wine

After successfully completing this course, students will be able to:

CO1: Apply the knowledge to understand the microbial physiology and to identify the microorganisms through staining techniques.

CO2: Conceptual knowledge of sterilization and disinfection techniques.

CO3: Understand the concept of nutritional requirements ingredients of media and their types.

CO4: Understand the yeast microbiology in alcohol production and industrial importance of fermentation products.

CO5: Understand occurrence types and classification of microorganism.

CO6: Acquainting students with different mode of nutrition.

CO7: Familiarize growth kinetics of microorganism.

CO8: To acquire knowledge about mechanism of various antibiotics.

COURSE CODE: WT 1.3 Biochemistry of Alcohol, Beer and Wine

After successfully completing this course, students will be able to:

CO1: Students will provide knowledge about basic concept of living cells biochemistry.

CO2: Developed a very good understanding of various biomolecules such as protein, Carbohydrate and lipid which are required for development and functioning of a living cell.

CO3: Understand the DNA and chromosomes genetic material and organization.

CO4: Understand the concept of malo-alcoholic fermentation and production of biogenic amines & ethyl carbamate.

CO5: Familiarize students about various metabolic pathways like EMP,TCA, glycoxylate pathway and pentose phosphate pathway etc

CO6: Understand structure of DNA and chromosome as well as gain knowledge about packing of DNA into chromosome

COURSE CODE: WT 1.4 Practical-I

After successfully completing this course, students will be able to:

CO1: Experiment different microbial culturing techniques

CO2: Distinguish enzyme activity and protein estimation.

CO3: Experiment different microbial staining techniques

CO4: Experiment the immobilization and yeast handling practices.

CO5: Demonstrate key practical skills/competencies in working with microbes for study and use in the laboratory

CO6: Students are able to perform basic experiments based on biochemistry in the laboratory.

COURSE CODE: WT 1.5 Fermentation technology

After successfully completing this course, students will be able to:

CO1: Have developed a good knowledge of configuration of fermenter and their types.

CO2: Understand the concept of sterilization process.

CO3: Apply the knowledge to understand the development of inoculum.

CO4: To gain knowledge about the characteristics of ideal production media.

COURSE CODE: WT 1.6 Practical- II

After successfully completing this course, students will be able to:

CO1: Are able to perform experiments base on analysis of soil samples.

CO2: Analysis of water samples.

CO3: Study Downy mildew on infected leaves of grapevine.

CO4: Understand the grafting and pruning techniques used in grapevine.

CO5: Generation of new knowledge through small vineyard visits

SEMESTER- II

COURSE CODE: WT 2.1 Alcohol Technology-I

After successfully completing this course, students will be able to:

CO1: Acquainting students with maintenance of yeast and their propagation in distillery

CO2: To acquire knowledge about raw materials used in alcoholic fermentation in industry.

CO3: Developed a broader perspective ofalcoholic fermentation.

CO4: Understand the concept of alcohol chemistry and chemicals.

COURSE CODE: WT 2.2 Brewing Technology-I

After successfully completing this course, students will be able to:

CO1: To gain knowledge about the history, origin, classification and beer styles of industrial brewing.

CO2: Developed a clear understanding ofrequirement and importance of water in brewery.

CO3: Conceptualized hops and adjuncts as a basic raw materials in brewery.

CO4: To gainknowledge about barley and malt yeast as a raw materials.

COURSE CODE: WT 2.3 Enology-I

After successfully completing this course, students will be able to:

CO1: Acquainting students with history, current and future wine prospectus in India.

CO2: Understand the concept of principle constituents of grape juice & wine.

CO3: Familiarize students with different grape varieties utilized for production of various wine styles

CO3: Have developed an understanding of various production stages of red, white and sparkling wine.

CO4: Understand the basic concept of biochemistry of alcoholic fermentation.

COURSE CODE: WT 2.4 Practical- I

After successfully completing this course, students will be able to:

CO1: Developed experimental skills for sampling of barley and malt .

CO2: Understand the preparation of wine from grapes.

CO3: Have developed the practical skills for conducting experiments based on spirits

CO4: Students gain knowledge about how to analyzed basic parameter in wine

COURSE CODE: WT 2.5 Chemical and Plant Engineering-I

After successfully completing this course, students will be able to:

CO1: Have developed a fairly good knowledge and understanding offundamentals & principles of distilleries.

CO2: To gain knowledge about heat exchange equipment and their applications.

CO3: To acquire knowledge about the instrumentation.

CO4: Have developed basic concept of flow and level measurement.

COURSE CODE: WT 2.6 Practical- II

After successfully completing this course, students will be able to:

CO1: To gain knowledge about measurement of liquid properties.

CO2: Have developed the practical skillsof instrument calibration.

CO3: Understand the characteristics of steam distillation.

CO4: Have developed the practical skills for conducting experiments based on flow measurement and heat transfer .

SEMESTER-III

COURSE CODE: WT 3.1 Alcohol Technology –II

After successfully completing this course, students will be able to:

CO1: Understand the characteristics of various alcohols, denaturation and by products of alcohol.

CO2: To acquire knowledge about the extra neutral alcohol, anhydrous alcohol and fuel ethanol manufacture.

CO3: Have developed a fairly good knowledge and understanding of various traditional Alcoholic beverages making.

CO4: Familiarize students withanalytical aspect of alcoholic beverages

COURSE CODE: WT 3.2 Brewing Technology-II

After successfully completing this course, students will be able to:

CO1: Acquainting students with brew house technology and yeast metabolism.

CO2: Conceptualized control of brewing process.

CO3: To gain knowledge about packaging and sanitation aspects in brewery.

CO4: Have acquired a knowledge of brewery by-products and malt analysis.

COURSE CODE: WT 3.3 Enology-II

After successfully completing this course, students will be able to:

CO1: Developed an understanding of application and importance of various microbes in enology.

CO2: To acquire knowledge about sensory analysis and tasting of wine.

CO3: Understand the concept of wine parks.

CO4: To acquire knowledge about fortified wines, like sherry, port, sweet wine production.

COURSE CODE: WT 3.4 Practical- I

After successfully completing this course, students will be able to:

CO1: Have developed the practical skills for conducting experiments base on whisky sampling.

CO2: Understand the isolation techniques of lactic acid and acetic acid bacteria and yeast.

CO3: Developed skills to produced wine other than grapes as well as brandy from wine.

CO4: Have developed the practical skills for conducting experiments base on beer sampling.

CO5: Are able to perform experiments base on analysis of wine

COURSE CODE: WT 3.5 Marketing of alcoholic beverages

After successfully completing this course, students will be able to:

CO1: Familiarize students with the principles of wine marketing.

CO2: To gain knowledge about marketing opportunities.

CO3: Understand the financial management and sales, distribution channel.

CO4: Have developed a fairly good knowledge and understanding of marketing aspects of wine and brand development.

COURSE CODE: WT 3.6 Practical- II

After successfully completing this course, students will be able to:

CO1: Acquired skill to develop a strategy for marketing brand.

CO2: Are capable of developing brand and label of wine.

CO3: Understand the market forecasting & market segmentation.

CO4: Understand the bottle labeling & packaging.

SEMESTER-IV

COURSE CODE: WT 4.1 Industrial waste treatment & Environmental management

After successfully completing this course, students will be able to:

CO1: Understand the concept of waste generation and characteristics of effluent.

CO2: Provide knowledge about winery & brewery sanitization and waste disposal regulation.

CO3: Students will gain concept of waste water disposal systems in industries and air pollution.

CO4: To provide knowledge about water conservation in distilleries.

COURSE CODE: WT 4.2 Business Management

After successfully completing this course, students will be able to:

CO1: Understand the concept of business management and communication in industry.

CO2: Have developed a fairly good knowledge of production management and process.

CO3: Acquainting students with financial managements

CO4: To gain knowledge about marketing management & baying behavior as well as patents.

COURSE CODE: WT 4.3 Chemical and Plant Engineering-II

After successfully completing this course, students will be able to:

CO1: Understand the concept of mass balance and separation techniques.

CO2: To gain knowledge about heat transfer process.

CO3: To acquire knowledge about pumps and their applications.

CO4: Have developed an understanding of fluid mechanics, design of distillation column and industrial automation .

COURSE CODE: WT 4.4 Research Project

After successfully completing this course, students will be able to:

CO1: Understand some basic concepts of research and its methodologies

CO2: Analyze a particular industry based problem or topic in depth.

CO3: Analyses their results & present the same in the form of dissertation.

CO4: Investigation in advanced topics of research.

CO5: Improve fundamentals research and analysis skills.

CO6: After completing industrial training / enterprises, the students would submit training report and bring out innovations, novel ideas or the further improvements related to products being produced by such organizations

COURSE CODE: WT 4.5 Alcohol Technology-III

After successfully completing this course, students will be able to:

CO1: Have developed a very good understanding of continuous fermentation .

CO2: Understand the fed batch fermentation systems as well as production of alcohol from non-molasses sources .

CO3: Understand the importance of spectroscopic and chromatographic techniques in alcohol industries.

CO4: Understand the concept of multi pressure distillation and molecules.

COURSE CODE: WT 4.6 Brewing Technology-III

After successfully completing this course, students will be able to:

CO1: Have developed a fairly good knowledge and understanding of the beer types and their special features.

CO2: Familiarize students with process of aging & finishing.

CO3: To gain knowledge about bottling/ canning the beer.

CO4: Acquainting the students with micro/pub brewing.

COURSE CODE: WT 4.7 Enology-III

After successfully completing this course, students will be able to:

CO1: Developed knowledge of post fermentation treatments of wines.

CO2: Understand the maturation and aging of wine.

CO3: To gain knowledge about wine defects.

CO4: Full knowledge of working in blending and bottling of wine.

M.Sc. (Computer Science)

Program Outcomes:

By the end of the programme the students will be able to-

PO1: Provides technology-oriented students with the knowledge and ability to develop creative solutions.

PO2: Develop skills to learn new technology.

PO3: Apply computer science theory and software development concepts to construct computing-based solutions.

PO4: Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications.

PO5: Ability to identify entrepreneurial opportunities and leverage managerial & leadership skills for founding, leading & managing startups as well as professionalizing and growing family businesses.

PO6: Perform laboratory-orientated computer programs to demonstrate different programming language concepts.

PO7: Ability to exility a broad appreciation of the ethical and value underpinnings of

managerial choice in a political, cross-cultural, globalized, digitized socio-economic environment and distinguish between ethical and unethical behaviors & act with integrity.

PO8: Ability to aperate independently in new environment acquire new knowledge and skill and assimilate them into the internalized knowledge that and skill.

PO9: Design small executable software, useful mobile application by implementing analytical and critical thinking skills and deliver it on time in the form of report and Power Point presentation.

Sem – I

Course Outcomes:

CSUT111: Paradigm of Programming Language :

By the end of the course the students will be able to-

CO1: To Understand the basic language implementation techniques.

CO2: Develop ability to learn new languages more quickly.

CO3: To understand the concept of functional programming language.

CO4: Develop ability to learn and write small programs in different programming Languages.

CSUT112: Design and Analysis of Algorithm :

By the end of the course the students will be able to-

CO1: To design efficient algorithms using various algorithm designing strategies.

CO2: To analyze the problem and develop the algorithms related to these problems.

CO3: To classify the problem and apply the appropriate design strategy to develop algorithm.

CO4: To design algorithm in context of space and time complexity and apply Asymptotic notation.

CSUT113: Database Technologies :

By the end of the course the students will be able to-

CO1: To study types of NoSQL databases (Document oriented, key Value pairs, Column-oriented and Graph)

CO2: To understand detailed architecture, define objects, load data, query data and performance tune NoSQL databases.

CO3: Able to handle large volumes of structured, semi-structured, and unstructured data using database technologies.

CSDT114: Cloud computing (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: To understand the principles and paradigm of Cloud Computing.

CO2: Ability to design and deploy Cloud Infrastructure.

CO3: Understand cloud security issues and solutions.

CO4: Ability to understand role of Virtualization Technologies.

CO5: Design & develop backup strategies for cloud data based on features.

CSDT114: Artificial Intelligence (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: To analyze and formalize the problem as a state space, graph, Design heuristics.

CO2: Ability to represent solutions for various real-life problem domains using logic- based techniques.

CO3: Understand the numerous applications and huge possibilities in the field Of AI.

CO4: Ability to express the ideas in AI research and programming language related to emerging technology.

CSDT114: Web Services (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: To understand the details of web services technologies like WSDL, UDDI, SOAP.

CO2: Ability to learn how to implement and deploy web service client and server.

CO3: Learn how to explore interoperability between different frame works.

CO4: Understand architectural elements of a REST full system.

CSUP115: PPL and Database Technologies Practical :

By the end of the course the students will be able to-

CO1: Apply the knowledge of Scale to develop web-based applications.

CO2: Provides knowledge of code optimization.

CO3: To understand concept of interoperability.

CO4: Students are able to build and maintain the databases handling in real life applications and daily needs.

CO5: Able to perform hands-on No Sql database lab assignments that will allow students to use the four No SQL database types via products such as Cass endra, MongoDB,Neo4J and Riak.

M.Sc. (Computer Science) Sem – II

CSUT121: Advanced Operating System :

By the end of the course the students will be able to-

CO1: To design and understand the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems.

CO2: To evaluate, and compare OS components through instrumentation for performance analysis.

CO3: To analyze the various device and resource management techniques for timesharing and distributed systems.

CO4: To develop and analyze simple concurrent programs using transactional memory and message passing, and to understand the trade-offs and implementation decisions.

CSUT122: Mobile Technologies :

By the end of the course the students will be able to-

CO1: To gain knowledge of installing Android Studio and Cross Platform Integrated Development Environment.
CO2: An ability to use the techniques, skills, and modern technology.
CO3: To develop the different applications that mobile computing offers to people, employees, and businesses
CO4: To develop high levels of technical competence in the field of Mobile technology.

CSUT123: Software Project Management:

By the end of the course the students will be able to-

CO1: To identify the impact of IT projects on the performance of the organizations.
CO2: To understand, manage and develop IT infrastructure in different projects.
CO3: To develop strategies to calculate risk factors involved in it projects.
CO4: To use project management software to control the design, implementation, closure, and evaluation of it projects.
CO5: To estimate, plan, calculate, and adjust project variables.
CO6: Apply project management practices to launch new programs, initiatives, products, services, and events relative to the needs of stakeholders.

CSDT124: Project (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: To demonstrate a depth of knowledge of modern technology.
CO2: To complete an independent research project, resulting in at least a thesis publication, and research outputs in terms of publications in high impact factor journals, conference proceedings, and patents.

CO3: Students will acquire the skills to communicate effectively and to present ideas clearly and coherently to specific audience in both the written and oral forms.

CO4: Students will be able to learn on their own, reflect on their learning and take appropriate actions to improve it.

CSDT124: Human Computer Interaction (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: Apply an interactive design process and universal design principles to designing HCI systems.

CO2: To analyze and discuss HCI issues in groupware, ubiquitous computing, virtual reality, multimedia, and Word Wide Web-related environments.

CO3: Explain the importance of iteration, evaluation and prototyping in interaction design.

CO4: To analyze and identify user models, user support, socio-organizational issues, and stakeholder requirements of HCI systems.

CSDT124: Soft Computing (Choice Based Optional Paper) :

By the end of the course the students will be able to-

CO1: To discuss the ideas of fuzzy sets, fuzzy logic and use of heuristics based on Human experience.

CO2: To relate with neural networks that can learn from available examples and generalize to form appropriate rules for inference systems.

CO3: To describe with genetic algorithms and other random search procedures useful while seeking global optimum in self-learning situations.

CSUP125: Practical on Advanced OS & Mobile Technologies :

By the end of the course the students will be able to-

CO1: Student can understand internal structure and operations of OS along with

various processes including threading, inter process communication and synchronization with I/O operations.

CO2: Awareness of computational issues, resources in distributed environment.

CO3: To develop mobile computing applications by analyzing their characteristics and requirements, selecting the appropriate computing models and software architectures, and applying standard programming languages and tools.

CO4: To understand how the underlying wireless and mobile communication networks work, their technical features, and what kinds of applications they can support.

M.Sc. (Computer Science) Sem – III

CS 301: Software Metrics & Project Management:

By the end of the course the students will be able to-

CO1: Get good knowledge of the issues and challenges faced while doing the Software project Management.

CO2: To understand why majority of the software projects fails and how that failure probability can be reduced effectively.

CO3: To do the Project Scheduling, tracking, Risk analysis, Quality management and Project Cost estimation using different techniques.

CO4: Students will learn a good communication skill, improve presentation and team forming ability.

CS 302: Mobile Computing :

By the end of the course the students will be able to-

CO1: Get familiar with various generations of mobile communications.

CO2: Understand the concept of cellular communication.

CO3: Understand the basics of wireless communication.

CO4: Get the Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations.

CO5: Develop ability to develop Android Application.

CS 303: Soft Computing:

By the end of the course the students will be able to-

CO1: Understand the basic areas of Soft Computing including Artificial Neural Networks, Fuzzy Logic and Genetic Algorithms. Provide the mathematical background for carrying out the optimization associated with neural network learning.

CO2: Familiar with current research problems and research methods in Soft Computing by working on a research or design project.

CO3: Comprehend the fuzzy logic and the concept of fuzziness involved in various systems and fuzzy set theory.

CS-304: Project (Elective):

By the end of the course the students will be able to-

CO1: Demonstrate a sound technical knowledge of their selected project topic.

CO2: Undertake problem identification, formulation and solution.

CO3: Design engineering solutions to complex problems utilizing a Systems approach.

CO4: Conduct an engineering project.

CO5: Communicate with engineers and the community at large in written or Oral forms.

CO6: Demonstrate the knowledge, skills and attitudes of a professional engineer.

CO7: Project-based learning connects students to the real world.

CO8: Prepares students to accept and meet challenges in the real world, mirroring what professionals do everyday.

CS -305: Web Services (Elective) :

By the end of the course the students will be able to-

CO1: Understand Web Services and implementation model for SOA (Service Oriented Architecture)

CO2: Understand cloud computing as a web service.

CO3: Implement concepts of virtualization and data in cloud.

CO4: Understand the use of web services in B2C and B2Bapplications.

CO5: Will be able to implement an application that uses multiple web services in a realistic business scenario.

CS -306:Database and System Administration (Elective) :

By the end of the course the students will be able to-

CO1: Establish a basic understanding of the process of Database Development and Administration using MySQL.

CO2: Student will implement the concepts of both Operating Systems & Database Administration skills.

CO3: Retrieve any type of information from a data base by formulating complex queries in MySQL

CO4: Describe the important role of Linux operating system.

M.Sc. (Computer Science) Sem – IV

CS-401: Industrial Training:

CO1: Capability to acquire and apply fundamental principles of engineering.

CO2: Become master in specialized technology.

CO3: Become updated with all the latest changes in technological world.

CO4: Ability to communicate efficiently.

CO5: Ability to be a multi-skilled engineer with good technical knowledge, management, leadership and entrepreneurships kills.

CO6: Ability to identify, formulate and model problems and find engineering

solution based on a systems approach.

CO7: Capability and enthusiasm for self-improvement through continuous professional development and life-long learning.

CO8: Awareness of the social, cultural, global and environmental responsibility as an engineer.

Faculty of Commerce

Programme Outcomes :

By the end of the programme the students will be able to-

PO1: In depth knowledge, understanding and skills in commerce.

PO2: Build a strong foundation of knowledge in different areas of Commerce.

PO3: Develop the skill of applying concepts and techniques used in Commerce for real life problems.

PO4: Inculcate reading, writing, speaking skills and Business correspondence.

PO5: Creates awareness among society about Law and Legislations related to commerce and business.

PO6: Use effectively recent Trends in Business, Organizations and Industries.

PO7: Communicate effectively about Economic Environment of Country as well as World.

PO8: Use effectively practical skills in real life related to banking and corporate world.

PO9: Provides a platform for overall development and develop knowledge level and awareness about Recent Trends of World

PO10: Use new technologies effectively to communicate ideas in the area of commerce.

PO11: Critically evaluate new research findings, ideas, methodologies and theoretical frame work in specialized study.

PO12: Work collaboratively and productively in groups.

Course Outcomes :

111 Compulsory English :

By the end of the course the students will be able to-

CO1: Students have learned prose and poetry.

CO2: This course has helped the students to realize the beauty and communicative power of English

CO3: Students have learned the importance and utility of English language

CO4: Students have developed overall linguistic competence and communicative skills.

CO5: Students have developed oral and written communicative skills.

CO6: Students have learned the use of vocabulary.

112 Financial Accounting :

By the end of the course the students will be able to-

CO1: Classify liabilities under piecemeal distribution of cash and student also able to practically solve problems.

CO2: Discuss disposal of assets and liabilities not taken over by new firm in amalgamation process with example.

CO3: Explain Accounting Procedure in the books of the firm under Conversion of Partnership Firm into Ltd. Co. and solve the problems.

CO4: Demonstrate how to create a company, grouping, generation, Accounting Report with the help of Accounting Software Package.

CO5: Explain the Accounting Standard applicable in India

CO6: Explain suffered recoupment and lapse of short-working with examples.

CO7: Distinguish between Hire Purchase System and Installment System and solve problems thereon.

CO8: Demonstrate allocation of expenses on basis of Apportionment in Departmental Accounts.

113 Business Economics:

By the end of the course the students will be able to-

CO1: Students will understand basic concepts or micro economics.

CO2: Will be able to analyze and interpret.

CO3: Will know cardinal and ordinal approach.

CO4: Will understand the concept of consumer surplus.

CO5: Understand the concept of demand and elasticity demand.

CO6: Develop ability to understand the market structures under imperfect competition.

CO7: Student will understand the theory of marginal productivity.

114(B) Computer Concepts and Application:

By the end of the course the students will be able to-

CO1: Identify and discuss the different components of a personal computer system.

CO2: Explain windows operating system and its operating environment such as WAN, LAN.

CO3: Demonstrate organization of files and documents on a hard drive.

CO4: Illustrate use of MS-Word, MS-Excel and MS-Power Point as business communication tools.

CO5: Discuss computer as a tool for real life business practices such as data processing, file organization, calculation, data processing and presentation and data analysis.

CO6: Understanding the use internet for messaging, navigation and search information of various subjects through the internet.

CO7: Explain electronic data interchange and understand electronic payment system

CO8: Summarize HTML and use it for website designing.

115 Banking and Finance:

By the end of the course the students will be able to-

CO1: Students will the provide knowledge of fundamentals of Banking.

CO2: Create awareness about various banking concepts.

CO3: Understanding to conceptualize banking operation.

CO4: Knowledge of evolution of banking.

CO5: Understanding structure of Indian Banking.

CO6: Understanding primary and secondary functions of a bank.

CO7: Understanding the concepts related to lending and ratios.

CO8: Understanding various types of bank accounts holder.

116 Marketing & Salesmanship :

By the end of the course the students will be able to-

CO1: Define concept of market and Marketing

CO2: Explain marketing environment and impact of marketing environment on market decision making.

CO3: Discuss buyer behavior and factors affecting on buyer behavior and buying process.

CO4: Describe concept of product, product life cycle, pricing decision their methods and factors affecting pricing decision.

CO5: Understand the logistic management, it's importance in marketing.

CO6: Explain the term advertisement, its importance, advantages, types and role of advertisement in sales promotion.

CO7: Discuss concept of rural market, it's nature, differentiate rural and urban market and challenges before rural market.

CO8: Explain the role of modern marketing in globalized era.

Marathi :

By the end of the course the students will be able to-

CO1: Introduce students to Marathi literature, language and culture.

CO2: Create interest in Marathi literature.

CO3: Develop the literary taste of students.

CO4: Cultivate ability to appreciate literature.

CO5: Connect literature to real life experience.

CO6: Understand various branches and movements of Marathi literature.

CO7: Develop linguistic skills to meet the requirements in the age of globalization.

CO8: Importance of language in personality developments.

HINDI :

By the end of the course the students will be able to-

CO1: Introduce students to Hindi literature, language and culture.

CO2: Create interest in Hindi literature.

CO3: Develop the literary taste of students.

CO4: Cultivate ability to appreciate literature.

CO5: Connect literature to real life experience.

CO6: Understand various branches and movements of Hindi literature.

CO7: Develop linguistic skills to meet the requirements in the age of globalization.

CO8: Importance of language in personality developments.

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231 Business Communication:

By the end of the course the students will be able to-

CO1: Discuss the Meaning, Definition, Features, Principles, Importance, Process of Communication, Barriers to Communication & its Remedies.

CO2: Identify the different methods and channels of communication.

CO3: Classify the various soft-skills and its elements such as Grooming Manners and Etiquettes, Effective Speaking, Interview Skills, Listening, Group Discussion and Oral Presentation.

CO4: Describe the concept of business letter, its Meaning, Importance, Qualities or Essentials, Physical Appearance, and Layout of Business Letter.

CO5: Develop the writing skill of business letters on various situations in business like Enquiry letter, order letter, sales letter etc.

CO6: Discuss the Types & Drafting of Job Application Letters.

CO7: Study the internal office correspondence like Office Memo, Office Orders, Office Circulars, and Press Releases.

CO8: Explain the application of new technology in business communication like WhatsApp, Twitter, Facebook, LinkedIn, YouTube, Cellular Phone and Video Conferencing.

232 Corporate Accounting:

By the end of the course the students will be able to-

CO1: Study of Accounting Standards 5, 6, 10, 14, 21 with Practical Examples.

CO2: Preparation of Final Accounts- Forms and contents as per Provisions of Companies Act (As Amendment upto the beginning of the relevant academic year) As per Revised Schedule- VI.

CO3: Discuss modes of winding up and liquidation accounting process.

CO4: Summarize skills for computerized accounting like Inventory Accounting, Payroll Accounting and MIS Reports.

CO5: Explain amalgamation and absorption accounting procedure.

CO6: Illustrate external and internal reconstruction accounting procedure.

CO7: Solve the problems of holding and subsidiary company

CO8: Calculate value of shares using different methods like Net Assets Method, Yield Basis Method and Fair Value Method.

133 Business Economics (Micro):

By the end of the course the students will be able to-

CO1: Familiarize the students to the basic theories and concepts of Micro Economics and their application.

CO2: Study the relationship amongst broad aggregates.

CO3: Will understand the concept and types of cost.

CO4: Students will know about short run and long run cost concept.

CO5: Students will have knowledge about types of revenue.

CO6: Students will understand the concept of pure and perfect competition.

CO7: Will develop ability to understand the market.

CO8: Will understand the concept and theories in the factor pricing.

234 Business Management:

By the end of the course the students will be able to-

CO1: Discuss the Meaning, Definition, Features, Principles, Importance, challenges before management and Brief Review of Management Thoughts of FW Taylor & Henry Fayol.

CO2: Discuss Meaning, Definition, Nature, Importance, Forms, Types, Steps, and limitations of Planning and Decision Making.

CO3: Describe Meaning, Process & Principles, Departmentalization of Organization and Organization Structure, Staffing and Recruitment.

CO4: Discuss Meaning, Elements, Principles, Techniques & importance of Direction and

communication and Process & Barriers of Communication

CO5: Explain the different theories of motivation such as Maslow's Need Hierarchy Theory, Herzberg's Two Factors Theory, Douglas Mc Gregor's Theory.

CO6: Study the leadership style for effective management and political leadership such as Mahatma Gandhi, Dr. Babasaheb Ambedkar & Pandit Jawaharlal Nehru.

CO7: Discuss the concept Need, Techniques, difficulties, steps and techniques of co-ordination and control.

CO8: Apply the recent trends in business management like Business Ethics, Corporate Social Responsibility, Corporate Governance, Disaster Management, Management of Change.

235 Elements of Company Law:

By the end of the course the students will be able to-

CO1: Explain the Background and Salient Features of the Act of 2013, & Overview of the changes introduced by the Act of 2013 & Types of Companies based on various criteria.

CO2: Discuss the four stages of company formation and incorporation.

CO3: Study Documents required for Incorporation and Raising of Capital.

CO4: Explain the various modes of raising of capital of company including private placement, public issue, rights issue, bonus shares and the procedure for forfeiture, Re- issue of forfeiture, surrender, transfer, transmission and Nomination of shares.

CO5: Discuss Basic of MCA Portal, E-filing, DIN-Directors Identification Number and Management of Company such as Legal position of directors, Types of Directors.

CO6: Study various Key Managerial Personnel such as Managing Director, Whole Time Director, Manager, Company Secretary and Corporate Social Responsibility.

CO7: Discuss various Formalities of valid meeting such as agenda, notice, quorum, proxies, voting, resolutions, minutes, filing of resolutions, Virtual Meeting.

CO8: Study the procedure of revival and rehabilitation of sick companies, Compromises, Arrangements and Amalgamation and winding of company.

236(A) Business Administration:

By the end of the course the students will be able to-

CO1: Define Basic Concept of Business Administration and identify the Functions of Business Administration

CO2: Outline and Discuss the various Forms of Business Organization.

CO3: Summarize Business Environment Factors and its Implications

CO4: Understand and Design the proposal for promotion of Business Units.

CO5: Understand and Demonstrate the Legal Aspect and required Documents for Establishment of Business unit.

CO6: Describe the Concept of Productivity and Getting the Knowledge for Appling for getting Certificate of ISO 9000 and ISO 14000.

CO7: Describe and Discuss the Recent Trends in Business.

CO8: Recognize the Problems of Industrial Sickness and Find out and determine the Solutions for Industrial Sickness.

236(B) Banking and Finance:

By the end of the course the students will be able to-

CO1: Knowledge about Indian Banking System.

CO2: Understanding the structure of Indian Banking. Analyze the role of banking in economics development.

CO3: Knowledge about working of Central Banking in India.

CO4: Understanding the functioning of private and public sector banking in India.

CO5: Understanding of role and performance of Private Banking in India analyze the past and present.

CO6: Analyze the functioning of development Banking.

CO7: Create the awareness about Banking Sector Reforms.

236(G) Cost and Works Accounting:

By the end of the course the students will be able to-

CO1: Define concept of cost, Costing, Cost Accounting and Cost Accountancy

CO2: Classify different element of cost like Material, Labour and other Expenses.

CO3: Discuss Need and Essentials of Material Control, Functions, procedures and

documentation of Purchase Department and types of Stock Levels.

CO4: Calculate stock levels such as FIFO, LIFO, Simple Average Methods, and Weighted Average Methods

CO5: Identify store location and layout and apply pricing methods of issue of material.

CO6: Study the various methods of calculating Labour Cost, Remuneration and Incentives such as Time Rate System, Taylor's Differential Piece Rate System, Halsay Premium Plan, and Rowan Premium Plan.

CO7: Discuss and interpret labour turnover ratio, Merit Rating, Job Analysis & Job Evaluation Key

CO8: Illustrate the practical problem on Direct cost.

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351 Business Regulatory Framework:

By the end of the course the students will be able to-

CO1: Define the terms Contract, Offer, Acceptance, Consideration, Consent, Free-Consent, Discharged of Contract. Explain legal rules as to valid offer, acceptance, consideration, consent, free-consent, discharged of contract.

CO2: Define the terms Partnership, LLP, Designated partner. Explain the rights & duties of partners under Partnership Act,1932. Describe incorporation of LLP, liabilities of LLP & partners, their relations, Financial Disclosure, Conversion, Winding up and Dissolution of LLP.

CO3: Define the terms Sell, Agreement to Sell, Conditions &Warranties, Unpaid seller. Describe implied conditions and warranties, Explain the rights of unpaid seller, explain legal provision regarding transfer by non-owners.

CO4: Explain e-Contracts, Digital Signature, describe formation, recognition of E-Contracts. Discuss the functions of Digital Signature and Digital Certificate.

CO5: Define the terms Consumer, Complaint, Services, unfair trade practices, restrictive trade practices. Explain consumer protection councils, redressal agencies, describe the procedure to file complaint and resolve the complaint, relief available to customers.

CO6: Discuss the objectives, organs, programs, activities of WIPO. Define the terms

Patent, Copyright, Trademarks, Design, Geographical Indication, Trade secrets and Traditional Knowledge.

CO7: Define the terms Negotiable Instruments, Promissory Note, Bill of Exchange, Cheque, Explain the essentials of N.I. Discuss Holder, Holder in due course, privileges of Holder in due course, kinds of endorsement.

CO8: Explain Arbitration, essentials of arbitration agreement. Describe rights and duties of arbitrator. Define and explain Conciliation.

352 Advance Accounting:

By the end of the course the students will be able to-

CO1: Impart the knowledge of Indian accounting standards and IFRS like AS- 3, AS-7, AS-12, AS-15 AS-17 to AS-25.

CO2: Discuss Banking Company, Legal Provisions, Non - Performing Assets (NPA), Reserve Fund, Acceptance, Endorsements & Other Obligations and Preparation of Final Accounts in vertical form as per Banking Regulation Act 1949.

CO3: Calculate amount of insurance claims using various methods like Claim for Loss of Stock, claim for Loss of Profit and Claim for Loss of Fixed Assets.

CO4: Explain co-operative society and prepare financial reports as per Maharashtra State Co-operative Societies Act.

CO5: Describe indirect tax like VAT & VAT Report, Service Tax, Central Value Added Tax and Income Tax - Tax Deducted at Source (TDS) and calculate tax liability using computer.

CO6: Discuss the methods of maintaining accounts of different types of branches and Goods supplied at Cost & Invoice Price.

CO7: Ascertain profit or loss by using various methods in single entry system like Preparation of Cash Book, Total Debtor Account, Total Creditor Account, and Final Accounts.

CO8: Analysis and evaluate the financial performance using various ratios like Gross Profit Ratio, Net Profit Ratio, Operating Ratio, Stock Turnover Ratio, Debtor Turnover Ratio, Current Ratio, Liquid Ratio, Debt to Equity Ratio.

353 Indian and Global Economic Development:

By the end of the course the students will be able to-

CO1: Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy.

CO2: Students will be able to understand the various aspects of development in Agricultural, Industrial and service sector in India.

CO3: Student will be able to critically evaluate the role of India in international economy.

CO4: Students will be able to evaluate the working of international financial organization and institutions.

CO5: Students will understand basic concepts of Development.

CO6: Will be able to analyze and interpret critically.

CO7: Will know Difficulties in agricultural development in India.

CO8: Will understand the sources of agro finance marketing.

354 Auditing & Taxation:

By the end of the course the students will be able to-

CO1: Discuss the various concepts of audit like Types of errors and frauds, Various Classes of Audit, Audit programme, Audit Note Book, Working Papers, Internal Control-Internal Check-Internal Audit

CO2: Explain verification and valuation of assets and liabilities and Auditing and Assurance Standards like AAS- 1,2,3,4,5,28,29.

CO3: Recognize Company Auditor like his Qualification, Disqualifications, Appointment, Removal, Rights, Duties and liabilities.

CO4: Explain tax audit with computerized system and Scope of Auditor's Role under Income Tax Act.

CO5: Define various concepts under Income Tax act 1961like Income, Person, Assesse, Assessment year, Pervious year, Agricultural Income, Exempted Income, Residential Status of an Assesse, PAN, TAN.

CO6: Calculate Taxable Income under Head of Income like Income from Salary, Income from House Property, Profits and Gains of Business and Professions, Capital Gains and Income from other sources.

CO7: Calculate total taxable Income and tax liability of an individual under chapter VIA i.e. deductions u/s-80C to 80 U

CO8: Explain procedure of individual income tax filing and Income Tax Return Filing and Structure, Functions and powers of various Income Tax Authorities.

355 (a) Business Administration-II:

By the end of the course the students will be able to-

CO1: Discuss Meaning, Objectives of Human Resource Function, Organization, Human Resource Planning, and Emerging Concept of H.R.D. – Quality Circles –Kaizen – Voluntary Retirement Schemes.

CO2: Discuss Methods of Recruitment of manpower, Types of Interviews, and Types and Methods of Training Programmes.

CO3: Understand Career Planning Process and succession planning and Types of Career Opportunities in Public Sector and Private Sector.

CO4: Study Performance Appraisal Process its Methods and Techniques.

CO5: Discuss Scope, objectives classification and functions of marketing.

CO6: Discuss 4 P's of marketing mix like Product, Price, Place and Promotion.

CO7: Explain the Meaning, Scope, Importance, Role of advertising in modern business, Criticism on Advertising practices, Advertising media, Ethics and future in advertising.

CO8: Analyze the various modern marketing trends like Global marketing, Marketing Research, Retailing, E-Marketing, Telemarketing, Internet Marketing and M-Marketing.

Business Administration- III

By the end of the course the students will be able to-

CO1: Define the Basic Concept of Money and Finance and Describe the Functions of Money and Finance.

CO2: Student Explain the Steps in Financial Planning its characteristics of financial planning. Scope, Importance, Advantages, Limitations, of Financial Planning

CO3: Describe Capitalization and Recognize the Causes and Effects of Fair, Over and Under Capitalization.

CO4: Evaluate and Distinguish the Sources of Capital and Judge the Appropriate Source for Capital Requirement of Business.

CO5: Explain the Various Methods of Production and identify the Functions and Responsibilities of Production Management.

CO6: Understand the Preparation of Plant Layout, the Importance of good layout, factors relevant for choice of layout, Line, Process and Product layout

CO7: Apply the Various techniques of Inventory Management like EOQ, Material Requisition Planning (MRP), Just in Time (JIT), ABC Analysis.

CO8: Explain and Get the Knowledge of the Various Material Handling Devices in Business like fork lift truck, platform truck, straddle carrier, chain hoist, roller and belt conveyor, bridge crane, crawler crane.

(B) Banking and Finance:

By the end of the course the students will be able to-

CO1: Understanding the Indian Financial System. Understanding the meaning, structure and role of Financial System in India.

CO2: Understanding the meaning, functions, credit instruments, deficiencies and recent development in Money Market in India.

CO3: Understanding the meaning, definition functions, credit instruments, deficiencies and recent Development in Capital Market in India.

CO4: Understanding the meaning, definition functions, participants and recent development in Foreign Exchange Market.

(E) Cost and Works Accounting-II:

By the end of the course the students will be able to-

CO1: Define Overheads and classify types of overheads like functional, behavior wise, Element wise, Control wise, and Normality.

CO2: Describe accounting of overheads and apply apportionment and reapportionment of overheads.

CO3: Explain methods of overhead absorption like Under and Over Absorption of overheads its Meaning, Reasons and Accounting treatment.

CO4: Recognize Stages in Activity Based Costing, purpose and benefits of activity based

costing.

CO5: Discuss Job Costing its Meaning, Features, Advantages and Limitations.

CO6: Analyze and evaluate procedure of contract costing like Work Certified and Uncertified, Escalation clause, Cost Plus contract, work-in- progress.

CO7: Prepare process cost accounting including normal and abnormal loss/gain and Joint Products and by Products.

CO8: Prepare service costing in Motor transport service, Hospital and Hotel Organization.

(E) Cost and Works Accounting-III:

By the end of the course the students will be able to-

CO1: Discuss the meaning and concepts of marginal costing like Fixed cost, Variable costs, Contribution, Profit-volume Ratio, Break-Even Point & Margin of Safety and its application.

CO2: Discuss Definition and Meaning, Objectives, Procedure and Types of budgets.

CO3: Understand the concept of uniform costing and inter- firm comparison like Meaning and, objectives, Advantages and disadvantages.

CO4: Explain Meaning, objectives, Advantages and Procedure of MIS in costing.

CO5: Define standard cost & standard Costing, Variance Analysis & its Significance and to calculate different types of variances like Material & Labour variances.

CO6: Discuss Meaning, Features, Advantages & Limitations of Farm Costing and preparation of farm cost statement.

CO7: Identify different cost accounting record rules u/s 148 of the companies Act 2013.

CO8: Understand the legal provisions of cost audit like Cost Audit Report and Annexure to cost Audit Report, Cost Accounting Standards issued by Institute of Cost and Management of India and Generally accepted Cost Accounting principles.

M.Com

Semester-I

Programme Outcomes:

By the end of the programme the students will be able to-

PO1: Aware the internal and external effects in developing business strategy.

PO2: Express an understanding of the tools and techniques necessary for research in Business.

PO3: Trained the students' well-acquainted regarding current financial structure.

PO4: Versatile the nature of HRM and the study of linkage between labour and management.

PO5: Inculcated students to acquire sound knowledge, concept and structure of capital market and financial services.

PO6: Develop competence with their usage in managerial decision making and control.

PO7: Identify the role of production and operation functions in business.

PO8: Illustrate the implications of various financial ratios in decision making.

PO9: Correlate the manufacturing technology and its role in developing business.

PO10: Criticize the business ethics and professional values in running business.

PO11: Gain ability to solve problems relating to Company Accounts, Valuations and special types of situations.

PO12: Equip with the advanced knowledge of techniques and methods of planning and executing the management audit.

101: Management Accounting

By the end of the course the students will be able to-

CO1: Explain the concepts of Management Accounting in organizational business environment.

CO2: Demonstrate various tools of financial statements of organizational financial performance.

CO3: Illustrate methods of financial statement analysis of an organization.

CO4: Assess different types of ratios of organizational financial performance.

CO5: Estimate the cash flow of liquidity capacity of firm.

CO6: Assess minimum working capital required for running organization.

CO7: Describe concept and types of responsibility centre accounting for management controlling.

CO8: Calculate sources and applications of funds of organization.

102: Strategic Management

By the end of the course the students will be able to-

CO1: Describe different approaches of strategic decision making in corporate environment.

CO2: Describe various strategies of business and factors affecting on it.

CO3: Analyze techniques of organizational strengths, weakness, opportunities and threats (SWOT).

CO4: Analyze effectiveness and its utilization in corporate strategic planning.

CO5: Illustrate the different alternatives of corporate strategies.

CO6: Develop allocation of resources for defining corporate strategy of business.

CO7: Describe the different functional strategies for organizational effectiveness.

CO8: Evaluating the Strategic Performance with actual performance.

Group A (Advance Accounting & Taxation)

103: Advanced Accounting

By the end of the course the students will be able to-

CO1: Describe conceptual framework of accounting in business.

CO2: Describe Professional development of accounting in India.

CO3: Estimate the consolidated financial statements of holding and subsidiary types of companies.

CO4: Prepare statement of affairs for liquidation of company.

CO5: Explain the different methods of valuation of shares of company.

CO6: Differentiate different methods of valuation of goodwill of organization.

CO7: Interpret the concept of national and international branch account.

CO8: Prepare final statement of liquidation of company.

104: Income Tax:

By the end of the course the students will be able to-

CO1: Describe Income Tax structure in India.

CO2: Compute the Income form salary of individual person from different background.

CO3: Demonstrate the problems on Income from House Property.

CO4: Illustrate income from various types of business and profession.

CO5: Demonstrate the problems on Income from Capital gain.

CO6: Describe income from different sources of an individual.

CO7: Solve problems on total taxable income.

CO8: Examine assessment of firms and their partners related to calculation of tax.

Group B (Commercial Laws & Practices)

105 Information system and E-Commerce practice:

By the end of the course the students will be able to-

CO1: To understand Transaction Processing Systems, Management Information systems, Decision Support Systems and Executive Support systems

CO2: To understand the concept of E-Commerce in relation to various business applications such as Document automation in supply chain and logistics, Enterprise content management, Conversational commerce etc.

CO3: To get knowledge of the inter-organizational information system for managing Inter organizational activities of virtual organizations, extended enterprises, and transenterprise systems.

CO4: To understand various e-Commerce functions along with electronic payment systems- Security measures and mechanism of Digital signature.

106 Intellectual Property Law:

By the end of the course the students will be able to-

CO1: To equip and train the students to accept the challenges of existing business environment.

CO2: To develop independent logical thinking and facilitate students to enhance their personality.

CO3: To equip the students for seeking suitable careers in management and

entrepreneurship in the field of IPRs.

CO4: To study methods of Data collection and its interpretations.

CO5: To develop among students Communication and critical thinking skills.

Group C (Advanced cost accounting & cost system)

107 Advance cost accounting:

By the end of the course the students will be able to-

CO1: Development of overall outlook of Cost Accounting.

CO2: Understanding the related weightage of employee cost in the total cost of Product/service.

CO3: Understand the significance of overheads in the total cost of product/service.

CO4: Understand formats of cost sheets as per Industry Specifications.

108 Costing technique examinations and responsibility accounting:

By the end of the course the students will be able to-

CO1: Students are expected to understand the role of Budget in the process of Cost Control and Decision Making.

CO2: Skills in computation and analysis of various variances.

CO3: Understand the concepts of Uniform Costing and Inter.

CO4: Understand the relevance of Cost Accounting Data as a part of monitoring various segments of business.

Group D (Co-operation & Rural Development)

109 Co-operative movement in India:

By the end of the course the students will be able to-

CO1: Understanding of basic knowledge of Co-operative Movement in India Understanding the Problems and Challenges of Co-operative movement in India.

CO2: Understanding of Study of Co-operative legislations in Maharashtra. Learning functioning of Co-operative Society.

CO3: Understanding the structure of co-operative department.

CO4: Understanding the role of various committees and institutional for support to co-operative movement

110 Organized of Co-operative Business:

By the end of the course the students will be able to-

CO1: Understanding of basic knowledge of Rural development in Maharashtra Understanding The problems and challenges of rural development in Maharashtra.

CO2: Understanding rural development in Maharashtra and India. Understanding the problems of rural development in Maharashtra.

CO3: Understanding the problems and Challenges for rural development in India and the Role of government for Rural development.

CO4: Understanding Rural Development Planning and Management.

Group E (Business Practices & Environment)

111 Organization traders and markets:

By the end of the course the students will be able to-

CO1: Understanding of basic knowledge of Modern Business and how to start a new business Understanding various markets and its relation in framing business policies.

CO2: Learning the concept of E-Commerce and its practical application in business world Learning functioning of Service Sector and its growth in India.

CO3: Evaluate the performance of FDI in development of business sector in India Understanding the role of trading corporations in India.

CO4: Understanding the procedure of Co-operative Marketing, Direct Marketing and functioning of Malls.

112 Business Environment and Policy:

By the end of the course the students will be able to-

CO1: Understanding of basic knowledge of nature, Importance and Aspects of Environment.

CO2: Learning the concept of Unemployment, Poverty, and Regional Imbalance and to find out Remedies of these problems.

CO3: Evaluate the performance of application of Govt. Policies.

CO4: Understanding the importance, scope, effects and challenges of Globalization.

Group F (Business Administration)

113 Production and operation management:

By the end of the course the students will be able to-

CO1: Recognize the inherent conflict of interest in many business decisions relating to safety consideration and environmental aspects.

CO2: Awareness on Career opportunities in Supply Chain Management. Introduction to Alternative Career opportunities.

CO3: Development of Innovative abilities and Application oriented skills.

CO4: Awareness on the recent and emerging areas Change in overall perception towards quality Enhancement.

114 Financial Management:

By the end of the course the students will be able to-

CO1: Developing understanding on Financial Management.

CO2: Developing Financial Statement analysis skills.

CO3: Developing Decision making Skills.

CO4: Developing skills for effective Credit and Working Capital Management.

Group G (Advance banking and finance)

115 Legal framework of banking:

By the end of the course the students will be able to-

CO1: Acquaint the students with legal framework in which the Indian banking is working today.

CO2: Make the students aware about the latest developments in the field of banking law.

CO3: Enable the students to understand modern banking practices.

CO4: Enable the students to establish a link between the legal provisions and the practical aspects of banking.

116 Central Banking:

By the end of the course the students will be able to-

CO1: Understanding the students with RBI's various functions.

CO2: Make the students aware about the latest developments in the field of Para banking

and NBFCs in India.

CO3: Enable the students to understand the role of central banking especially in India.

CO4: Enable the students to acquire sound knowledge of working and techniques of central bank.

Group H (Advance Marketing)

117 Marketing techniques:

By the end of the course the students will be able to-

CO1: Students will understand various approaches to study marketing and also get sufficient knowledge about the factors which influencing marketing environment.

CO2: Students will get in-depth knowledge about Product Mix and Price Mix.

CO3: Students will understand about Place Mix and Promotion Mix.

CO4: Students will aware about various tools of Public Relation and also e-marketing promotion.

118 Consumer behavior:

By the end of the course the students will be able to-

CO1: To equip and train Post Graduate students to accept the challenges in the field of marketing by providing opportunities. to study and analyze advanced marketing techniques.

CO2: Develop students' independent logical thinking and facilitate personality development.

CO3: Prepare the students for seeking suitable careers in the field of marketing.

CO4: Impart the knowledge about how to collect the data and interpret it.

CO5: Develop among students Communication and Analytical skills.

Semester-II

201 Financial analysis and control:

By the end of the course the students will be able to-

CO1: Describe concepts of capital budgeting.

CO2: Compute different tools and techniques to identify capital budgeting.

CO3: Explain Tabulated measurement of cost of capital.

CO4: Interpret expression view of marginal costing.

CO5: Evaluate practical problems on marginal costing which correlates to BEP and P/V analysis.

CO6: Illustrate short run managerial decision analysis.

CO7: Distinguish concept of budget and budgetary control.

CO8: Comparative study of different variance analysis.

202 Industrial Economics :

By the end of the course the students will be able to-

CO1: Explain concepts of industrial economics.

CO2: Describe relationship between industrial and economic development.

CO3: Classify factors influencing industrial location.

CO4: Explain major factors affecting industrial efficiency.

CO5: Compare private and public industrial profile and their problems.

CO6: Describe structure of Indian industries.

CO7: Explain role of Micro, Small and Medium Enterprises.

CO8: Summarize concept of industrial imbalance.

Group A (Advance accounting & taxation)

203 Specialized areas in accounting:

By the end of the course the students will be able to-

CO1: Explain contract accounting for government constructions of business.

CO2: Interpret preparation of contract accounts.

CO3: Describe accounting for corporate restructuring.

CO4: Illustrate Special Features of Accounting for Educational.

CO5: Demonstrate service sector accounting in different areas of business.

CO6: Illustrate issues arrives with financial statements of companies.

CO7: Explain corporate financial reporting in different streams.

CO8: Evaluate accounting for corporate taxation.

204 Business tax assessment & planning:

By the end of the course the students will be able to-

CO1: State the concepts of tax assessment according to profitable, non- profitable and co-

operative business.

CO2: Explain the tax problems on assessment of profitable, non- profitable and co-operative business.

CO3: Describe Income Tax authorities and its structure in India.

CO4: Solve problems on Tax Deducted at Source.

CO5: Explain concept of tax planning and management.

CO6: Describe the theory and problems on wealth tax.

CO7: Describe concept of GST.

CO8: Describes registration of GST of tax payer.

Group B (Commercial laws and practices)

205 E-Security & cyber laws:

By the end of the course the students will be able to-

CO1: Understand the nature of different Computer Crimes and ways to protect systems from them and become aware of E-Commerce systems and Issues.

CO2: To get acquainted with various concepts relating to E-Security and to understand different threats to E-Transactions, security measures, Information System Controls and Secure Electronic Transaction Protocol.

CO3: To introduce Students about Cyber Laws legality of E-Transactions.

CO4: To study various legal provisions of the Information Technology Act relating to E-Governance, Digital signatures etc.

CO5: To get sensitized on various penalties for the cyber wrongs provided in the Information Technology Act, 2000 and relevant amendments in certain other Laws.

206 Law regulating to copyrights & design:

By the end of the course the students will be able to-

CO1: Acquainting students with historical aspects and conceptual framework of Copyrights. Making them aware of various legal provisions of Copyrights along with few relevant decisions of the Courts.

CO2: Introducing students with conceptual framework and scope of Designs. Making them aware of various legal provisions of Designs Act along with few relevant decisions of the Courts.

CO3: Acquainting students with conceptual framework and scope of Geographical indications of goods.

CO4: Making them aware of various legal provisions of The Geographical Indications of Goods (Registration and Protection), Act, 1999 along with relevant rules.

CO5: Making them aware of various legal provisions of The Protection of Plant Varieties and Farmers Rights Act, 2001 along with relevant rules.

Group C (Advance cost accounting and cost system)

207 Application cost accounting:

By the end of the course the students will be able to-

CO1: Learners must be able to reconcile the cost and financial data.

CO2: Understand the concepts of PLC and VCA.

CO3: Understand the Cost Distortions in Traditional Costing and compare it with ABC .

CO4: Get insight into the concept of Transfer Pricing & Target Costing.

208 Cost control & cost system:

By the end of the course the students will be able to-

CO1: Students must understand the role of Marginal Costing in short term decision making.

CO2: Understand the relevance of pricing.

CO3: Students will be able understand process of installation of costing system.

CO4: Develop insight into Cost Reduction and Cost Control technique & to understand measurement of productivity.

M.Com-II

301 Business Finance:

By the end of the course the students will be able to-

CO1: Define concepts of business finance in Indian Financial System.

CO2: Identify categories of business finance.

CO3: Illustrate role of strategic financial planning in business finance.

CO4: Distinguish comparison between over Capitalization & under capitalization.

CO5: Discuss companies Act 2013.

CO6: Classify sources of long term finance.

CO7: Define concept of short term finance.

CO8: Illustrate role of working capital in the business organization.

302: Research Methodology for Business.

By the end of the course the students will be able to-

CO1: Define concepts of Research in business.

CO2: Interpret different steps in business research process.

CO3: Rewrite formulation of research problem in writing of research report.

CO4: Illustrate various sample and sampling methods in business research.

CO5: Distinguish primary and secondary methods of data collection for research.

CO6: Describe various techniques of data processing in research.

CO7: Explain writing skill for research project report in business.

CO8: Describe various ways of citation & bibliography for writing of report in business.

Group A (Advance accounting & taxation)

303 Advanced Auditing

By the end of the course the students will be able to-

CO1: Describe concepts of auditing in a business.

CO2: Differentiate valuation and verification of assets and liabilities of company.

CO3: Explain the overview of accounting Standard setting process.

CO4: Describe concept of internal control system in an organization.

CO5: Express audit of private limited companies.

CO6: Describe concept of corporate governance of business.

CO7: Discriminate role of audit committee in an organization.

CO8: Estimate Computerized Information System environment of business.

304 Specialized Areas in Auditing

By the end of the course the students will be able to-

CO1: Describe concepts of audit under tax laws.

CO2: Describe classification of Audit as internal audit.

CO3: Explain audit of different banks.

CO4: Illustrate audit report of banks.

CO5: Describe internal control of auditing.

CO6: Describe audit report of cooperative societies.

CO7: Describe government system of audit.

CO8: Explain role of Controller and Auditor General of India.

Group C (Advance Cost Accounting & Cost System)

307 Cost Audit:

By the end of the course the students will be able to-

CO1: Understand importance of cost audit.

CO2: Understand the role and responsibility of cost auditor.

CO3: Able to prepare plan for cost audit.

CO4: Able to understand how to draft Cost Audit Report.

308 Management Audit:

By the end of the course the students will be able to-

CO1: Understanding importance of management Audit.

CO2: Understanding the Procedure Of Management Audit.

CO3: Understanding Corporate Image in Management Audit.

CO4: Able To Understand Different Areas Of Management Audit.

CO5: Help To Understand Operational Audit.

Group F (Business Administration)

313 Human Resource Management:

By the end of the course the students will be able to-

CO1: Describe concept, approaches, and functions of HRM in Indian business context.

CO2: Identify concept of HR environment in organization.

CO3: Illustrate different methods of recruitment of organization.

CO4: Interpret training process in business organization.

CO5: Classify methods of performance appraisal.

CO6: Explain concept of merit rating in Human Resource Management.

CO7: Classify different kinds of retirement.

CO8: Differentiate new trends in customer service management.

314 Organizational Behavior:

By the end of the course the students will be able to-

CO1: Define concepts of organizational behavior.

CO2: Illustrate role of information technology in an organization.

CO3: Identify concept of Horizontal network and virtual design of organization.

CO4: Describe Attributes of personality & dimensions of attitude.

CO5: Classify theories of motivation.

CO6: Define concept of emotional intelligence in the workplace.

CO7: Differentiate various types concept of stress, conflict and groups.

CO8: Classify different types of teams & team building.

Semester IV

401 Capital Market and Financial Services:

By the end of the course the students will be able to-

CO1: Define capital market instruments.

CO2: Differentiate forward, future and option contracts.

CO3: Explain stock market in detail.

CO4: Illustrate functions of primary and secondary market in financial market.

CO5: Classify different types of mutual funds.

CO6: Describe concept of portfolio management and credit rating.

CO7: Illustrate role of SEBI in financial intermediaries.

CO8: Demonstrate recent trends in Securities and Exchange Board of India.

402 Industrial Economic Environment:

By the end of the course the students will be able to-

CO1: Define concept of industrial finance.

CO2: Explain new industrial policy 1991.

CO3: Demonstrate effects of new industrial policy on industry.

CO4: Illustrate industrial development & environmental problems.

CO5: Explain different issues in information technology.

CO6: Describe present position of IT industries in India.

CO7: Interpret concept of industrial relations.

CO8: Assess causes of industrial disputes.

Group C (Advance cost accounting & cost system)

407 Recent advances in cost auditing and cost system:

By the end of the course the students will be able to-

CO1: Describe International Financial Reporting Standards.

CO2: Enumerate corporate governance.

CO3: Describe forensic accounting.

CO4: Illustrate Employee Stock Options accounting.

CO5: Explain Accounting for Intellectual Property Rights.

CO6: Describe environmental accounting.

CO7: Record provisions for direct tax.

CO8: Describe non-financial reporting requirements.

Group F (Business Administration)

413 Recent advances in business administration:

By the end of the course the students will be able to-

CO1: Define concepts of change management.

CO2: Describe dimensions and approaches of change management.

CO3: Demonstrate concept of Total quality management.

CO4: Define six sigma techniques in quality management.

CO5: Describe Global management system and its significance.

CO6: Illustrate role of merger and acquisition in corporate organization.

CO7: Interpret techniques of turnaround management strategies.

CO8: Analyze key steps in innovation management.

Project Work

By the end of the course the students will be able to-

CO1: Describe concepts of Research in business.

CO2: Prepare synopsis for project report.

CO3: Construct formulation of research problem.

CO4: Modify sample and sampling methods.

CO5: Classify primary and secondary methods of data collection.

CO6: Describe analysis and interpretation of data.

CO7: Rewrite report in different areas.

CO8: Summarize modes of citation & bibliography.