Bhujbal Knowledge City
MET's Institute of Technology, Polytechnic, Nashik
Department of Civil Engineering

Course Outcomes
MSBTE prescribed syllabus, as per the Scheme 'I'

Semester-I (I scheme)	
Course Title- Course Code-22001	
22001.a	Use computer system and its peripherals.
22001.b	Prepare business document using word processing tool.
22001.c	Interpret data and represent it graphically using spread sheet.
22001.d	Prepare professional presentations.
22001.e	Use different types of web browsers.
Course Title- Course Code-22002	
22002.a	Draw geometrical figures and engineering curved.
22002.b	Draw the views of given object using principles of orthographic projection.
22002.c	Draw isometric views of given component.
22002.d	Draw free hand sketches of given engineering element.
Course Title- Course Code-22004	
22004.a	Select tools and machinery according to job.
22004.b	Prepare job according to drawing.
22004.c	Operate equipment and machinery in different shops.
22004.d	Maintain workshop related tools, equipment and machinery
Course Title- Course Code-22101	
22101.a	Formulate grammatically correct sentences.
22101.b	Compose dialogues and paragraphs for different situation.
22101.c	Use relevant words as per context.
22101.d	Delivery prepared speeches to express ideas thoughts and
Course Title- Course Code-22102	
22102.a	Use relevant engineering material in industry.
22102.b	Use corrosion preventive measures in industry.
22102.c	Estimate errors in the measurement of physical quantities.
22102.d	Apply the analysis process in industries.
Course Title- Course Code-22103	
22103.a	Apply the concepts of statistics to solve engineering related problems.
22103.b	Use basics concepts of statistics to solve engineering related problems.
22103.c	Solve the problems based on measurement of regular closed figures and regulary solids.
22103.d	Utilize basic concepts of trigonometry

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Semester- II (I scheme)	
Course Title-Applied Mathematics Course Code-22201	
22201.a	Calculate the equation of tangent,maxima,minima,radius of curvetureby differtiation
22201.b	Solve the given problem of integartion using suitable methods
22201.c	Apply the concept of integration using suitable methods
22201.d	Solve the differtntial equation of first order and first degree using suitable methods.
22201.e	Aplly the concept of numerail inetgration to investigate the area.
Course Title-Applied science (Physics and chemistry) Course Code-22202	
22202.a	Select relevant material in industry by analyzing its physical properties.
22202.b	Apply laws of motion in various applications.
22202.c	Use relevant fuel in relevant application
Course Title-Applied Mechanics, Course Code-22203	
22203.a	Identify the force systems for given conditions by applying the basics of mechanics
22203.b	Select the relevant simple lifting machine(s) for given purposes
22203.c	Determine unknown force(s) of different engineering systems
22203.d	Check the stability of various force systems
22203.e	Apply the principles of friction in various conditions for useful purposes
22203.f	Find the centroid and Centre of gravity of various components in engineering systems
Course Title-Construction Material , Course Code-22204	
22204.a	Identify relevant construction materials
22204.b	Identify relevant natural construction materials
22204.c	Select relevant artificial construction materials
22204.d	Select relevant special type of construction materials
22204.e	Select relevant finishing materials for construction.
22204.f	Identify processed construction materials.
Course Title-Basic Surveying, Course Code-22205	
22205.a	Select the type of survey required for given situation
22205.b	Compute area of open field using chain, tape and cross staff
22205.c	Conduct traversing in the field using chain and compass
22205.d	Use leveling instruments to determine reduced level of ground points
22205.e	Draw/interpret contour maps of an area collecting field data
22205.f	Use digital planimeter to calculate the areas
Course Title-Civil Engineering Workshop, Course Code-22008	

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22008.a	Iden tify the various construction activities at site.
22008.b	Perform pl um bin g job acti vities .
22008.c	Identify finishing jobs related to building construction
22008.d	Identify the various components of typical civil structures like road. culvert/bridges
22008.e	Perform masonry job activities
Course Title-Business communication using computers. Course Code-22009	
22009.a	Write reports using correct guidelines.
22009.b	Compose email and formal business letters.
22009.c	Communicate skillfully using non verbal method of communication.

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Semester – III   (I scheme)

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Course Title- Advanced Surveying , Course Code 22301	
22301.a	Prepare plans usi ng Plane Table Surveys.
22301 b	Prepare plans usi ng Theodolite surveys.
22301 c	Find distances and elevati ons using Tacheometer.
22301 d	Set out simpl e circul ar curves.
22301 e	Prepare plans usi ng Total Station instrument.
22301 f	Locate coordi nates of stations usi ng GPS.
Course Title- Highway Engineering , Course Code 22302	
22302.a	Identify the types of roads as per IRC recommendations.
22302.b	Implement the geometrical design features of different highways.
22302.c	Perform different tests on road materials.
22302.d	Evaluate traffic flow characteristics .
22302.e	Implement hill road construction using relevant materials , techniques and methods .
22302.f	Undertake maintenance of roads and drainage
Course Title- Mechanics of Structu res , Course Code 22303	
22303.a	Articul ate practi cal applications of moment of inertia of symmetrical and unsymmetrical structural sections
22303.b	Interpret structural behaviour of materials under various loading cond itions.
22303.c	Select material considering engineering properties for various structural applications.
22303.d	Interpret shear force and bend ingmoment diagrams for various types of beams and loading conditions.
22303.e	Determine the bending and shear stresses in beams under different loading conditions.
22303.f	Check the col umn safety for various l oading and end conditions .

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Course Outcomes
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Course Title- Building Construction , Course Code 22304	
22304 a	Identify Components of building structutres
22304 b	Propose suitable type of foundation for building structures
22304 c	select suitable type of masonry for building structures
22304 d	select the relevant material for finishing works
Course Title- Concrete Technology , Course Code 22305	
22305.a	Use rel evant types of cement in different site conditi ons.
22305.b	Use relevant aggregates for required concrete works.
22305.c	Prepare concrete of desired compressi ve strengths.
22305.d	Prepare concrete of requi red specificati ons.
22305.e	Maintai n the qual ity of concrete.
22305.f	Use relevant adm i xtures for concreting for different weather conditions.
Course Title- COMPUTER AIDED DRAWING , Course Code 22022	
22022a	Locate the dimension of the drafting drawing.
22022b	Draw the isometric and 3 - dimensional drawing.
22022c	Editing 2 Dimensional Drawing.
22022d	Use CAD Software for drafting.

Semester – IV   (I scheme)

Course Title-Hydraulics, Course Code-22401	
22401.a	Interpret the pressure parameters from pressure measuring devices in flowing liquids.
22401.b	Determine total hydrostatic pressure and centre of pressure for different conditions.
22401.c	Use relevant fluid flow parameters in different situations.
22401.d	Determ ine the loss of head of fl u i d flow th rou gh pipes.
22401.e	Find the fluid flow parameters in open channels.
22401.f	Select relevant hyd rau l ic pu mps for d ifferent appl ications
Course Title-Theory of Structures, Course Code-22402	
22402.a	Analyze stresses induced in vertical membersubjected to direct and bending loads.
22402.b	Analyze slope and Deflection in beams under different loading conditions.
22402.c	Analyze end moments of fixed beams.
22402.d	Analyse continuous beam under different loading conditions using the principles of Three Moments.

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Course Outcomes
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22402.e	Analyze continuous beam using Moment Distribution Method under different loading conditions.
22402.f	Evaluate axial forces in the members of simple truss.
Course Title-Railway and Bridge Engineering ,Course Code-22403	
22403.a	Identify the components of rai l way tracks.
22403.b	Maintain the railway tracks.
22403.c	Diagnose the condition of bridges.
22403.d	Maintain different types of railway brid ges and their components.
22403.e	Maintain different types of tunnels.
Course Title-Geo-Technical Engineering,Course Code-22404	
22404.a	Identify types of rocks and sub soil strata of earth.
22404.b	Interprete the physical properties of soil related to given construction activities.
22404.c	Use the results of permeabil ity and shear strength test for foundation analysis.
22404.d	Interpret the soil bearing capacity resul ts .
22404.e	Compute optimum val ues for moisture content for maxim um dry density of soil through various tests.
Course Title-Building Planning and Drawing Course Code-22405	
22405.a	Interpret the symbols,signs and conventions from the given drawing.
22405.b	Prepare line plans of residential and public buildings using principles of planning.
22405.c	Prepare submission and working drawing from the given requirement for Load Bearing Structure.
22405.d	Prepare submissi on and working drawing from the given requirement for Framed Structure.
22405.e	Draw Two point perspective drawing for given small objects.
Course Title-Environmental Studiese Code-22447	
22447.a	Develop Public awareness about envi ronment
22447.b	Select alternative energy resources for Engineering Practice
22447.c	Conserve Ecosystem and Biodiversity
22447.d	Apply techniques to reduce Environmental Pol lution
22447.e	Manage social issues and Environmental Ethics as lifelong learning
Semester – V (I scheme)	
Course Title- Water Resou rce Engineering , Course Code- 22501	

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Course Outcomes
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22501.a	Estimate hydrological parameters.
22501.b	Estimate crop water requirem_ nts of a command area and capacity of canals.
22501.c	Maintain irrigation structures.
22501.d	Execute the Minor and Micro Irri gation Schemes.
22501.e	Select the relevant Diversion Head works for the 'specific site conditions.
22501.f	Design, construct and maintain simple Canal structures.
Course Title- Design of Steel and RCC Structures , Course Code- 22502	
22502.a	Use steel table and IS code 800:2007 at work sites.
22502.b	Design the connections for the given steel joints.
22502.c	Analysis and design of singly reinforced rectangular beams.
22502.d	Design of shear reinforcement and development length for beam and slabs.
22502.e	Design various slabs for the given edge condition.
22502.f	Design of axially loaded sho1i columns and footings.
Course Title- : Estimating and Costing , Course Code- 22503	
22503.a	Select the modes of measurements for different items of works.
22503.b	Prepare approximate estimate of a civil engi neering works.
22503.c	Prepare detailed estimate of a civil engineering works.
22503.d	Justify the rate for given items of work using rate analysis techniques.
22503.e	Use relevant software for estimating the quantities and cost of items of works.
Course Title- Public Health Engineering , Course Code- 22504	
22504.a	Analyze characteristics of water and wastewater.
22504.b	Estimate the quantity of drinking water and domestic wastewater generated.
22504.c	Draw labeled layout for water supply scheme.
22504.d	Explain the process of treatment of water and wastewater.
22504.e	Explain the advanced treatment processes of water and wastewater.
22504.f	Propose the relevant method of energy conservation.
Course Title-5. Traffic Engineering (Elective), Course Code- 22507	
22507.a	Analyze the road traffic characteristics.
22507.b	Undertake various types of road traffic studies.
22507.c	Use the relevant road traffic signs and markings.
22507.d	Select the relevant road signals for the given traffic islands
22507.e	Maintain the road environment.

Course Outcomes
MSBTE prescribed syllabus, as per the Scheme 'I'

22507.f	Suggest preventive measures to avoid accidents by analyzing the traffic conditions at site.
Course Title-5. Capstones Project Planning , Course Code- 22058	
22058.a	Write the problem/task specification in existing systems related to the occupation.
22058.b	Select, collect and use required information /knowledge to solve the problem /complete the task.
22058.c	Logically choose relevant possible solution(s).
22058.d	Consider the ethical issues related to the project (if there are any).
22058.e	Assess the impact of the project on society (if there is any).
22058.f	Prepare 'project proposals' with action plan and time duration scienlificallly beginning project

<center>**Semester – VI (I scheme)**</center>	
Course Title-. Management , Course Code- 22509	
22509.a	Use basic management principles to execute daily activities.
22509.b	Use principles of planning and organising for accomplishment of tasks.
22509.c	Use principles of directing and controlling for implementing the plans.
22509.d	Apply principles of safety management in all activities.
22509.e	Understand various provisions of industrial acts.
Course Title-. Contracts and Account , Course Code- 22601	
22601.a	Execute the method of PWD for initiating the works.
22601.b	Execute the contracts of civil engineering works.
22601.c	Prepare the tender documents for civil engineering works.
22601.d	use the relevant type of form used in PWD to pay the bill of the executed work
22601.e	Prepare the detailed specification for various items of constrction.
22601.f	Justify the rent fixation of civil structures.
Course Title-. Maintenance and Repairs of Structures , Course Code- 22602	
22602.a	Select the relevant method of maintaining different building structures.
22602.b	Test the structures to predict its stability.
22602.c	Select the relevant materials for repairs of structures.
22602.d	Apply the relevant methods of repair for the masonry structures.
22602.e	Restore the damages of building structural elements using suitable method of repair.
22602.f	Prepare the structural audit and budget for the maintainance of structures.
Course Title-. Emerging Trends in Civil Engineering , Course Code- 22603	

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22603.a	Reveal different applications of software's for planning,designing and execution of projects.
22603.b	Suggest the advanced material as per site condition
22603.c	Recommend the suitable tools and equipments for the given situaion.
22603.d	Suggest the advanced resource management technipues for the given project.
22603.e	use the feasible advance techniques for various civil engineering projects.
Course Title-. Solid Waste Management (Elective-II), Course Code- 22605	
22605.a	Identify the different sources of solid wastes
22605.b	Execute the relevant method of collection and transportation of solis wastes.
22605.c	Execute an action plan for disposal of solid wastes.
22605.d	Implement the relevant method for disposal of Bio-medical wastes.
22605.e	Implement the relevant method for disposal of Industrial wastes and E-waste..
22605.f	Implement the relevant lawas related to solid waste management.
Course Title-. Advanced Design of Structures (Elective-II), Course Code- 22607	
22607.a	Design the steel tension members under different loading conditions.
22607.b	Design the steel compression members under different loading conditions.
22607.c	Design the doubly-reinforced rectangular RCC beams under different loading conditions.
22607.d	Design the flanged RCC beams under different loading conditions.
22607.e	Design waist slabs of RCC dog legged staircase.
22607.f	Design the circular columns and the isolated RCC rectangular column footings.
Course Title-. Capstone Project-Execution & Report Writing, Course Code- 22060	
22060.a	Implement the planned activity individuly and/or as team.
22060.b	Select,collect and use required information/knowledge to solve the identified problems.
22060.c	TA
22060.d	Design the flanged RCC beams under different loading conditions.
22060.e	Design waist slabs of RCC dog legged staircase.
22060.f	Design the circular columns and the isolated RCC rectangular column footings.