Course Number and Name

BCM2L1 & Basic Civil & Mechanical engineering Practices Laboratory

Credits and Contact Hours

1 & 30

Course Coordinator's Name

Mr.Saravana Kumar & Mr.Pradeep Kumar

Text Books and References

Text Books:
Lab Manual

Course Description

To provide exposure to the students with hands on experience on various basic Civil & Mechanical Engineering practices

Prerequisites	Co-requisites
Nil	Basic Civil and Mechanical Engineering

required, elective, or selected elective (as per Table 5-1)

Required

Course Outcomes (COs)

CO1: Learn Basic concepts
CO2: Students will get exposure regarding pipe connection for pumps & turbines and to study the joint used in roofs, doors, windows and furniture's
CO3: Students will get exposure regarding smithy, foundry operations and in latest welding operations such as TIG, MIG, CO2, spot welding etc.,
CO4: Students will get hands on experience on basic welding techniques, machining and sheet metal works
CO5: Students will get hands on experience on basic machining techniques
CO6: Students will get hands on experience on basic sheet metal techniques

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1	H	L										
CO2				H								
CO3					H	L	L					
CO4		H				M		L			H	
CO5		H				M		L			H	
CO6		H				M		L			H	

List of Topics Covered

I LIST OF EXPERIMENTS FOR ELECTRICAL ENGINEERING LAB

I. CIVILENGINEERINGPRACTICE

Buildings:

a) Studyofplumbingandcarpentrycomponentsofresidentialandindustrialbuildings.Safetyaspects.

PlumbingWorks:

a) Studyofpipelinejoints,itslocationandfunctions:valves,taps,couplings,unions,reducers,elbowsin householdfittings.

b) Studyofpipeconnectionsrequirementsforpumpsandturbines.

c) Preparationofplumbinglinesketchesforwatersupplyandsewageworks.

d) Hands-on-exercise:Basicpipeconnection ofPVCpipes&G.I.Pipes–Mixedpipematerialconnection–Pipe connectionswithdifferentjoiningcomponents.

e) Demonstrationofplumbingrequirementsofhigh-risebuildings.

CarpentryusingHandtoolsandPowertools:

a) Studyofthejointsinroofs,doors,windowsandfurniture.

b) Hands-on-exercise: Woodwork,jointsbysawing,planningandcutting.

c) Preparationofhalfjoints,MortiseandTenonjoints.

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II MECHANICAL ENGINEERING PRACTICE

Welding:

a) Preparationofbuttjoints,lapjointsandteejointsbyarcwelding

BasicMachining:

a) Simple Turning and Taper turning

b) Drilling Practice

SheetMetalWork:

a) Forming&Bending:

b) Modelmaking–Trays,funnels, etc.

c) Differenttypeofjoints

d) Preparationofair-conditioningducts

e) Preparationofbuttjoints,lapjointsandteejointsbyarcwelding

Machineassemblypractice:

a) Assembling,dismantlingand Studyofcentrifugalpump

b) Assembling,dismantlingand Studyofairconditioner

c) Assembling,dismantlingandStudyoflathe

Moulding:

a) Mouldingoperationslikemouldpreparationfor gearandstepconepulleyetc

Fitting:

a) Fitting Exercises–Preparationofsquarefittingandvee–fittingmodels.

Demonstration:

a) Smithyoperations,upsetting,swaging,settingdownandbending.Example–Exercise–Productionofhexagonalheaded bolt.

b) Gaswelding.