

# PLANNED SYLLABUS COVERAGE (Theory)

GPK-F-17

<b>G1</b>	Department: <u>Instru. Engg</u> Subject <u>Production Planning &amp; Control</u>				
<b>Kangra</b>	Course <u>Open Elective - MEOE</u> Duration <u>Six Months</u>				
<b>SYLLABUS COVERAGE</b>	Total Periods <u>56</u> Theory <u>14x4 = 56</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended
01	12 Hrs.	Introduction to Plant Location & Layout.	Types of Production! Job batch and mass production. Concept of Planning, scheduling, routing, dispatching and followup, Break even analysis, Plant location & layout, factors affecting the site selection & layout. Types of layout - Process, Product, Combination, fixed position.	Industrial Engg Management by T.R. Bonga Se Sharma Khanna Pub.	Internet & Neptel Videos
02	10 Hrs.	Inventory Control	Material purchasing - store keeping, functions & duties of store dept. Definition of inventory - Types, ABC Analysis, Procurement cost carrying charges, lead time recorder point, Economic order quantity, Simple direct numericals of JIT.	Ind Engg Management by O.P. Khanna Prod. Mgt. by C.L. Mahajan	do
03	08 Hrs.	Inspection & Quality Control	Inspection needs, types, stages statistical quality control, process capability, Control charts for variable $\bar{x}$ & R Control charts for fraction defectives (P-charts), Control chart for no. of defect (C <sub>u</sub> charts).	Cost Estimation & Project Planning by C.K. Singh	do
04	10 Hrs.	Material Handling & Repairs & Maintenance.	Pl. of Material Handling Hoisting Equipments - Fork, lifts, trucks, cranes, Conveying Equip - conveyor, belt pneumatic conveyors. objective & imp. of Maint, types & Nature of - Maint. Procedure of Preventive Maint.	Standards Publishers	do

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05	08 Hrs.	Cost & Estimation Control.	Schedules of Preventive Maint & its advantages. Function of Cost Estimation Procedure, Elements of Cost, Ladders of Cost, Depreciation, Methods of calculation of depreciation. Overhead expenses, Cost Control - Capital Cost Control (Planning & Scheduling) Operating Cost Control.	do	do	
06	08 Hrs.	Tests & Revisions.	Class Test - I Class Test - II Revisions of Topics. Doubt clear sessions.	-	-	

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks
-	-				

Approved / Not approved	
Date 27/10/2020	HOD Sign 
Date 27/10/2020	Principal Sign 

## PLANNED SYLLABUS COVERAGE(Theory)

G P Kangra		Department: <u>Instrumentation</u> Subject <u>Automation Utilities &amp; Applications</u> <small>Engg.</small>				
SYLLABUS COVERAGE		Course <u>Program core</u> Duration <u>06 months</u>				
Sr. No.		Total Periods <u>56</u> Theory <u>56</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	1-10 (10)	Intro to Automation	Intro to Automation, basic concepts, advantages, Emittar Aim types / areas of automation Basic components elements of Ind. Automation	Ad. Ind. Auto & its application by Ravinder Shasana Trinity		
2	11-20 (10)	Servo & Stepper motor	Intro. to servomotor, basic concept of servomechanism, basic of servomotor control, application of servomotor basic working principle of stepper motor, basic working principle of stepper motor application of stepper motor	Electrical Technology -II by BL Thareja (S Chand)		
3	21-35 (15)	Electrical drive	Intro to Electric drives, feature of AC, concept of VFD, need of VFD, VFD types, generalized VFD system	-do-		
4	36-47 (12)	Robotics	concept of Robotics, function of Robot, advantages & disadvantages of Robot, element of Robot (Basic elements) applications of Robotics	-do-		
5	48-56 (9)	Industry 4.0	Introduction of Industry 4.0, role of Industry 4.0 in digital manufacturing, advantages of Industry 4.0 Industry 4.0 technologies concept of smart factories	-do-		

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Sr. No.	Period Nos.	Topic	Details

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Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

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# Use additional sheets (if required).

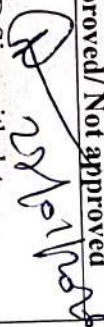
G P Kangra

Practical Planning & Coverage Status

Department: Inst. Engg Program Core.  
 Course: Program Core.

Subject: LC & DCS Labs.  
 Lab No: LC  
 Date: LC

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	HOD Sign.	Remarks
		Equipment Set up	STD Ref. Write up					
1.	To simulate PLC Program for Door Bell Operation & Switching On/Off of lights.	PLC Trainer Kit.	Std. Trainer Kit Manual	G1 - Fri G2 - Sat				
2.	To simulate PLC program for 7 - segment display.	do	do	G1 - Fri G2 - Sat				
3.	To simulate PLC program for Star - Delta Starter.	do	do	G1 - Fri G2 - Sat				
4.	To simulate PLC program for Oven Control.	do	do	G1 - Fri G2 - Sat				
5.	To simulate PLC program for Tank Level Control.	do	do	G1 - Fri G2 - Sat				
6.	To simulate PLC program for Bottling Plant.	do	do	G1 - Fri G2 - Sat				
7.	To simulate PLC program for Traffic Light Control.	do	do	G1 - Fri G2 - Sat				
8.	To simulate PLC Program for Elevator Control.	do	do	G1 - Fri G2 - Sat				

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 Principal Signature with date

## PLANNED SYLLABUS COVERAGE(Theory)


G P Kangra		Department: <u>Instan. Engg.</u> Subject <u>E &amp; SU</u>				
SYLLABUS COVERAGE		Course <u>H.S.</u> Duration <u>06 months.</u>				
		Total Periods <u>56</u> Theory <u>56</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	10 (1 to 10)	Intro. to Entrepreneurship & Start-ups	<ul style="list-style-type: none"> <li>- Definitions</li> <li>- Traits of an entrepreneur,</li> <li>Entrepreneurship, motivation</li> <li>- Types of Business Structures</li> <li>Similarities/differences b/w entrepreneurship &amp; manager.</li> </ul>	Entrepreneurship & Start ups by. Harish C. Sarin and		
2	08 (11 to 18)	Business Ideas & their implementation	<ul style="list-style-type: none"> <li>- Discovering ideas &amp; visualizing the business</li> <li>- Activities map</li> <li>- Business Plan</li> </ul>	Planned Kumar Singla		
3	10 (19 to 28)	Idea to Start-up	<ul style="list-style-type: none"> <li>- Market Analysis - Identifying the target market</li> <li>- Competition evaluation &amp; strategy Development</li> <li>- Marketing &amp; Accounting</li> <li>- Risk analysis.</li> </ul>	- do -		
4	10 (29 to 38)	Management	<ul style="list-style-type: none"> <li>- Company's Org. structure,</li> <li>- Recruitment &amp; management of talent.</li> <li>- Financial organization &amp; management.</li> </ul>	- do -		
5	10 (39 to 48)	Financing & Protection of Ideas	<ul style="list-style-type: none"> <li>- Financing &amp; Protection of Ideas - Methods avail. for start-ups in India</li> <li>- Communication of Ideas to potential investors.               <ul style="list-style-type: none"> <li>↳ Investor Pitch.</li> </ul> </li> </ul>	- do -		

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6	08 (19 to 26)	Exit Strategies	<ul style="list-style-type: none"> <li>- Patenting &amp; Licenses.</li> <li>- Exit strategies for Entrepreneurs</li> <li>- Bankruptcy.</li> <li>- Succession &amp; Harvesting strategies</li> </ul>	- do -	

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## PLANNED SYLLABUS COVERAGE(Theory)

G I Kangra		Department: <u>Instrumentation</u> Subject <u>LC &amp; DCS</u>						
SYLLABUS COVERAGE		Course <u>Program Core</u>		Duration <u>14 weeks</u>				
Sr. No.		Period Nos.	Topic	Details	Instruction Reference		Additional Study Recommended	Remarks
				Total Periods <u>56</u>	Theory <u>04 Theory/week</u>			
01	05 (01-05)	Basics of PLC	Basic Concept of Relay, limitations, PLC, Advantage PLC over relay, Application of PLC, PLC manufacturers	Process Control Instru. Tech. Curt's D. Johnson (Pearson)				
02	09 (06-14)	PLC	Block diagram, PLC classification, Basic parts/components, operations, I/O modules, Power supply PLC, PLC memories	do				
03	13 (15-27)	Programming of PLC	various Prog. languages, ladder logic prog, Symbols, Instructions, Concept of latch	do				
04	13 (28-40)	Ladder logic programming	ladder logic program Door bell, on-off light, 7 segment display, star delta starter, oven control, Tank level control, bottling plant, Traffic light control, Elevator control.	do				

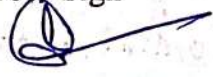

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Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
05	10 (41-50)	SCADA & DCS	Benefits, SCADA, Hardware Software, functions, Applications, DCS, structure, elements, Adv/Disadv of DCS, Applications, Compare PLC & DCS	do		
06	06 (51-56)	class tests, House tests, Revision	class test 01 & 02, Extra test, House test, Revision	—		

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Ganga		Department: <u>Instrumentation Engg.</u>		Subject <u>Energy Management</u>		
SYLLABUS COVERAGE		Course <u>OPEN Elective - II</u>		Duration <u>14 Weeks</u>		
Sr. No.		Total Periods <u>56</u>		Theory <u>I (56)</u>		
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
01	11	Energy Sources	Brief overview of present energy scenario in India, Percentage share of various energy sources in present energy scenario in India, Basic concept and importance of energy management	Energy Management by Dr. Umesh Rathore	Energy Management by Dr. Sanjeev Singh	
02	11	Energy Conservation	Energy conservation and its need, Energy conservation and energy conservation strategies in domestic sector Energy conservation measures in office, methods/technologies for energy saving in Heating, Ventilating systems and Air conditioners (HVAC system), Energy conservation at Macro level.	—do—	—do—	
03	11	Energy Conservation in Industrial sector.	Introduction to industrial energy efficiency, Energy saving potential in Industries, Methods/Technologies for energy saving in furnaces	—do—	—do—	

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Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
04	13	Energy conservation in Agricultural sector.	Case study of energy conservation in industrial process. Introduction, Energy conservation, opportunities in pumps used, Energy conservation techniques. Energy Audit, Need of EA, Types of EA, Preliminary Audit, Mini Audit, EA methods/ Procedure.	—do—	—do—	
05	10	Energy-Environment	Environment and social concerns related to energy utilizations, Environment impact assessment and need.	—do—	—do—	

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## PLANNED SYLLABUS COVERAGE (Theory)

G.I. Ka. gra		Department: <u>AS&amp;H</u>		Subject <u>Indian Constitution</u>		
SYLLABUS COVERAGE		Course <u>Diploma in EE &amp; ME, IE</u>		Duration <u>3 years</u>		
Sr. No.		Total Periods <u>2/week</u>		Theory <u>28</u>		
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.	1-7	Unit - 1 Introduction to constitution	History of making of IC, Meaning and importance of IC, features of IC, Preamble & its features, fundamental rights, meaning and limitations, Directive Principles of state policy and fundamental duties, their enforcement and relevance.	Introduction to Constitution of India by DD Basu.  Introduction to the Constitution of India by M.V. Pylee, 4th edition		
2.	8-14	Unit - 2 Union Government	Structure of Union Govt. Union executive President, vice president, PM and Council of Ministers, Union legislature, - Parliamentary and parliamentary proceedings. Union judiciary - supreme court of India composition and powers and functions.	do		
3.	15-22	Unit - 3 State & Local Govt.	Structure of State Govt. State executive - Governor, Chief Minister, Council of Ministers, state legislature - state legislative assembly & council state judiciary - High court local Govt. Panchayat Raj system with reference to 73rd and urban local self Govt. with reference to 74th amendment.	do		

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Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
4	23-28	Unit - 4 Election Provisions, Emergency provisions, Amendment of the constitution	Election commission of Indian - composition, powers and functions and elected process. Types of emergency - ground, procedure, duration and effects. Amendment of constitution - meaning, procedure and limitations.			

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