

			AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD	
			TEAM INNOVATORS	
			IIOT BASED INTEGRATED PACKAGING SYSTEM	
			1 ANSHUL VARSHNEY	
			2 DEEPANSHU TYAGI	
			3 SHIVENDRA SHUKLA	
			4 SHRAMESHWAR CHAUDHARY	
			FACULTY COORDINATOR: MR. RAHUL DIXIT	
		BILL OF MATERIAL INCLUDING MITSUBISHI FA COMPONENTS		
S. No.	Model	FA hardware	Description	Quantity
1	FX5U-32MT/ES	PLC	FX5U PLC with 16 inputs, 16 outputs, built in Ethernet, Analog I/O, RS485 Modbus, 2 AI, 1 AO, 4 high speed output and High speed Inputs.	2 (1 PLC available in college)
2	GS-2107-WTBD	HMI	7" GS TYPE HMI, Touch Screen, Ethernet, RS323, etc.	1
3	FR-D720S-025-EC	VFD	Inverter, 1Ø 230 VAC input, 3Ø 200 VAC output, 400 W (0.5 HP), 2.5 Amps, Built-in Modbus (Induction Motor is not included)	1
4	MCBs	LVS	Set of Two MCBs : 6 Amp and 16 Amp	1 set
5	MR-JE-20A	Servo System	Pulse input type servo, 200w with servo motor HG-KN-23J and necessary cables	1

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		Bills Of Materials Excluding Mitsubishi Electric FA Component Set				
S.No.	Items	Brand name/ vendors	Model/Specification	Total Quantity	Cost/Unit	Total Amount
1	Vision sensor	Pepperl+fuchs	VOS310-100/Vision for complex object recognition	1	-	Available in college
2	Pneumatic Gripper	Robokits india	Festo gripper , high quality advanced robotic gripper for robotic Arm and other gripping applications	1		Available in college
3	Proximity sensor	Pepperl+fuchs	Infra-red based 5m range	2		Available in college
4	Induction Motor	Brook Crompton Greaves Ltd.	3 phase TEFC induction motor, 0.37 KW class-F	1		Available in college
5	Single acting piston	Janatics	10cm stroke	1		Available in college
6	Double acting cylinder	Janatics	8cm stroke	2		Available in college
7	Rodless Cylinder	Janatics		1		Available in college
8	DCV	Janatics	5/2 and 3/2 Solenoid actuated	4		Available in college
9	Metal Rods	Local	1200mm , dia:35mm	1	600	600
10	Aluminium profile	AV engineers	30*30mm	25	350	8750
11	L bracket with T nuts	AV engineers	For 40mm profile	80	42	3360
12	Profile rubber, cap	AV engineers	For 40mm profile	15m	20	300
13	Magnetic Reed Switch		Air Cylinder 1.5 wired CS 1 U Magnetic reed Switch Sensor DC-AC (5-240V)	2		Available in college
14	Electrical wires(blue, white, red, black)	Gupta Electricals (local)	1mm	30m	30	900
15	Wire casing	Gupta Electricals (local)	with cover	20m	50	1000

16	Emergency Switch button	Gupta Electricals (local)	PNP type	2	50	100
17	Aluminium bar and coupling		10mm dia	5kg	200	1000
18	Conveyer belt	Local market		2	350	700
19	Nuts, bolt warsher	Mittal Hardware	Miscellaneous			500
20	Ethernet cable	amazon.in	Crossover type, 10T/100T	8	50	400
21	Router	amazon.in	TP-Link TL-SF1008D			600
22	Conveyer Roller			50m		350
23	Tie Knots	Mittal Hardware	5mm			50
24	Electrical Tape	arora Electronics		4	20	80
25	stationary		papers, double sided tape, posters, markers, flex etc.			500
26	Aluminium Sheet with T slots	AV engineers	with t slots for mounting	1.4*1.4m		Available in college
27	Raspberry pi	Amazon.in	Raspberry pi 3 b+	1		3195
28	Relay Block		Shavison Relay Module AS 355 -24V N-S-OE, 1C/0, 8 channel 24V DC Coil , OEN relay , reverse blocking diode .	1		Available in college
29	SMPS	Amazon.in	12V , 10Amp SMPS – 120 W DC metal	1	500	500
30	RS -485	Amazon.in	DTECH4 Feet USB to RS422 RS485 Serial port converter adapter Cable with FTDI chip support	2	160	320
31	Air Compressor		It provide air to the pneumatics devices.	1		Available in college
32	Pneumatic Connector and pipes		Help to carry air			Available in college
					Total	23205