Name of the Trade - IOT Smart City. - Semester/Year- 01- Module

Sl. No.	Question	OPT A	OPT B	OPT C
1	Which of the following should be followed to prevent accidents at home?	Carelessness at home	Safety rules at home	Neglecting safety rules at home
2	What is the reason for accidents?	Alertness	Activeness	Carelessness
3	How many gauge nos. in SWG, changed to double the cross section area of the coductors?	Two gauge sizes decreased	3 gauge sizes decresed	4 gauge sizes decreased
4	What is the effect on the current flow with increased diameter of conductor?	Resistance increases	Opposes more current	More voltage dropped
5	Which electrical quantity is directly proportional to the current carrying capacity of the conductor?	Wire resistanced	Passing current	Conductors Shape

e No. 01 : Module Name:…Safety Practice & Basics of AC & Ele

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
All of these	B	3	PPE	Safety Practice	1	Specified in safety
Cautionless	C	3	Fullform	Safety Practice	1	Specified in PPE
5 gauge sizes decreased	B	3	SWG	Basics of AC and Electrical Cables	1	Specified in SWG
Allows high current flow	D	3	Conductor	Basics of AC and Electrical Cables	1	specified in conductor
Conductors diameter	D	3	Conductor	Basics of AC and Electrical Cables	1	specified in conductor

ectrical Cables

Answer available in NIMI book Page No.	Remarks

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Sl. No.	Question	OPT A	OPT B	OPT C
1	A reistor is color-coded with four bands, the first one being brown, second black, third red and fourth gold. The resistor connects to a 10V source. Find the currentb flowing through the resistor.	1 mA	10 mA	100 mA
2	Two resistors having values 5ohms and 10 ohms are connected in series to a 10V source. Find the current flowing through the circuit.	0.66 A	1.5A	2A
3	What is the result of hysteresis loss in magnetic materials?	Back emf increases	Eddy current decreases	Magnetic flux increases
4	If 10µF capacitors are connected in parallel the, net capacitance is-----	20µF	30µF	40µF
5	Which factor determines the inductance value?	Material of the coil	Doameter of the coil	Frequency of the current
6	Three capacitors each of the capacity C are given.How the capacitors are arrenged to get resultant capacity 2/3 C ?	All in series	All in parallel	Two in parallel & third in series with this combination
7	Find the value of shunt resistance required for 1 mA meter to extend the range and measure 10 mA (RM = 27 Ohm) ?	1 Ohm	2 Ohm	3 Ohm

8	How the sensitivity of voltmeter is determined?	FSD current	Meter coil resistance	Ohms per volt rating
9	How the accuracy of amplitude and frequency measured by CRO is checked? |	By sine wave signal	By function generator	By complex wave form
10	Which control is used in repulsion type moving iron instrument to keep the pointer at zero position?	Spring control	Air damping control	Magnetic repulsion control

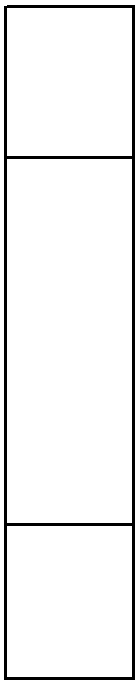
odule No. 02 : Module Name:…Active , Passive Components and AC & Measurements

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.
1A	B	3	Ohm's law	Active , Passive Components	2-3	Specified in Ohm's Law	Page 87 of 1st sem Electronics Mechanic
2.5A	B	3	Active , Passive	Active , Passive Components	2-3	Specified in active & passive components	Page 87,110,148of 1st sem Electronics Mechanic
Enegy loss takes place	D	3	Inductor	Active , Passive Components	2-3	Specified in inductors	Page 110 of 1st sem Electronics Mechanic
50µF	B	3	Capacitor	Active , Passive Components	2-3	Specified in capacitor	Page 149 of 1st sem Electronics Mechanic
Current flow through the coil	B	3	Inductor	Active , Passive Components	2-3	Specified in inductors	Page 124 of 1st sem Electronics Mechanic
Two in series & third in parallel across this combination	C	3	Definition	AC & DC Measurements	2-3	Specified in Measuring Instrument	Internet
4 Ohm	C	3	MI Instrument	AC & DC Measurements	2-3	Specified in Measuring Instrument	Internet

Maximum voltage measurement	C	3	DSO	AC & DC Measurements	2-3	Specified in DSO	Internet
By built-in calibration signal	D	3	LCR	AC & DC Measurements	2-3	Specified in MSO	Internet
Magnetic attraction control	A	3	Digital Multimeter	AC & DC Measurements	2-3	Specified in multimeter	Page 67 of 1st sem Electronics Mechanic

ι DC

Remarks



Name of the Trade - IoT Smart City. - Semester/Year- 01- Modul

Sl. No.	Question	OPT A	OPT B	OPT C	OPT D
1	How much time is required to make a quality soldered joint using soldering iron?	3-7 Seconds	7-10 Seconds	10-15 Seconds	15-20 Seconds
2	What is the effect of shaking the soldered joint while cooling?	Flux will not dissolve	It will corrode the joint	It results in oxidation of solder	It disturbs the chemical bonding take place
3	What is the result of forced air is blown to cool the joint while soldering?	Solder setting very slowly	Results in dry brittle joint	Disturbs the chemical bonding	Joint becomes mechanicall y stronger
4	What is the effect of over heating on soldering a joint?	Cold joint	Poor wetting	Dull grainy surface	Flux trapped against lead
5	ESD damage can be caused by:	Placing an IC in a non-conductive plastic bag	Placing an IC on a grounded mat	Repeated sags in current supplied from outlets	Touching metal on the chassis
6	What causes a decrease in flux cleaning action leads to poor wetting & defective solder joint in reflow soldering process?	Higher ramp-up rate	Longer preheat zone time	More thermal soak exposure	Insufficient time/ temperature
7	What is the name of the defect caused due to ESD event?	Mechanical Defect	Dripping defect	Latent defect	Tombstone defect
8	Which SMD IC needs lead forming equipment to cut and bent into gull wing type?	TSOP	FLAT Package	Pin grid array	Leaded chip carrier

9	What is the percentage of defect caused to devices due to ESD?	10 to 20	25 to 30	35 to 50	60 to 90
10	What is the cause of 'Voiding ' in SMT?	Damaged wiring	Damaged component	Damaged joint strength	Restricted voltage level

e No. 03 : Module Name:…Soldering / Desoldering , Basic SMD

Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
A	3	Solder on circuit board	Soldering / Desoldering	4-5	Specified in soldering	Page 92 of 1st Sem Electronics Mechanic	
D	3	Cleaning of Circuit board	Soldering / Desoldering	4-5	Specified in soldering	Page 93 of 1st Sem Electronics Mechanic	
B	3	Components of soldering	Soldering / Desoldering	4-5	Specified in soldering	Page 93 of 1st Sem Electronics Mechanic	
C	3	Soldering iron	Soldering / Desoldering	4-5	Specified in soldering	Page 93 of 1st Sem Electronics Mechanic	
A	3	Soldering	Soldering / Desoldering	4-5	Specified in soldering	Page 98 of 1st Sem Electronics Mechanic	
D	3	Soldering	Basic SMD Components soldering/ Desoldering	4-5	Specified in soldering	Page 101 of 1st Sem Electronics Mechanic	
C	3	ESD	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD	Page of 2nd Sem Electronics Mechanic	
B	3	SMD	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMT	Page of 2nd Sem Electronics Mechanic	

B	3	ESD	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMT	Page of 2nd Sem Electronics Mechanic	
C	3	SMT	Basic SMD Components soldering/ Desoldering	4-5	Specified in soldering	Page92 of 1st Sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Modu
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Sl. No.	Question	OPT A	OPT B	OPT C
1	**In a Zener diode**	Negative resistance characteristic exists	Forward voltage rating is high	Sharp breakdown occurs at a low reverse voltage
2	When a forward biased is applied to a diode, the electrons enter to which region of the diode?	P region	N region	P-N junction
3	What is the relation between Turns Ratio & Voltage Ratio in case of Transformer?	Np/Ns = Vp/Vs	Ns/Np = Vp/Vs	Np/Ns = Vs/Vp
4	Why a transformer cannot raise or lower the voltage of a DC supply?	There is no need to change the dc voltage.	A Dc circuit has more losses	Faraday's Laws of electromagnetic induction are not valid since the rate of change of flux is zero.
5	What will happen when the reverse bias voltage across the PN junction is increased?	Increases the cutt-in voltage	Barrier width of junction increases	Junction ruptured and short circuited
6	If the voltage of the potential barrier is Vo. A voltage V is applied to the input, at what moment will the barrier disappear?	V<Vo	V=Vo	V>Vo

7	What is the shape of the waveform in Clamper circuit even if level is shifted either upward or downward ?	Low	High	Zero
8	Why transistor is called as a current controlled device?	In the base region movement of charge carrier is because of the electrons which are minority charge carrier in the base region	In the collector region movement of charge carrier is because of the electrons which are minority charge carrier in the collector region	In the base region movement of charge carrier is because of the holes which are minority charge carrier in the base region
9	What is the voltage gain in tarnsistor if the input voltage is 50mV and the outpuut voltage is 4.2V?	21	90	84
10	When the base -collector is reversed biased in NPN transistor ,where does the more positive voltage appears ?	Base	Emitter	Collector
11	What is the digital signal for the analog signal value 7V?	0101	0110	1000
12	What is the output of a NAND gate when both the inputs are high?	low	high	very low
13	Logic operation of the half adder expression can be derived for the------	Sum only	Carry only	Multiply only
14	Which techinche is used in digital instruments , when higher load current requirements reduced ?	Counter	Multiplexing	Demultiplexing
15	Which flipflop is developed to overcome the RACING problem?	Astable	D flipflop	Monostable

16	How many pin connections are available in a seven segment display device?	7 pins	8 pins	9 pins
17	What is the name of the counter which last stage output of one drives the input of the next ?	Decade counter	Cascaded counter	Synchronous counter
18	Which statement best describes the opertaion of a negative-edge-triggered D flip-flop?	The logic level at the D input is transferred to Q on NGT of CLK	The Q output is always identical to the clock input if D input is high.	The Q output is always identical to the D input when CLK=PGT
19	What is the maximum possible number of flipflops inn decade counter?	1^n	2^n	2^{n+1}
20	What is the function of an enable input on a multiplexer chip?	To apply Vcc	To connect ground	To active the entire chip

le No. 04 : Module Name:…Input/ Output Characteristics of variou
/arious Digital Circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
All of the above	C	3	Semiconductor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
Metal side	A	3	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction
Np = Vs	A	3	ratio	Input/ Output Characteristics of various Analog Circuits	6-7	ratio specified formula in transformer
None of these	C	3	Principle	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transformer
Heavy current flows through the junction	B	3	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in n-type semiconducto r
V<<Vo	B	3	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction

Same	A	3	Clamper	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clamping circuit
In the collector region movement of charge carrier is because of the holes which are minority charge carrier in the base region	A	3	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
270	C	3	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
Base-emitter	B	3	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Derived relation in transistor
111	D	3	Decimal number system	Various Digital Circuits	8-9	Specified in number system
very high	A	3	Logic gates	Various Digital Circuits	8-9	specified in logic Families
Sum & Carry	D	3	Adder	Various Digital Circuits	8-9	Specified in adder
Combinational circuit	C	3	Decoder	Various Digital Circuits	8-9	Specified in encoder of digital
Jk Masterslave Flip flop	D	3	Flip Flop	Various Digital Circuits	8-9	specified in Flip flop

10 pins	B	3	Seven segment display	Various Digital Circuits	8-9	specified in Multiplxer
Asynchronous counter	D	3	Counter	Various Digital Circuits	8-9	Specified in comparator
The Q output is always identical to the D input	A	3	D Flip Flop	Various Digital Circuits	8-9	specified in Flip flop
3^n	B	3	counter	Various Digital Circuits	8-9	specified in counter
To active one half of the chip	C	3	Function	Various Digital Circuits	8-9	specified in Multiplxer

ıs Analog Circuits ,

Answer available in NIMI book Page No.	Remarks
Page 223 of 1st Sem Electronics Mechanic	
Page 200 of 1st Sem Electronics Mechanic	
Page 210 of 1st Sem Electronics Mechanic	
Page 211 of 1st Sem Electronics Mechanic	
Page 200 of 1st Sem Electronics Mechanic	
Page 207 of 1st Sem Electronics Mechanic	

Page 9 of 2nd Sem Electronics Mechanic	
Page 2 of 2nd Sem Electronics Mechanic	
Page 9 of 2nd Sem Electronics Mechanic	
Page 19 of 2nd Sem Electronics Mechanic	
Page 139 of 2nd sem Electronics Mechanic	
Page 134 of 2nd sem Electronics Mechanic	
Page 149 of 2nd sem Electronics Mechanic	
Page 156 of 2nd sem Electronics Mechanic	
Page 158 of 2nd sem Electronics Mechanic	

Page 156 of 2nd sem Electronics Mechanic	
Page 152 of 2nd sem Electronics Mechanic	
Page 159 of 2nd sem Electronics Mechanic	
Page 172 of 2nd sem Electronics Mechanic	
Page 156 of 2nd sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01

Sl. No	Question	OPT A	OPT B
1	Which of the following would be a logical first step in troubleshooting a PC?	Check the computer CMOS	Define the circumstances of the problem
2	Which would you do first when troubleshooting a faulty monitor?	Check its connections to the computer and power source	Use a meter to check the CRT and internal circuitry for continuity
3	When connecting a ribbon cable to a connector, how do you know which direction to plug it in?	The red line in the cable goes to the highest pin number	The colored line in the cable goes to pin #1
4	A workstation has just been installed on an Ethernet LAN, but cannot communicate with the network. What should you check	reinstall the network protocols	reinstall the network interface card driver
5	An important first step in troubleshooting which component in a laser printer is causing a jam is to:	note where in the paper path the paper stops	check all voltages
6	When a key is pressed in keyboard , which standard is used for converting the keystroke into the corresponding bits?	ANSI	ASCII
7	The section of the CPU that is responsible for performing mathematical operations.	Memory	Register Unit
8	Which option is choosen to rename any file or folder by right clicking on it?	Change	Modify

9	Which side of the characters will be removed when pressing Delete key in the keyboard?	left	Right
10	The monitor power LED is 'on' but the monitor screen is completely dark. The least likely cause of the problem is	Defect in the computers video circuitry	Disconnected video cable
11	Which space is used to design circuit in schematic editor of the Tina software?	Circuit work space	File operation space
12	What is the phase after an initialization phase,in case of simulator ?	Compilation	Elaboration
13	In the simulation process, which step specifies the conversion of VHDL intermediate code so that it can be used by the simulator?	Compilation	Elaboration
14	All simulations involve:	The passage of time	A model on a computer
15	The simulations described in the book are used for	Understanding a system	Understanding and improving a system

I- Module No. 05 : Module Name:…Computer System & Networkin

OPT C	OPT D	Ans	Level	Key word for question	Topic of the syllabus
Call the vendor	Define what applications are being used	B	3	Computer fundamentals	Computer System & Networking
Power down the monitor, then turn it on again to see if that corrects the problem	Power down the computer, then turn it on again to see if that corrects the problem	B	3	Operating System	Computer System & Networking
It does not matter	The blue or red line in the cable goes away from the power connector	B	3	Printers	Computer System & Networking
verify the ip configuration on the workstation	verify the link status on the computer's network card	D	3	Hard Disk	Computer System & Networking
look up error codes	turn the printer off, then on again	A	3	Connector Cables	Computer System & Networking
EBCDIC	ISO	B	3	Computer memory	Computer System & Networking
Control Unit	ALU	D	3	Networking	Computer System & Networking
Rename	Edit	C	3	Connector Cables	Computer System & Networking

Top	Bottom	B	3	Router	Computer System & Networking
Defective monitor	System RAM problem	D	3	Protocol	Computer System & Networking
Components type space	Components groups space	A	3	Simulation	Electronic Simulation Software
Execution	None of these	C	3	Simulation	Electronic Simulation Software
Initialization	Execution	B	3	Simulation	Electronic Simulation Software
An imitation of a system	A visual display	C	3	Simulation	Electronic Simulation Software
Improving a system	None of the above	C	3	Simulation	Electronic Simulation Software

ɡ ,Electronic Simulation Software

Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
10-11	Standard Specified	253 page 1st sem Electronics Mechanic	
10-11	Standard Specified	260 page 1st sem Electronics Mechanic	
10-11	Types of Printers	273 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	267 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	331 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	255 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	328 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	331 page of 1st sem Electronics Mechanic	

10-11	Standard Specified	338 page of 1st sem Electronics Mechanic	
10-11	Standard Specified	320 & 326 page of 1st sem Electronics Mechanic	
12	Standard Specified	Page 167 of 2nd Sem Electronics Mechanic	
12	Standard Specified	Page 168 of 2nd Sem Electronics Mechanic	
12	Standard Specified	Page 168 of 2nd Sem Electronics Mechanic	
12	Standard Specified	Page 168 of 2nd Sem Electronics Mechanic	
12	Standard Specified	Page 167 of 2nd Sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- C

Conditioning , Converter Circuits A

Sl. No.	Question	OPT A	OPT B	OPT C
1	Which of the following error is caused by a reversal of measured property?	Hysterisis	Noise	Digitization error
2	Smallest change which a sensor can detect is _____	Resolution	Accuracy	Precision
3	Which sensor detect the presence of objects without any physical contact?	LVDT	Load cell	Strain Gauge
4	Which sensor is suitable for process temperature measurement of steel?	Thermistor	Strain Gauge	Thermocouple
5	Which type of sensor gives quick and precise measurements	Load Cell	Electrical Strain Gauge	Mechanical Strain Gauge
6	Which type of Strain gauge is most sensitive and reliable?	Hydraulic	Mechanical	Piezoelectric
7	How the increase in temperature affects the resistance value of the positive temperature coefficent component?	Resistance Value decreases	Resistance value Increases	Resistance value remain the same
8	Which type of counter is used to measure sensors produce frequency ?	a chemical counter	a mechanical counter	an electronic counter

9	What is the name of the property of a sensor when Change in output with change in input occurs?	Threashold	Slew rate	Sensitivity
10	How Sensing element in the thermometer works?	small change in resistance	No change in resistance	large change in resistance
11	What type of force is generated when piezo-electrical crystal generates voltage ?	Electrical	Mechanical	Gravity
12	**Capacitance sensor can measure very small displacement. It can be formed by varying**	Separation	Area	Permitivity
13	What are the faults of LVDT?	Large displacement	Sensitive to stray magnetic fields	performance affected by vibrations
14	What power amplifier ampilfies?	Voltage of signal	Current of the signal	Power of the signal
15	Which of the following is the correct statement about digital sensors? 1. Digital sensors provide information on all possible values within specified limit . 2.Digital sensors are limited to a finite set of values.	1	2	Both 1 & 2
16	What is the output of A/D converter ?	given to an anlog display	given to a digital display	given to a CRO

17	What is the formula for gain in an ideal non-inverting Operational -Amplifier?	R2/R1-1	R2/R1	(-R2)/R1
18	Given the lower & higher cut-off frequency are 2.5Hz & 10Hz respectively, then calculate the bandwidth?	750 Hz	7500 Hz	75000 Hz
19	What is the phase angle difference between input & output voltages in case of inverting amplifier?	30°	45°	90°
20	How many discrete voltage levels in a 4 input DAC ?	8 discrete voltage levels	16 discrete voltage levels	124 discrete voltage levels

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)1- Module No. 06 : Module Name:…Sensors, Transducers & Applicat
And various types of sensor inputs as well as control circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Quantization error	A	3	Transducer	Sensor Transducer	13-14	Specified in transducer
Scale	A	3	Transducer	Sensor Transducer	13-14	Specified in transducer
Proximity Sensor	D	3	Proximity Sensor	Sensor Transducer	13-14	Specified in transducer
Capacitive Transducer	C	3	Thermocouple	Sensor Transducer	13-14	Specified in transducer
Hydraulic Strain Gauge	A	3	Load Cell	Sensor Transducer	13-14	Specified in transducer
Electrical Resistance	C	3	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
Resistance value becomes infinity	B	3	PTC	Sensor Transducer	13-14	Specified in transducer
a basic counter	C	3	Strain Gauge	Sensor Transducer	13-14	Specified in transducer

None of these	C	3	Sensor	Sensor Transducer	13-14	Specified in transducer
infinite change in resistance	C	3	Sensor	Sensor Transducer	13-14	Specifeid in sensor
None of these	B	3	Proximity Sensor types	Sensor Transducer	13-14	Specifeid in sensor
Either A or B or C	D	3	Sensor Types	Sensor Transducer	13-14	Specifeid in sensor
All of these	D	3	LVDT	Sensor Transducer	13-14	Specified in transducer
All of these	D	3	Power amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	A	3	Digital sensor	Various types of sensor inputs as well as control outputs	15-16	Specified
given to a voltmeter	B	3	A/D converter	Various types of sensor inputs as well as control outputs	15-16	Specified

(R2/R1)+1	D	3	Non-inverting amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
150 Hz	B	3	Low Pass Filter	Various types of sensor inputs as well as control outputs	15-16	Specified
180˚	D	3	Inverting Amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
32 discrete voltage levels	B	3	DAC	Various types of sensor inputs as well as control outputs	15-16	Specified

tions, Signal

Answer available in NIMI book Page No.	Remarks
242 of Electronics Mechanic	
245 of Electronics Mechanic	
251 of Electronics Mechanic	
243 of Electronics Mechanic	
243 of Electronics Mechanic	
253 of Electronics Mechanic	
257 of Electronics Mechanic	
258 of Electronics Mechanic	

258 of Electronics Mechanic	
262 of Electronics Mechanic	
262 of Electronics Mechanic	
245 of Electronics Mechanic	
258 of Electronics Mechanic	
Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	

2nd sem Electronics Mechanic	
3rd sem Electronics Mechanic	
3rd sem Electronics Mechanic, pg-262	
Internet	

Name of the Trade - IOT Smart City. - Semester

Sl. No.	Question	OPT A	OPT B

1	How are the status of the carry, auxillary carry and parity flag affected if we write instruction as
	MOV A, #9C
	ADD A, #64H
		CY=0,AC=0,P=0	CY=1,AC=1,P=0

2	Which operations are performed by bit manipulating instructions ?	Ciomplement bit	Clear bit
3	How are the bits of the registetr PSW affected if we select Bank 2 of 8051?	PSW.5=0 & PSW.4=1	PSW.2=0 & PSW.3=1
4	What is true about microcontroller?	A microcontroller is a small and low cost microcomputer	It is designed to perform the specific tasks of embedded systems
5	If SUBB A, R4 is executed , then actually wht operation is being applied?	R4+A	R4-A
6	How CJNE command works?	the pointer to jump if the values of the destination and the source address are equal	sets CY=1, if the contents of the destination register are greater then that of the source register
7	An Auxiliary Carry flag set while performing addition or subtraction operations only when carry exceeds which bit?	1st bit	2nd bit

8	Where the two operands stored in XRL, ORL, ANL commands ?	Accumulator as the destination address & any register , memory or any immediate data as the source address	Accumulator as the destination address & any immediate data as the source address
9	Which device protect the microcontroller from high current drawn by DC motor circuit interfaced with it?	Fuse	Over load Relay
10	What is developed to overcome the drawback of the microprocessor?	JFET	MOSFET

r/Year- 01- Module No. 07 : Module Name:…Families of Microcc

OPT C	OPT D	Ans	Level	Key word for question
CY=0,AC=1,P=0	CY=1,AC=1,P=1	B	3	Register
Set bit	All of thwese	D	3	Bit manipulation instruction
PSW.3=1 & PSW.4=1	PSW.3=0 & PSW.4=1	D	3	PSW
Microcontroller consists of the processor, the memory, Serial ports, peripherals	All of these	D	3	Microcontroller
A-R4	A+R4	C	3	Substraction instuction
sets CY-0, if the ciontents of the destination register are smaller than that of the source register	None of these	D	3	CJNE instruction
3rd bit	4th bit	C	3	Flag register

Any register as the destionation address and accumulator, memory or any immediate data as the source address	Any register as the destionation address and any immediate data as the source address	A	3	Instruction
Opto coupler	Miniature circuit breaker	C	3	Microcontroller & DC motor interfacing
IGBT	Microcontroller	D	3	Microcontroller

ɔntroller with performance evaluation

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Families of Microcontroller & performance evaluation	17-18	Standard in microcontroller	223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard in instruction sets of microcontroller	218 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Memory Organisation of microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard in microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Different types of Microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Specified in registers of microcontrollers	222 & 223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	PSW of microcontroller	220 of Electronics Mechanic	

Families of Microcontroller & performance evaluation	17-18	Standard in instruction sets of microcontroller	226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	224 & 226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Specified during execution of programm	231 of Electronics Mechanic	

Name of the Trade - IOT Smart City. - Semester/Year- 01- Modu

Sl. No.	Question	OPT A	OPT B	OPT C
1	What is mean by library in Arduino?	Collection of codes,already written for controlling the sensors	Collection of Networks,already written for controlling the sensors	Collection of protocols,already written for controlling the sensors
2	What are the mostly used protocols in IoT?	MQTT	XMTP	AMQP
3	What are the suitable databases for IoT?	MangoDB	InfluxDB	Both A & B
4	Which sensor detect fire?	Smoke Sensor	PIR	DHT11
5	Arduino IDE consists of 2 functions. What are they?	Build() and loop()	Setup() and build()	Setup() and loop()
6	What is the software or a programming language used for controlling of Arduino?	Assembly Language	C language	Java
7	How much voltage is required for arduino board ?	2	4	5
8	Maximum characters we can print in a in 16*2 lcd is	24	32	16
9	What is the output current of 3.3V regulator on the Arduino Uno ?	50mA	100mA	150mA

10	What is the maximum mA current generated by PWM pins in Arduino Uno ?	50mA	40 mA	30mA

ule No. 08 : Module Name:…IOT Architecture & components of

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
None of these	A	3	Arduino	Identify different IoT Applications with IoT architecture.	19	Specified
All of these	D	3	protocols in IoT	Identify different IoT Applications with IoT architecture.	19	Specified
None of these	C	3	databases for IoT	Identify different IoT Applications with IoT architecture.	19	Specified
None of these	B	3	SENSOR	Identify different IoT Applications with IoT architecture.	19	Specified
Loop() and build() and setup()	C	3	Arduino	Identify different IoT Applications with IoT architecture.	19	Specified
Any Language	D	3	Arduino	components of IOT System	20	Specified
12	C	3	ARDUINO	components of IOT System	20	Specified
8	C	3	LCD	components of IOT System	20	Specified
200mA	C	3	Arduino	components of IOT System	20	Specified

None of these	B	3	Arduino	components of IOT System	20	Specified

f IOT System

Answer available in NIMI book Page No.	Remarks
Internet	
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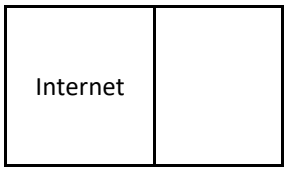
Internet

Name of the Trade - IOT Smart City. - Semester/Year- 02- Module
of Sensors used in S

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D
1	What he rocontroller used in Arduino UNO?	ATmega328p	ATmega2560	ATmega32114	AT91SAM3x8E
2	Which Software used for controlling Arduino?	Arduino software was written in Java, C++ and c language.	Arduino software was written in python and C#	Arduino software was written in html.	Arduino software was written in PHP & C.
3	What are pre built circuit boards used to fit on top of Arduino?	Sensor	Breadboard	Data types	Sheilds
4	Which board is first to use microcontroller within build USB?	LilyPad	UNO	RedBoard	Leonardo
5	Why embedded system is useful?	With embedded system, it is possible to replace dozens or	With embedded system, it is possible to work with chemical	embedded system is a system which is equivalent to computer system	embedded system useful in pythics only.
6	Mention what are buses used for communication in embedded system?	I2C ,CAN ,CNC	I2C ,CAN ,RTC	I2C ,CAN ,BUS	I2C ,CAN ,USB

7	What are various sensors used in Smart city?	temperature sensor	ultrasoni sensor	CO2 , NO2, GAS SENSOR	ALL OF THE OPTIONS
8	Name the sensor used for temperature measurement	DHT11	LDR	PM 2.5 SENSOR	IR
9	Name the sensor used for Atmospheric pressure measurement	MQ135	LM35	PIR	Barometric Pressure Sensor
10	Which device is used for measuring wind speed?	Anemometer	Barometer	Thermo Meter	None of these

e No. 01 : Module Name:…Embedded System and types
Smart City

ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
A	2	Arduino	Identify and test various parts of embedded system	21	Specified	Internet	
A	2	Arduino	Identify and test various parts of embedded system	21	Specified	Internet	
D	2	Arduino Sheilds	Identify and test various parts of embedded system	21	Specified	Internet	
D	2	Arduino Board	Identify and test various parts of embedded system.	21	Specified	Internet	
A	2	Embedded System	Identify and test various parts of embedded system.	21	Specified	Internet	
C	2	Pressure Sensor	Identify and select various types of sensors used in Smart City.	22	Specified	Internet	

D	2	Sensors	Identify and select various types of sensors used in Smart City.	22	Specified	Internet	
A	2	Temperature Sensor	Identify and select various types of sensors used in Smart City.	22	Specified	Internet	
D	2	Pressure Sensor	Identify and select various types of sensors used in Smart City.	22	Specified	Internet	
A	2	Sensor	Identify and select various types of sensors	22	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year-

Sl. No.	QUESTION	OPT. A	OPT. B
1	What is central data logger	A central data logger is a compact, battery-powered device equipped with an internal microprocessor, data storage, and one or more sensors, or sensor ports.	A central data logger is a technology which is used in show history of data used in different tasks.
2	How long can data loggers record?	The duration of data logging depends upon two parameters – the power backup of the code logger and its durable capacity. While most of the data loggers have high longevity and durability, they continue to operate for	The duration of data logging depends upon two parameters – the task backup of the task logger and its memory
3	Data logger input types are ?	Energy, Heat, Power, Pressure	Pressure , Temperature ,Humidity, Voltage, Current
4	What are the fundamental components of IoT?	Memory, inernet , data, videos	Sensors/Devices, Connectivity , Data Processing, User Interface, inernet
5	Monnit temperature sensor is used for what?	Accurate results	To measure the temperature at high degree

- 02- Module No. 02 : Module Name:…Sensors & informatic

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS
A central data logger is like a CPU which processes all forms of data.	A central data logger is like a task manager which manages all the task.	A	2	Central data logger	Sensors & information required in Smart City
The duration of data logging depends upon two parameters – the power backup of the data logger and its memory capacity	None of these.	A	2	data logger	Sensors & information required in Smart City
Pressure , Temperature , weight, force	None of these.	B	2	data logger	Sensors & information required in Smart City
Memory, inernet , programs, tools	None of these.	B	2	IoT	Sensors & information required in Smart City
Temperature sensor	Pressure sensor	A	2	Temperature sensor	Sensors & information required in Smart City

ɔn required in Smart City

WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
23	Specified	Internet	
23	Specified	Internet	
23	Specified	Internet	
23	Specified	Internet	
23	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02-

Sl. No.	QUESTION	OPT. A
1	What are the advantages of ZIGBEE?	Low duty cycle – provides long battery life. Low latency.
2	What are the advantages of BLUETOOTH?	It avoids interference from other wireless devices. It has lower power consumption. It is easily upgradeable. It has range better than Infrared communication.
3	What are the difference between ZIGBEE and BLUETOOTH?	There are seventy nine RF channels in Bluetooth. There are sixteen RF channels in zigbee.
4	What are the advantages of WSN?	Limited computation and communication resources are the only disadvantages in wireless sensor networks.
5	What are the uses of M2M communication?	Poution Control,Banking
6	What is the procedure of connecting BLUETOOTH module with ARDUINO?	Connecting Tx pin of BLUETOOTH with Rx Pin of ARDUINO and Connecting Rx pin of BLUETOOTH with Tx Pin of ARDUINO
7	What is the difference between UART and SPI COMMUNICATION?	SPI is faster than UART

8	What is the benefits of UART communication?	Hardware complexity is low Due to its simplicity
9	What are the difference between GSM and GPS?	GSM send and collect program from a central unit through a data call. GPS receives information about a data from satellites, but it can't communicate with a central unit
10	What are the advantages of solar energy	• Low Maintenance Costs. • Technology Development.
12	What are the advantages of series connection of solar panels?	so the current of the array increases.
13	What are the disadvantages of series connection of solar panels?	If one point breaks in the series circuit,the total circuit will break.
14	What are the difference between series and parallel connection in solar panel?	In series connection addition of voltages require and In parallel connection addition of curent requied.
15	Which of the following material is used in solar cells?	Silicon & Zinc

Module No. 03 : Module Name:…Wired and wireless communic

OPT. B	**OPT. C**
high duty cycle – provides long battery life. high latency.	Moderate duty cycle – provides long battery life. Moderate latency.
It can lose connection in certain conditions. It has low bandwidth as compared to Wi-Fi. It allows only short range communication between devices.	Security is a very key aspect as it +can be hacked. It has lower power consumption. It is easily upgradeable.
Bluetooth was developed under IEEE 802.15.1. Whereas ZIGBEE was developed under IEEE 802.15.444	ZIGBEE require less power where as BLUETOOTH required more power.
Wireless sensor networks are used in those harsh and hostile environments where wired networks can't be deployed.	They have limited battery power, limited storage and computation capabilities, prone to the security attacks and have limited bandwidth to communicate.
Poution Control,Broadcasting	Traffic Control, Banking
Connecting Tx pin of BLUETOOTH with Tx Pin of ARDUINO and Connecting Rx pin of BLUETOOTH with Rx Pin of ARDUINO	Connecting Vcc pin of BLUETOOTH with 5V Pin of ARDUINO and Connecting GND pin of BLUETOOTH with GND Pin of ARDUINO
SPI is slower than UART	SPI have moderate speed than UART having higher speed.

Communication is easy & Can be followed by every system	Set of Rules is easy followed by all development boards
GSM send and collect data from a central unit through a data call. GPS receives information about a location from satellites, but it can't communicate with a central unit	GSM is mobile technology and GPS is desktop driven technology
• Low Maintenance Costs. • Whether Independent	• high Maintenance Costs. • Whether Independent
The voltage of the array increases.	Both A & B
we can add more power devices, they have a higher output in terms of voltage .	more wires require in case of series connection as compare to parellel connection.
In series connection addition of current require and In parallel connection addition of voltages requied.	Both A & B
Lead & Zinc	Alumium and Lead

cation , commumication protocol and solar panel basic

OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER
None of these.	A	2	ZIGBEE	Identify and test Wired & Wireless communication	24-25	Specified Network
It can lose connection in certain conditions. It has low bandwidth as compared to Wi-Fi.It has range better than Infrared communication.	A	2	Bluetooth	Identify and test Wired & Wireless communication	24-25	Specified
ZIGBEE is lesser cost than that of BLUETOOTH	A	2	ZIGBEE & Bluetooth	Identify and test Wired & Wireless communication	24-25	Specified
None of these.	B	2	WSN	Identify and test Wired & Wireless communication	24-25	Specified
None of these.	C	2	M2M Communication	Identify and test Wired & Wireless communication	24-25	Specified
Both A & C	D	2	Bluetooth & Arduino	Identify and test Wired & Wireless communication	24-25	Specified
None of these.	A	2	UART & SPI	Identify and test Wired & Wireless communication	24-25	Specified

None of these.	A	2	UART	Identify and test Wired & Wireless communication	24-25	Specified
None of these.	B	2	GSM & GPS	Identify and test Wired & Wireless communication	24-25	Specified
None of these.	A	2	Solar Energy	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified
None of these.	B	2	Solar Panel	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified
None of these.	A	2	Solar Panel	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified
None of these.	A	2	Solar Panel	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified
Silicon & Glass	D	2	Solar Cell	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified solar cell

NIMI BOOK . PAGE NO	REMARK
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Name of the Trade - IOT Smart City. - Semester/Year- 02- Module

Sl. No.	QUESTION	OPT. A	OPT. B
1	What is the difference between UNIX and Linux?	UNIX is more advatages than that of Linus.	User Interface is not possible in UNIX but it is possiblle in Linux.
2	What is the advantage of Linux?	Many windows programs will not run in linux	There is a smaller selection of peripheral hardware drivers for linux.
3	What is Iot GateWay?	An Internet of Things (IoT) gateway is a pyschical device with software program that serves as the connection point between the cloud and controllers, sensors and intelligent devices.	An Internet of Things (IoT) gateway is a network that serves as the connection point between the cloud and controllers, sensors and intelligent devices.
4	What is the main function of IoT gateway?	An IoT Gateway is a solution for enabling IoT communication, usually device -to-device communications or device-to-cloud communications. The gateway is typically a hardware device housing application software that performs essential tasks.	Main function of IoT gateway is to build connection with server.
5	What are the advantages of IoT?	Adapting to New Standards. Better Time Management. Complexity	Adapting to New Standards. Better Time Management. Dependence. Better Quality of Life
6	What are the Advantages of PIR sensor?	Save uncessary use of power.	Easily detect machine fault

7	What are the disadvantages of IR sensor?	It can not detect obstacle having white color	It can not detect obstacle having black color
8	What is the use of LM35 and DHT11 ?	To measure Pressure	To measure lux
9	What is the use of turbidity Sensor?	To measure Oil Index	To measure air quality
10	Write down the reasons to use WiFi-GateWay?	Rather than having separate devices each doing one part of the job, a gateway does it all in a sleek, easy to manage package.	It's a one-stop shop for internet connectivity.

e No. 04 : Module Name:…Working of IOT Devices, network, databas
environmental parameters

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS
UNIX was originally started as a propriety operating system for Bell Laboratories, which later release their commercial version while Linux is a free, open source and a non-propriety operating system for the mass uses.	None of these.	C	2	LINUX	Perform installation, configuration and check working of IOT devices
Every aspect comes with additional features, and it provides a free downloading facility for all codes.	All of these	C	2	LINUX command	Perform installation, configuration and check working of IOT devices
A gateway is a piece of networking hardware used in telecommunications for telecommunications networks that allows data to flow from one discrete network to another.	None of these.	A	2	Iot GateWay	Perform installation, configuration and check working of IOT devices
Main function of IoT gateway is check whether device is connected with netwaork or not.	None of these.	A	2	Iot GateWay	Perform installation, configuration and check working of IOT devices
Adapting to New Standards. Better Time Management. Technology Takes Control of Life	None of these.	A	2	Iot	Perform installation, configuration and check working of IOT devices
Fine any kind of material movement easily	None of these.	A	2	PIR Sensor	Perform installation, configuration and check working of IOT devices

It can not detect obstacle having multi color	It can not detect human	B	2	IR Sensor	Perform installation, configuration and check working of IOT devices
To measure Tempature	To measure current	C	2	LM35 and DHT11	Perform installation, configuration and check working of IOT devices
To measure vaccum pressure	None of these.	D	2	Turbidity Sensor	Perform installation, configuration and check working of IOT devices
Simplicity of having a single device to set up.	All of these	D	2	Wi-Fi gateway	Perform installation, configuration and check working of IOT devices

e , app and web services and

WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
27-28	Specified	Internet	
27-28	Specified	Internet	
27-28	Specified	Internet	
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27-28	Specified	Internet	
27-28	Specified	Internet	
27-28	Specified	Internet	
27-28	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester,

Sl. No.	QUESTION	OPT. A
1	What is an inverter Device used for?	.To Conver DC to AC
2	What is the Applications of Inverter?	Inverters can be used as converter
3	What are the types of Inverters?	Single Phase Inverter Half Bridge Inverter Full Bridge Inverter Three Phase Inverter
4	What is meant by Modbus protocol?	A set of rules which followed by computer system.
5	What is MODBUS used for?	used to communication between different electronics devices to make communication easily.
6	Is Modbus analog or digital?	Digital
7	Why RTU is used ?	RTUs are used to convert electronic signals received from network and then it send to different clients connected to this network.
8	What are the advantages of LAN?	High Setup Cost Easy and Cheap Communication Internet Sharing Privacy Violations

9	Why DLMS is used for?	Smart energy meter
10	What are the three things make up a modbus frame?	Address,function code and data
11	Which of these businesses are most likely to use Modbus TCP/IP?	Power station
12	Modbus TCP/IP was mainly developed from which other Protocol?	Modbus ASCII
13	What network device is often deployed in Modbus TCP/IP Networks to separate fast response devices from bulk data transport devices.	Hubs
14	Which one of this is a real world application for Modbus TCPIP?	Performing Maintenance and Repair on remote devices
15	What are the three softwares used in GUI Programms?	Windows,Buttons,Mice
16	On which cable high speed ethernet works.`	Co-axial Cable
17	In Modbus Protocol which codes are included in request PDU?	Function Code, Response data
18	What is the length of port address in TCP/IP ?	Four bit
19	What is the one component that nearly all GUI Programs will have?	Frame
20	Which technology used for GPS network?	2G

/Year- 02- Module No. 05 : Module Name:…IOT connectivity to management .

OPT. B	OPT. C	OPT. D
To convert AC to DC	Both A & B	None of these.
Inverters can be used as an stabilizer	Inverters can be used as an UPS(Uninterruptible power supply)	None of these.
Single Phase Inverter Half Bridge Inverter Full Bridge Inverter Four Phase Inverter	Single Phase Inverter Half Bridge Inverter Full Bridge Inverter Multi Phase Inverter	None of These
A communication protocol developed by Modicon systems. In simple terms, it is a method used for transmitting information over serial lines between electronic devices.	In simple terms, it is a method used for transmitting information over serial lines between electrical devices.	None of These
used to transmit signals from instrumentation and control devices back to a main controller or data gathering system.	used for transfering data using different wires.	None of These
Analog	Both A & B	None of These
RTUs are used to convert electronic signals received from antenna by the form small amount of ac signal to receive some data.	RTUs are used to convert electronic signals received from (or required by) field instrumentation into (or from) the communication protocol that is used to transmit the data over a network.	None of These
Resource Sharing Data Security Threat Easy and Cheap Communication Covers Limited Area	Resource Sharing Software Applications Sharing Easy and Cheap Communication Internet Sharing	None of These

Smart Transportion system	Smart environment system	None of These
Address, tranaction code, and data	data, function code and window size	None of these
Whole Salers	Leisure Industries	None of these
Modbus RTU	Modbus PLC	None of these
Routers	Switches	All of these
Sending Router Updates	Separating data traffice	All of these
GUI Components,Graphics,Code	GUI Components,Event listeners, Application code	Frames , codes, Event
Twisted pair	UTP	Optical fiber
Function Code, Function data	Error Code,Esception Code	All of these
Sixteen bit	32 bit	8 bit
Mouse	Monitor	Button
3G	2G & / or 3G	4G

Cloud ,Multiple communication medium, protocol, device

ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
C	2	Inverter	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	Inverter	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	Inverter	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
B	2	Modbus protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
B	2	MODBUS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	MODBUS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	RTU	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	LAN	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

A	2	DLMS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	Modbus	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	Modbus TCP/IP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
B	2	Modbus TCP/IP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	Modbus TCP/IP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	Modbus TCP/IP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	GUI	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
D	2	Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
B	2	Modbus Protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
B	2	TCP/IP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
A	2	GUI	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
C	2	GPS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester

Sl. No.	QUESTION	OPT. A
1	What is Web API used for?	It is a software use for accessing internet at different location.
2	Give some popular examples of web API	Google Maps API's Fire API's TV APIs
3	What are the differences between Web Services and Web API?	1. A Web services is encoded form. 2. Web API is decoded form.
4	What are the components of webAPI?	SOAP ,UDDI,WSDL
5	Web API supports which of the following requests/responds data format bydefault?	JSON
6	What are various types of cctv cameras?	Dome CCTV Cameras. Bullet CCTV Cameras. PTZ Pan Tilt & Zoom Cameras. Infrared/night vision CCTV Cameras.

7	What are the application of motion sensor	Motion detector lights Motion detector alarms Motion detector cameras
8	What are the application of solar LED Street lamps?	Rural road lighting Monitoring and lighting of farms Homestay, resort, and hotel outdoor lighting
9	What are the different types of light luminaries?	Recessed Cove Lighting distance Pendant Lighting Direct / Indirect Pendant Recessed Lighting
10	The difference between lux and lumens?	Lux is a device name+ Lumens is a measuring unit
11	What are the different dimming control methods in lighting system?	1. Leading-edge dimming. 2. Trailing edge dimming. 3. Leading & Trailing-edge dimming LC. 4. Leading-edge dimming L.
12	What are the application of light dependent resistor (LDR)?	The LDR is used in solar panel The LDR is used in IR sensor. Used in CCTV. Used in the security alarm.
13	What is the principle of CCTV Camera?	Close Circuit Television (CCTV) is a system which is use to boardcast different channels in television.
14	What are the application of MQ135 GAS sensor?	To detect CNG gas
15	What are the parts of CCTV security systems?	The three basic components of all CCTV security systems are the camera, the monitor, and the cable.

/Year- 02- Module No. 06 : Module Name:…Web application using Smart Lighting system

OPT. B	OPT. C	OPT. D	ANSWER	LEVEL
It is a framework that helps you to create and develop HTTP based RESTFUL services.	It is a server which used to work web addresses only.	None of These	B	2
Google Maps API's Mobile API's TV APIs	Google Maps API's YouTube API's Twitter APIs	None of These	C	2
1. A Web services are use for accessing internet from service provider. 2. Web API is used for accessing different hosted websites.	1. A Web services are any bit of services that makes it accessible over the Internet and normalizes its correspondence through XML encoding. 2. It is a collection of communication conventions and subroutines used by various programs to communicate between them.	None of These	C	2
SAAP ,UDDI,WSDL	SAAP ,UDDI,WDDL	None of These	A	2
XML	BSON	All of these	D	2
Drone CCTV Cameras. Bullet CCTV Cameras. PTZ Pan Tilt & Zoom Cameras. Robot CCTV Cameras.	Drone CCTV Cameras. mobile CCTV Cameras. PTZ Pan Tilt & Zoom Cameras. Robot CCTV Cameras.	None of These	A	2

Motion detector animals Motion detector winds Motion detector train	Motion detector door Motion detector vehicle Motion detector bus	None of These	A	2
Natural lighting Monitoring and lighting of farms Homestay, resort, and hotel outdoor lighting	sun lighting Monitoring and lighting of farms Homestay, resort, and hotel outdoor lighting	None of These	A	2
Recessed Cove Lighting Indirect Pendant Lighting Direct / Indirect Pendant Recessed Lighting	Recessed Cove Lighting direct Pendant Lighting Direct / Indirect Pendant Projection Lighting	None of These	B	2
Lux is a form of light ray Lumens is a measuring intensity of light ray.	Lux is a measure of illuminance, the total amount of light that falls on a surface Lumens is a measure of luminous flux, the total amount of light emitted in all directions.	None of These	C	2
1. Leading-edge dimming. 2. lighr edge dimming. 3. Leading & Trailing-edge dimming LC. 4. Leading-edge dimming L.	1. Leading-edge dimming. 2. Trailing edge dimming. 3. Leading & Trailing-edge dimming LC. 4. Local dimming L.	None of These	A	2
The LDR is used in PIR sensor The LDR is used in IR sensor. Used in CCTV. Used in the security alarm.	The LDR is used in the infrared astronomy. The LDR is used in optical coding. Used in light activated control circuits. Used in the security alarm.	None of These	C	2
Close Circuit Television (CCTV) is a system which is use to make such kind of camera which can be use in different electronic devices.	Close Circuit Television (CCTV) is a system which is a closed circuit, and all elements of the system are directly connected, unlike commercial TV broadcast where any TV can be tuned to receive the transmitted signal	None of These	C	2
To detect LPG gas	To detect wastage gas	To detect smoke	B	2
The three basic components of all CCTV security systems are the camera, CPU, and the cable.	The three basic components of all CCTV security systems are the camera, DVD , and the cable.	None of These	A	2

; APIs and generate reports using templates,

KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
Web API	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
Web API	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
Web service & Web API	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
Web API	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
Web API	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
CCTV Camera	Identify and test Smart Lighting system	34-35	Standard Unit	Internet	

Motion sensor	Identify and test Smart Lighting system	34-35	Specified	Internet	
Solar LED	Identify and test Smart Lighting system	34-35	Specified	Internet	
Light luminaries	Identify and test Smart Lighting system	34-35	Specified	Internet	
lux & lumens	Identify and test Smart Lighting system	34-35	Specified	Internet	
Dimming control methods	Identify and test Smart Lighting system	34-35	Specified	Internet	
LDR	Identify and test Smart Lighting system	34-35	Specified	Internet	
CCTV Camera	Identify and test Smart Lighting system	34-35	Specified	Internet	
MQ135	Identify and test Smart Lighting system	34-35	Specified	Internet	
CCTV Camera	Identify and test Smart Lighting system	34-35	Specified	Internet	

Name of the Trade - IOT Smart City. - Semeste

Sl. No.	QUESTION	OPT. A
1	What is the working Principle of Solar street light?	Solar street lights have different light dependent resistors which gives power to the solar batteries for charging and that can be use in future.
2	What is the process of Install and test Solar street light?	To install solar street light we required inverter, batteries and LDR modue.
3	What is the basic concepts of battery ?	Batteries are a collection of one or more cells whose chemical reactions create a flow of electrons in a circuit. All batteries are made up of three basic components: an anode (the '-' side), a cathode (the '+' side), and some kind of electrolyte
4	What are the basic components of solar street light?	• Solar Panels • AC LED Light. • Solar Rechargeable Battery. • Smart Solar Controller • Pole. • Interconnecting Cables.
5	Application of DUSK-DAWN sensor in street light	To on street light at night and off street light in day automatically.
6	Where the solar street lights can be used?	Residential,Commercial
7	What are the benefits of using solar street light?	Reduces energy Load,Minimum maintenance,More saving,Provide security and safety for pedestrians and motor drivers.

8	Why LDR is used in Street Light?	LDR is used for Brightness
9	What is the effect of inclination angle on generation of solar energy?	The effect of an array's tilt angle on solar PV energy output may be up to 20% compared to that of flat installations.
10	What is the difference between off grid and On grid in solar?	off-grid system require batteries and on-grid system does not require batteries.
11	What are different application of LCD ?	Print display , Text display , Image display , Digital display
12	What are the different types of components used in smart parking?	parking sensors, steering angle sensors, display units, ECU
13	What are the advantages of LoRa WAN private network?	information security, since it is a private network, the company indeed can connect its internal system to the network with no need for using the Internet; the acquisition cost, since the company does not need to pay any subscription to a provider.
14	Which proximity sensors are used in automotive?	Capacitive Proximity Sensor

15	What is the sensing range for magnetic proximity sensor?	100mm

OPT. B	OPT. C	OPT. D
Solar street lights have photovoltaic cells that are responsible for converting the sunlight's radiation into electricity. The energy conversion process is known as the "photovoltaic effect." The electrical energy is stored in the solar batteries.	Solar street lights have working principle as the principle of emergency light's working principle.	None of These
Installation of the Foundation Installation of the Battery and Battery Box. Setup the Street Lamp with pole.	To install solar street light we required AC street light, battery , inverter and poles.	None of These
Batteries stores power for long spam of time for future useages. All batteries are made up of three basic components: an anode (the '-' side), a cathode (the '+' side), and some kind of electrolyt	Battery is working as same principle of capacitor means it stores charge like capacitor stores.	None of These
• Solar Panels • Solar Rechargeable Battery. • Smart Solar Controller • Pole.	• Solar Panels • DC LED Light. • Solar Rechargeable Battery. • Smart Solar Controller • Pole. • Interconnecting Cables.	None of These
To off street light at night and on street light in day automatically.	To off street light at night and on street light in day manually with help of sensor.	None of these.
Industrial,Space	Both A & B	None of these
Reduces energy Load,Maximum maintenance,More saving,Provide security and safety for pedestrians and motor drivers.	Reduces energy Load,Minimum maintenance,Less saving,Provide security and safety for pedestrians and motor drivers.	None of these

LDR is used for automatic ON/OFF according to day and night	LDR is used for glow only in Night	LDR is used for glow only in Day
The effect of an array's tilt angle on solar PV energy output may be up to 50% compared to that of flat installations	The effect of an array's tilt angle on solar PV energy output may be up to 90% compared to that of flat installations	None of these.
Both the system required batteries	On-grid system require Solar Panels and off-grid system does not require Solar Panels.	None of these.
listen music , Text display , Image display , Digital display	Video display , Text display , Image display , Digital display	None of These
parking sensors, IR sensors, display units, ECU	parking sensors, PIR sensors, display units, ECU	None of These
LoRa WAN private network is a private network which give permision to all its user to desired network.	LoRa WAN private network is like WAN but only it gives higher data security.	None of These
Inductive Proximity Sensor	Magnetic Proximity Sensor	Ultrasonic Proximity Sensor

10mm	120mm	50mm

ed on IOT and Cloud Technology , Smart Parking

ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
B	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
B	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Battery	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
C	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Solar Street Light	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	

B	2	LDR	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Solar Energy	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
A	2	Solar	SMART Street Light based on IoT and Cloud Technology.	36-37	Specified	Internet	
C	2	LCD	Different module / devices used in SMART Parking.	38	Specified in sensor	Internet	
C	2	Smart parking	Different module / devices used in SMART Parking.	38	Specified in sensor	Internet	
A	2	LoRa WAN	Different module / devices used in SMART Parking.	38	Wireless Technology	Internet	
D	2	Proximity sensor	Different module / devices used in SMART Parking.	38	Specified in sensor	Internet	

C	2	Proximity sensor	Different module / devices used in SMART Parking.	38	Specified in sensor	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Mod

Sl. No.	QUESTION	OPT. A	OPT. B
1	What are the advantage of GPS?	Navigation Low Cost Crime and Security Easy to Use Employer Monitoring Safety	Navigation High Cost Crime and Security Easy to Use Employer Monitoring Insecure
2	What are the types of Antenna?	Narrowband Antenna Broadband Antennas Genetic Antenna	Conclave Antenna Complex Antennas Genetic Antenna
3	What are the Components of weather monitoring system?	• Thermometer • Barometer • Hygrometer • Anemometer • Pyranometer	• Multimeter • Barometer • Hygrometer • Anemometer • Pyranometer
4	What is the application of anemometer?	measuring the speed of airflow	measuring the speed of waterflow
5	The IoT will run on many communication standards.Which of these are standart body or protocols?	Tyrell,Z-Wave	AllSean,Tyrell
6	What is being used by IoT?	Radio Identification technology	Satellite
7	How many wires SPI protocol used?	2	3

8	Why I2C is used?	An application layer protocol	A networking communication protocol for multi-master support
9	What is the use of turbidity Sensor ?	To Check air quality	To check quality of water
10	What is the use of Barometer?	Measuring air and sea surface	Measuring wind speed

ule No. 08 : Module Name:…Smart Traffic and IOT Application f

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS
Navigation High Cost Easy to Use System Monitoring Insecure	None of These	A	2	GPS	Different module / devices used in SMART Traffic.
Mono Antenna Multi Antennas Genetic Antenna	None of These	A	2	Antenna	Different module / devices used in SMART Traffic.
• Thermometer • Barometer • Hygrometer • Anemometer • Glucometer	None of These	A	2	weather monitoring system	Different module / devices used in SMART Traffic.
measuring the speed of light	All of these	A	2	anemometer	Different module / devices used in SMART Traffic.
Zigbee,Lora	None of these	C	2	Protocols	Different module / devices used in SMART Traffic.
Cable	Broadband	A	2	IoT	IoT Application for Water & Waste Management.
1	4	D	2	SPI	IoT Application for Water & Waste Management.

An OS for distributed network communication	A cellular communication protocol	B	2	I2C	IoT Application for Water & Waste Management.
Measuring Humidity	Measuring atmospheric pressure	B	2	Turbidity Sensor	IoT Application for Water & Waste Management.
Measuring atmospheric pressure	Measuring Humidity	C	2	Barometer	IoT Application for Water & Waste Management.

or Water and Waste Management

WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
39	Modern GPS Technology	Internet	
39	Specified in sensor	Internet	
39	Specified in sensor	Internet	
39	Specified in sensor	Internet	
39	Specified in sensor	Internet	
40	Water pH measurement	Internet	
40	Water measurement	Internet	

40	Water pH measurement	Internet	
40	Specified in Thingspeak	Internet	
40	Specified in Thingspeak	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 01- Module

Sl. No.	Question	OPT A	OPT B	OPT C
1	What to be used as PPE for protecting eye?	Nose mask	Helmet	Goggles, Face shield, Hand Sheild, Head shield
2	What are the symptoms of shock?	Appear pale, ice cold, burns,breathing becomes shallow	Breathing normal, no injuries	Both A & B
3	What is the range of Standard Wire gauge (SWG) to measure ?	0 to 32	0 to 34	0 to 35
4	In which angle three phase system voltagescan be separated ?	45	90	120
5	What are the benefits of three phase ac power supply?	Run high power loads, Reduction of copper consumption	Efficient AC supply upto 100 watts	Both A & B

e No. 01 : Module Name:…Safety Practice & Basics of AC & Ele

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Ear plug, Ear muff	C	2	PPE	Safety Practice	1	Specified in safety
None of these	A	2	Fullform	Safety Practice	1	Specified in PPE
0 to 36	D	2	SWG	Basics of AC and Electrical Cables	1	Specified in SWG
180	C	2	Fullform	Basics of AC and Electrical Cables	1	specified conductors mesurement tool
Less complex design	A	2	AC 3 phase	Basics of AC and Electrical Cables	1	Specified electrical terms

ectrical Cables

Answer available in NIMI book Page No.	Remarks
Page14 of 1st sem Electronics Mechanic	
Page 11 of 1st sem Electronics Mechanic	
Page 46 of 1st sem Electronics Mechanic	
Page 41 of 1st sem Electronics Mechanic	
Page 41 & 42 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Yea

Sl. No.	Question	OPT A	OPT B
1	In Ohm's law, if voltage increases and resistance stays the same:	current remains the same	power decreases
2	What is the difference between Active and Passive components?	Passive component obey Ohm'sLaw and Kirchhoff's Law & Active component donot obey the above Laws	Active component obey Ohm'sLaw and Kirchhoff's Law & Passive component donot obey the above Laws
3	What is the Use of Inductor In a circuit?	storing electrical energy in the form of electric energy	storing electrical energy in the form of chemical energy
4	What a capacitor blocks?	Alternating Current	Direct Current
5	Which of these convert electricity to a magnetic field?	Transistor	Capacitor
6	**Devices may be used for extending the range of the instruments?**	Shunt	Multiplier
7	Why a moving iron instrument used ?	D.C.Only	A.C.only
8	What is the main advantage of using a digital storage oscilloscope?	uses digital storage	uses analog storage

9	Where LCR meter is used?	measure the values of Current(I), capacitance (C) and resistance (R) directly.	measure the values of inductance (L), capacitance (C) and resistance (R) directly.
10	Why a Digital multimeter is used ?	measuring a.c. and d.c. current, voltage and resistance	measuring a.c. current and voltage

ar- 01- Module No. 02 : Module Name:…Active , Passive Compo
Measurements

OPT C	OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus
Current Decreases	Resistance Decreases	C	2	Ohm's law	Active , Passive Components	2-3
Passive component obey Ohm'sLaw and Kirchhoff's Law & Active component also obey the above Laws	None of these	A	2	Active , Passive	Active , Passive Components	2-3
storing electrical energy in the form of magnetic energy	None of these	C	2	Inductor	Active , Passive Components	2-3
Both Alternating & Direct Current	None of these	B	2	Capacitor	Active , Passive Components	2-3
Inductor	Resistor	C	2	Inductor	Active , Passive Components	2-3
Current Transformer	All of these	D	2	Definition	AC & DC Measurements	2-3
Both A.C & D.C	None of these	C	2	MI Instrument	AC & DC Measurements	2-3
uses mixed mode storage	uses disc storage	A	2	DSO	AC & DC Measurements	2-3

measure the values of inductance (L), and resistance (R) directly.	None of these	B	2	LCR	AC & DC Measurements	2-3
measuring d.c. current and resistance	measuring a.c. voltage and resistance	A	2	Digital Multimeter	AC & DC Measurements	2-3

nents and AC & DC

Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Specified in Ohm's Law	Page 87 of 1st sem Electronics Mechanic	
Specified in active & passive components	Page 87,110,148of 1st sem Electronics Mechanic	
Specified in inductors	Page 110 of 1st sem Electronics Mechanic	
Specified in capacitor	Page 149 of 1st sem Electronics Mechanic	
Specified in inductors	Page 124 of 1st sem Electronics Mechanic	
Specified in Measuring Instrument	Internet	
Specified in Measuring Instrument	Internet	
Specified in DSO	Internet	

Specified in MSO	Internet	
Specified in multimeter	Page 67 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Mod
solc

Sl. No.	Question	OPT A	OPT B	OPT C
1	Should solder be reheated on a circuit board (keeping the same solder, not resoldering with new metal)?	Yes, as many times as you want. Solder will always liquef	Yes, once or twice using flux but only with prototype boards.	No, you only get one try, the solder will not reheat.
2	What can be used to clean circuit boards when you are finished soldering?	Defluxer spray	An abrasive pad	Window cleaner or multipurpose cleaner
3	Why flux is used during soldering?	Increase flidity of solder by lowering its melting	Prevent Oxide formation	Wash away surplus solder
4	What should be added in tin-lead solder to increase the mechanical property?	Antimony	Molybdenum	Bismuth
5	Why Soldering iron is wedge shaped?	Apply high pressure at edbe	Retain heat	Retain solder
6	Which of the following is true?	Soft Solder-Lead-37%, Tin-63%	Medium Solder-Lead-40%, Tin-60%	Electric Solder-Lead-50%, Tin-50%
7	Which tools are needed for solder circuit boards?	Screw driver, heat tape, soldering iron	Soldering iron , solder, Flux	Plier, Soldering iron, Magnet

8	Which devices are required for SM Technology?	Resistors, Capacitors	Diode , Large Transformers	large transformers and heat-sinked power semiconductors.
9	Which among this is/are advantages of SMT technology?	offers greater stability and mechanical performance in the conditions of extreme vibration and shaking.	Printed circuit boards (PCBs) crafted with this tecnology gives better circuit speed and is much compact.	components can be placed on both ends of the circuit board.
10	Which digital IC package type makes the most efficient use of PCB ?	SMT	TO can	Flat Pack

ule No. 03 : Module Name:…Soldering / Desoldering , Basic SM
dering/ Desoldering

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
No, once solder cools it becomes brittle.	B	2	Solder	Soldering / Desoldering	4-5	Specified in soldering
A cotton ball with alcohol on it	A	2	Cleaning of Circuit board	Soldering / Desoldering	4-5	Specified in soldering
Fillup the joint gap	B	2	uses	Soldering / Desoldering	4-5	Specified in soldering
Tellunum	A	2	Components of soldering	Soldering / Desoldering	4-5	Specified in soldering
Forge welding	B	2	Soldering iron	Soldering / Desoldering	4-5	Specified in soldering
Plumber's Solder- Lead-30%, Tin-70%	A	2	Soldering	Soldering / Desoldering	4-5	Specified in soldering
Pipe cleaners, adhesive, Soldering Iron	B	2	Solder circuit Board	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD

Capacitors, Heatsinked power semiconductors	A	2	Components	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMT
A, B & C	D	2	SMT	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMT
DIP	A	2	Types	Soldering / Desoldering	4-5	Specified in soldering

⁄D Components

Answer available in NIMI book Page No.	Remarks
Page 92 of 1st Sem Electronics Mechanic	
Page 93 of 1st Sem Electronics Mechanic	
Page 93 of 1st Sem Electronics Mechanic	
Page 93 of 1st Sem Electronics Mechanic	
Page 98 of 1st Sem Electronics Mechanic	
Page 101 of 1st Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	

Page of 2nd Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	
Page92 of 1st Sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Modu

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Sl. No.	Question	OPT A	OPT B	OPT C
1	Why Zener Diode is mostly used?	Half wave Rectifier	Full wave Rectifier	Voltage Regulator
	Which of the given statements is true regarding p-n junction diode?	Diodes are controlled device	Diodes are 4 terminal devices.	Diode have 4 junctions.
3	What a transformer transforms?	Voltage	Current	Frequency
4	Which principle is used in transfomer ?	Self Induction	Ohm's Law	Mutual Induction
5	What is the majority charge carrier in N region in a PN junction ?	holes	Electrons	Both Electrons & Holes
6	What are the charges on either side of the junction in a PN junction ?	Majority carriers	Minority carriers	Both A & B
7	What is a clamper circuit? 1.adds or subtracts a dc voltage to a waveform 2. does not change the waveform 3. Amplifies the waveform , which are correct?	1,2	1,3	1,2,3

8	The operating region of transistor used in digital circuits ?	Linear Region	Active Region	Breakdown Region
9	The Relationship between IE,IB & IC	IE=IB+IC	IB=IE+IC	IC=IE+IB
10	What is the relation between α and β?	β=α/(α-1)	β=α/(1-α)	β=α/(α+1)
11	What does a decimal number system represents?	Quality	Quantity	Position
12	What is the variation of DIP IC pins depending on the internal circuitry?	4 to 60	4 to 64	5 to 64
13	How many EX-OR gates are used in Full Adder?	1	2	3
14	What is the function of TTL 74155 IC?	Multiplexer	Demultiplexer	Decoder
15	What a Flip flops store?	Voltage	Energy	Current
16	What is one disadvantage of an S_R flipflop?	It has no enable input	It has an invalid state	It has no clock input
17	In a comparator,if we get input as A>B then what is the output ?	1	0	A
18	Two NOR gates or Two NAND gates can be used to construct?	Master Slave FLIPFLOP	D FLIPFLOP	JK FLIPFLOP
19	What a Counter is called if itCounts from 1111 to 0000 ?	Up counter	Down Counter	Synchronous counter

20	What is the function of digital IC 74LS138?	Multiplexer	Demultiplexer	Counter

ıle No. 04 : Module Name:…Input/ Output Characteristics of vaı
/arious Digital Circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
LED	C	2	Semiconductor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
Diodes are unidirctional device.	D	2	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction
Voltage & Current	D	2	Transformer	Input/ Output Characteristics of various Analog Circuits	6-7	ratio specified formula in transformer
None of these	C	2	Principle	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transformer
Photons	B	2	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in n-type semiconducto r
Fixed donor & Acceptor ions	D	2	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction
2,3	A	2	Clamper	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clamping circuit

Saturation and Cutoff Region	D	2	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
IE=IB-IC	A	2	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
β=(α+1)/(α-1)	B	2	relationship	Input/ Output Characteristics of various Analog Circuits	6-7	Derived relation in transistor
None of these	C	2	Decimal number system	Various Digital Circuits	8-9	Specified in number system
6 to 64	B	2	Logic Families	Various Digital Circuits	8-9	specified in logic Families
4	B	2	Adder	Various Digital Circuits	8-9	Specified in adder
Shift Register	C	2	Decoder	Various Digital Circuits	8-9	Specified in encoder of digital
Binary Information	D	2	Flip Flop	Various Digital Circuits	8-9	specified in Flip flop
It has only a singlre output.	B	2	Sr flipflop	Various Digital Circuits	8-9	specified in Multiplxer
B	A	2	Comparator	Various Digital Circuits	8-9	Specified in comparator
SR FLIPFLOP	D	2	Flip Flop	Various Digital Circuits	8-9	specified in Flip flop
Asynchronous Counter	B	2	counter	Various Digital Circuits	8-9	specified in counter

Shift Register	B	2	Demultiplexer	Various Digital Circuits	8-9	Specified in Demultiplexer

rious Analog Circuits ,

Answer available in NIMI book Page No.	Remarks
Page 223 of 1st Sem Electronics Mechanic	
Page 200 of 1st Sem Electronics Mechanic	
Page 210 of 1st Sem Electronics Mechanic	
Page 211 of 1st Sem Electronics Mechanic	
Page 200 of 1st Sem Electronics Mechanic	
Page 207 of 1st Sem Electronics Mechanic	
Page 9 of 2nd Sem Electronics Mechanic	

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Page 19 of 2nd Sem Electronics Mechanic	
Page 139 of 2nd sem Electronics Mechanic	
Page 134 of 2nd sem Electronics Mechanic	
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Page 159 of 2nd sem Electronics Mechanic	
Page 172 of 2nd sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Module

Sl. No	Question	OPT A	OPT B	OPT C
1	What is the name of the processor which performs arithmetical operations ?	Control	CPU	ALU
2	What the operating system manages?	Memory	Processor	Disk & I/O Devices
3	Dot-matrix, Deskjet, Inkjet and Laser are all Which types of computer peripherals?	Printers	Software	Monitors
4	Where does your PC store your programs when the power is off?	DRAM	Cache	ROM
5	Which cables are very cheap and easy to install but badly affected by noise interference?	STP	UTP	Co-axial cable
6	Arrange in ascending order the units of memory TB,KB,GB,MB	TB>MB>GB>KB	MB>GB>TB>KB	TB>GB>MB>KB
7	What is the benifit of networking of one computer with another computer?	Increases computer speed	Sharing of cables to cut down expenses and clutter	Sharing of resources to cut down the amount of equipment needed
8	Which type of telephone connector is used to connect a four pair twisted pair cable?	RJ35	RJ45	RJ11
9	What a device is called that forwards packets between networks by processing the routing information including the packet?	Bridge	Firewall	Router

10	Which protocol provides e-mail facility among different hosts?	FTP	SMTP	TELNET
11	What is the use of simulation Software?	Desing a circuit	Design and test a circuit	Replace defectivecompone nt
12	Tina software is used to create	Circuit drawing	electrical circuits	Electronics circuits
13	Which of the following are disadvantages of simulation?	Simulation allows "what -if" types of questions	Simulation doesnot interfere with the real world system	Simulation can usually be performed by hand or using a small
14	Which of the following are advantages of simulation?	In ability to analyse large and complex real world situations	Is not usually easily transferable to other problems	Could be disruptive
15	Which of these are disadvantages of simulation?	inability to analyse large & complex real-world situations	"time compression" capability	is not usually easily transferable to other problems

e No. 05 : Module Name:…Computer System & Networking ,Elec
Software

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Register	B	2	Computer fundamentals	Computer System & Networking	10-11	Standard Specified
All of these	D	2	Operating System	Computer System & Networking	10-11	Standard Specified
Keyboards	A	2	Printers	Computer System & Networking	10-11	Types of Printers
Hard Disk Drive	D	2	Hard Disk	Computer System & Networking	10-11	Standard Specified
Optical Fibre	B	2	Connector Cables	Computer System & Networking	10-11	Standard Specified
GB>MB>KB>TB	C	2	Computer memory	Computer System & Networking	10-11	Standard Specified
Increasing the speed of the network	C	2	Networking	Computer System & Networking	10-11	Standard Specified
RJ21	C	2	Connector Cables	Computer System & Networking	10-11	Standard Specified
Hub	C	2	Router	Computer System & Networking	10-11	Standard Specified

SNMP	B	2	Protocol	Computer System & Networking	10-11	Standard Specified
Solder and Desoder component	B	2	Simulation	Electronic Simulation Software	12	Standard Specified
Mechanical design	C	2	Simulation	Electronic Simulation Software	12	Standard Specified
Both A & B	D	2	Simulation	Electronic Simulation Software	12	Standard Specified
By interfering with the real world system	B	2	Simulation	Electronic Simulation Software	12	Standard Specified
None of these	C	2	Simulation	Electronic Simulation Software	12	Standard Specified

ctronic Simulation

Answer available in NIMI book Page No.	Remarks
253 page 1st sem Electronics Mechanic	
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331 page of 1st sem Electronics Mechanic	
255 page of 1st sem Electronics Mechanic	
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331 page of 1st sem Electronics Mechanic	
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Name of the Trade - IoT Smart City. - Semester/Year- 01- Modu
Converter Circuits And vario

Sl. No.	Question	OPT A	OPT B	OPT C
1	Function of transducer is to convert	Electrical signal into non electrical quantity	Non electrical quantity into electrical signal	Electrical signal into mechanical quantity
2	Why the transducers are used ?	RTD	Thermistors	Ultrasonic
3	What is the main difference between RTD and thermistors?	RTD have PTC & Thermistor have NTC	RTD have NTC & Thermistor have PTC	RTD &Thermistor have NTC
4	What is the principle of operation of LVDT based on the variation ?	Self Inductance	Mutual Inducatance	Reluctance
5	What type of Temperature sensor is find in an Integrated Circuit?	Thermistor	Semiconductor based sensor	Resistance Thermometer
6	Arrange the following components of Temperature measurement system 1.Hot body 2.Display system 3.Thermocouple 4.Amplifier and Converter	1,2,3,4	1,3,4,2	1,4,3,2
7	What is the input of Thermocouple to generate output voltage ?	Circuit parameters	Humidity	Temperature
8	Why a Strain Gauge is used?	Mechanical displacement into a change of resistance	Pressure into a change of resistance	Force into displacement

9	Disadvantages of Strain Gauges are-- 1.Low fatigue life 2.they are expensive, brittle & sensitive to temperature 3.Poor linearity	Both 1 & 2	Both 2 & 3	Both 1 & 3
10	For what type of measurement Capacitive Transducers are used?	Static	Dynamic	Transient
11	Which Proximity sensor can sense metals as well as the levels of liquids?	Inductive Proximity Sensor	Capacitive Proximity Sensor	Ultrasonic Proximity Sensor
12	What is the basis on which sensors are classified ?	Functions	Performance	Output
13	What is the application of LVDT ?	Joint motion	Finger movement	Limb Movement
14	What is the input signal of a Power Amplifiers in comparision to voltage amplifier ?	Small	Very Small	Large
15	When a transducers converts the input signal into the output digital signal, what is a dicrete function of time is known as?	Active	Analog	Digital
16	Why signal conditioner used?	Attenuating the Voltage	Maintaining a constant Volatge	Keeping the voltage is zero
17	What do the high pass filters generally comprise of?	Capacitive series arm & Inductive shunt arm	Capacitive shunt arm & Inductive series arm	Capacitive series arm & Inductive series arm

18	What do the low pass filters generally comprise of?	Capacitive series arm & Inductive shunt arm	Capacitive shunt arm & Inductive series arm	Capacitive series arm & Inductive series arm
19	The output voltage V0 is a function of what in an Inverting amplifier circuit?	Input Current	Output Current	Source Voltage
20	Which of the following statements are true about DAC0808?	Parallel digital data to analog data conversion	It has current has an output	Both A & B

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le No. 06 : Module Name:…Sensors, Transducers & Applications, Sig
us types of sensor inputs as well as control circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
All of these	B	2	Transducer	Sensor Transducer	13-14	Specified in transducer
All of these	D	2	Transducer	Sensor Transducer	13-14	Specified in transducer
RTD &Thermistor have PTC	A	2	RTD & thermistor	Sensor Transducer	13-14	Specified in transducer
Permanence	B	2	LVDT	Sensor Transducer	13-14	Specified in transducer
Thermocouple	B	2	Thermistor	Sensor Transducer	13-14	Specified in transducer
4,3,1,2	B	2	RTD	Sensor Transducer	13-14	Specified in transducer
Voltage	C	2	Thermocouple	Sensor Transducer	13-14	Specified in transducer
Pressure into displacement	A	2	Strain Gauge	Sensor Transducer	13-14	Specified in transducer

1 Only	B	2	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
Both static & dynamic	B	2	Sensor	Sensor Transducer	13-14	Specifeid in sensor
Magnetic Proximity Sensor	C	2	Proximity Sensor types	Sensor Transducer	13-14	Specifeid in sensor
A,B & C	D	2	Sensor Types	Sensor Transducer	13-14	Specifeid in sensor
Heart wall motion	C	2	LVDT	Sensor Transducer	13-14	Specified in transducer
None of these	C	2	Power amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
Pulse	C	2	Digital sensor	Various types of sensor inputs as well as control outputs	15-16	Specified
Boosting the voltage	D	2	Signal Conditioner	Various types of sensor inputs as well as control outputs	15-16	Specified
Capacitive shunt arm & Inductive shunt arm	A	2	High Pass filter	Various types of sensor inputs as well as control outputs	15-16	Specified

Capacitive shunt arm & Inductive shunt arm	B	2	Low Pass Filter	Various types of sensor inputs as well as control outputs	15-16	Specified
Source Current	C	2	Inverting Amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	B	2	DAC	Various types of sensor inputs as well as control outputs	15-16	Specified

nal Conditioning ,

Answer available in NIMI book Page No.	Remarks
242 of Electronics Mechanic	
245 of Electronics Mechanic	
251 of Electronics Mechanic	
243 of Electronics Mechanic	
243 of Electronics Mechanic	
253 of Electronics Mechanic	
257 of Electronics Mechanic	
258 of Electronics Mechanic	

258 of Electronics Mechanic	
262 of Electronics Mechanic	
262 of Electronics Mechanic	
245 of Electronics Mechanic	
258 of Electronics Mechanic	
Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	

3rd sem Electronics Mechanic	
3rd sem Electronics Mechanic, pg-262	
3rd sem Electronics Mechanic,pg-262	

Name of the Trade - IOT Smart City. - Semeste

Sl. No.	Question	OPT A	OPT B
1	Which register usually store the output generated by ALU in several arithmetic & logical operations?	Accumulator	Special function register
2	What is the order decided by a processor or the CPU of a controller to execute an instruction?	decode, fetch, execute	execute, fetch, decode
3	What is the maximum capability of addressing the off-chip data memory & off-chip program memory in a data pointer?	8K	16K
4	Which operation are performed by Stack Pointer during its increment operation?	Push	Pop
5	Between 8051 & 8052 which microcontroller have more Data memory?	8051	8052
6	What is the fuction of Accumulator?	To store one of the operands before the execution of an instruction	To store the result after the execution of an instruction
7	What is the advantage of register indirect addressing mode?	It makes use of register R0 & R1	It uses the data dynamically
8	Which GPR holds 8 bit diviser and store the remainder after the execution of division operation?	A Register	B Register
9	If we say microcontroller is 8-bit then here 8-bit denotes size of:	Data Bus	ALU
10	What is the file extension that is loaded in a microcontroller for executing any instruction?	.doc	.C

r/Year- 01- Module No. 07 : Module Name:…Families of Mic

OPT C	OPT D	Ans	Level	Key word for question
Timer register	Stack Pointer	A	2	Register
fetch, execute, decode	fetch, decode, execute	D	2	Instructions
32K	64K	D	2	Memory Organisation
Return	All of these	A	2	Stack
Both have same memory	None of these	B	2	Microcontroller
Both A & B	None of these	C	2	Accumulator
It makes use of operator @	It is easy	B	2	indirect addressing mode
R0 to R7	All of these	B	2	Instruction
Control Bus	Address Bus	B	2	ALU
.txt	.hex	D	2	Programming

crocontroller with performance evaluation

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Families of Microcontroller & performance evaluation	17-18	Standard in microcontroller	223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard in instruction sets of microcontroller	218 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Memory Organisation of microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard in microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Different types of Microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Specified in registers of microcontrollers	222 & 223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	PSW of microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard in instruction sets of microcontroller	226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	224 & 226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Specified during execution of programm	231 of Electronics Mechanic	

Name of the Trade - IOT Smart City. - Semester/Year- 01- Modu

Sl. No.	Question	OPT A	OPT B	OPT C
1	What is the example of bluetooth?	Personal Area Network	Local Area Network	Virtual Private Network
2	What bluetooth supports?	Point to point connection	Point to multipoint connection	Both A & B
3	What is an example of Wi-fi enable device ?	Gaming console	Laptop	Phone
4	What is the sequence of lifecycle of IOT? Collect>Communicate>----------->Act	Acknowledge	Analyse	Examine
5	Which among the following situations active RFID tag used instead of a passive RFID tag?	An Inventory tag	To track the movement of people or car	To prevent theft of retail items
6	In Arduino what is the symbol used to calculate modulo?	%	#	!
7	What function is used to detect a button press on the arduino?	buttonRead()	buttonPress()	analogRead()
8	What is the delay(100000) results ?	100000 seconds	100 seconds	1 second
9	When writing a sketch, how do you decide which features belong in the setup function and which belong in the loop function?	Features that need to be initialised go in setup and Features that need to run continuously go in loop	Features that need to run continuously go in setup & Features that need to be initialised go in loop	Both A & B are correct
10	It starts with a /* and continues until a */ what does this do?	Loads asketch	Makes comments	Complies quicker

ule No. 08 : Module Name:…IOT Architecture & components of

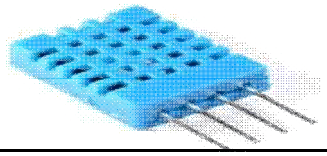
OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Wide Area Network	A	2	Bluetooth	Identify different IoT Applications with IoT architecture.	19	Specified
Multipoint to point connection	C	2	Bluetooth	Identify different IoT Applications with IoT architecture.	19	Specified
All of these	D	2	Wi-Fi	Identify different IoT Applications with IoT architecture.	19	Specified
Rectify	B	2	IoT	Identify different IoT Applications with IoT architecture.	19	Specified
To open secured doors	B	2	RFID	Identify different IoT Applications with IoT architecture.	19	Specified
$	A	2	Arduino IDE	components of IOT System	20	Specified
digitalRead()	D	2	Arduino IDE	components of IOT System	20	Specified
10 seconds	B	2	Arduino IDE	components of IOT System	20	Specified
None of these	A	2	Arduino IDE	components of IOT System	20	Specified
Makes stars appear	B	2	Arduino	components of IOT System	20	Specified

f IOT System

Answer available in NIMI book Page No.	Remarks
Internet	
Internet	
Internet	
Internet	
Internet	
Internet	
Internet	
Internet	
Internet	
Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- N

Sl. No.	QUESTION	OPT. A	OPT. B
1	What is Arduino ?	Arduino is a Robot. Which is used to make differernt types Robot.	Arduino is board having microcontroller only in it. It is used program microcontroller with help of sata cable.
2	How many analog pins are used in Arduino Mega board?	16	14
3	what is the full form of LDR ?	Light Dependant Resourse	Light Dependant Register
4	what is the full form of IDE ?	Interpreter Devlopment Environment	Integrated Document Envelope
5	Arduino IDE consists of 2 functions. What are they?	Build() and loop()	Setup() and build()
6	What Arduino sheilds called?	Extra peripherals	Add on modules

7	Identify the component-- 	DHT11	LM35
8	Identify the component--	Uno Cards	Ultrasonic sensor
9	Identify the pressure sensor	LM35	Touch Sensor
10	How many types of Arduino we have?	5	6

Module No. 01 : Module Name:…Embedded System and types of Sens City

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS
Arduino is kind of hybrid computer system which is used in CISC system only.	Arduino is an open source electronic platform. It is based on easy-to-use hardware and software. It able to read input signal. It is used to write and upload the computer code to the physical board by using Arduino.	D	1	Arduino	Identify and test various parts of embedded system.	21
12	10	A	1	Arduino	Identify and test various parts of embedded system.	21
Light Independant Resistive cell	None of these	B	1	LDR	Identify and test various parts of embedded system.	21
Insulated Devlopment Environment	Integrated Devlopment Environment	D	1	IDE	Identify and test various parts of embedded system.	21
Setup() and loop()	Loop() and build() and setup()	C	1	Arduino	Identify and test various parts of embedded system.	21
Connectivity modules	Another Arduino	B	1	Arduino sheilds	Identify and select various types of sensors used in Smart City.	22

PIR	IR	A	1	DHT11	Identify and select various types of sensors used in Smart City.	22
Arduino Duo board	Rasberry Pi	B	1	Ultrasonic sensor	Identify and select various types of sensors used in Smart City.	22
BMP 180	PIR Sensor	C	1	Sensor	Identify and select various types of sensors used in Smart City.	22
7	8	D	1	Arduino Board	Identify and select various types of sensors used in Smart City.	22

ɔors used in Smart

JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	

Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Modu
required in Smar

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	What is the full form of USB?	Universal Sequence Bus	Ultra Safe Box	Uninterrupted Safe Bus	Universal Serial Bus	D
2	What is PM Stands in PM2.5 & PM10?	Pressure Measurement	Particulate Matter	Permanent Magnet	Present Matter	B
3	What does NO2 sensor stands for?	Nitrogen Oxide Sensor	Nitrous Oxide	Nitrate	Nitrite	A
4	CO2 sensor stands for	Carbon Monoxide	Carbon Oxide	Carbon Dioxide Sensor	None of these	C
5	IN DHT11 "DHT" STANDS FOR	Direct Home Television	Digital Humidity Temperature	Digital Temperature and humidity	None of these	B

ule No. 02 : Module Name:…Sensors & information
t City

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	USB	Sensors & information required in Smart City	23	Specified	Internet	
1	Particle Pollutant	Sensors & information required in Smart City	23	Specified	Internet	
1	NO2	Sensors & information required in Smart City	23	Specified	Internet	
1	CO2	Sensors & information required in Smart City	23	Specified	Internet	
1	DHT	Sensors & information required in Smart City	23	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Module Nc protocol and solar panel basic

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C
1	What is WSN stands for?	Wire Sensor Network	Wi Fi Sensor Net	Wireless Sensor Network
2	What is M2M communication?	Man to Man Communication	Mobile to Mobile Communication	Machine to Machine Communication
3	What is ZIGBEE?	It is a wireless device	It is a Wire Device	WIFi
4	Full form of GSM	Geographical System for Mobile communication	Global System for Mobile communication	Geometrical System for Machine communication
5	Identify the GSM module	PM10	HCSR-04	sim900
6	UART Stand for------	Universal Asynchrounous Receiver Transmitter	Usual Acceptable Receiver Transmitter	Unified Asynchrounous Receiver Transmitter
7	GPRS stands for----------	Global Pocket Service	General Packet Radio Service	Global Position System
8	What is SPI stands for?	Serial programmable Identity	Serial Peripheral Interface	Subscriber Position Identity
9	What is I2C Stands for?	Inter Integrated Circuit	Internet Circuit	Isolation Circuit
10	What s the full form of GPS?	Global Positioning System	Geographical Positioning System	Geographical Pointing Structure

11	What is the fullform of PV in Solar PV Module?	Prescribed Value	Position Value	Peripheral Value
12	How does Solar PV module works ?	Solar energy	Light energy	Thermal energy
13	What a PV module is made up of?	Insulator	Semiconductor	Conductor
14	What is an Inverter?	It Converts AC to Ac	It Converts DC to DC	It Converts DC to AC
15	Which is the module of solar panel?	Series arrangement of solar cells	Parallel arrangement of Solar Cells	Series & Parallel arrangement of Solar Cellls

›. 03 : Module Name:…Wired and wireless communication , commumicatic

OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO
None of these	C	1	WSN	Identify and test Wired & Wireless communication	24-25	Specified Network	Internet
Macro to Micro Communication	C	1	M2M	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Bluetooth	A	1	ZIGBEE	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Geosynchronous System for Mobile communication	B	1	GSM	Identify and test Wired & Wireless communication	24-25	Specified	Internet
ACS712	C	1	GSM	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Uniform Available Receiver Transmitter	A	1	UART	Identify and test Wired & Wireless communication	24-25	Specified	Internet
None of these	B	1	GPRS	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Scheduled Position Interpreter	B	1	SPI	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Internet Communication	A	1	I2C	Identify and test Wired & Wireless communication	24-25	Specified	Internet
None of these	B	1	GPS	Identify and test Wired & Wireless communication	24-25	Specified	Internet

Photo Voltaic	D	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
None of these	A	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
Super Conductor	B	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
It Converts AC to DC	C	1	INVERTER	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
None of these	C	1	Solar Cell	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified solar cell	Internet

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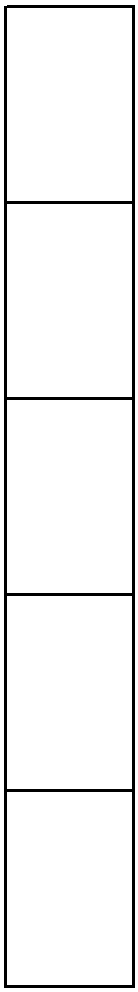
REMARK



Name of the Trade - IOT Smart City. - Semester/Year- 02- Module
network, database , app and web services an

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	What is a LINUX?	It is an operating system	It is an android application	It is a browser	None of these	A
2	What command is used for remove a file in LINUX ?	dm	rm	erase	delete	B
3	What command is used to remove the directory LINUX?	dir	rd	rmdir	remove	C
4	Which among these is the core of LINUX operating system ?	kernel	shell	terminal	comand	A
5	What command is use to create a linux file system?	fsck	mkfs	mount	none of them	B

6	Which command is used to display the operating system name in LINUX?	os	unix	kernel	uname	D
7	Which command is used to record a user login session in a file?	marco	read	script	none of them	C
8	Which command is used to print a file in LINUX?	print	ptr	lpr	none of them	C
9	Which command changes a file's group owner?	cgrp	chgrp	change	group	B
10	What is a shell script?	A file containing special symbols	A group of Commands	A file containing a series of commands	Group of Functions	C

No. 04 : Module Name:…Working of IOT Devices, d environmental parameters

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	LINUX	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	OPERATING SYSTEM	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	

1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	COMMAND	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	COMMAND	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	Shell	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Ye

Sl. No.	QUESTION	OPT. A
1	What RTU stands for?	Resistor Terminal Unit
2	What is the Full form of TCP?	Transfer Control Protocol
3	How the **data** is sent and received in TCP?	stream of bytes
4	What a packet is called, when TCP groups a number of bytes together into a packet?	packet
5	Which type of communication is offered by TCP ?	full duplex
6	What Types of Protocols are there in Transport layer?	TCP and FTP
7	Wha DLMS stands for?	Development Language Message Specification
8	Define Cloud?	Storing & accessing data and programs over internet
9	What is the full form of SCADA?	Specific Control and Data Acquisition
10	What is a Protocol ?	Formats
11	What is GUI stands for in IOT?	Global User Interface
12	What ethernet Frame consists of?	MAC Address
13	MAC Address is of how many bits?	24 bits

14	Which type of cable is used for High Speed Ethernet ?	Co-axial Cable
15	The Maximum size of payload field in Ethernet Frame is	1000bytes
16	What is Modbus tcp/ip ?	Protocol
17	What two things, roughly, are key factors in terms of performance of a modbus tcp/ip system ?	The network and hardware
18	Modbus TCP/IP was mainly developed from which other protocol?	Modbus ASCII
19	What IS RTU?	A microprocessor based device that monitors and controls field devices, that then connects to plant control or SCADA (supervisory control and data acquisition) systems.
20	Why are Protocols used?	Communication

ear- 02- Module No. 05 : Module Name:…IOT connectivity to Cloud device management .

OPT. B	OPT. C	OPT. D	ANSWER	LEVEL
Remote Terminal Unit	Receiver Terminal Unit	Remote Termination Unit	B	1
Transmission Communication Protocol	Transfer Communication Protocol	Transmission Control Protocol	D	1
sequence of characters	line of characters	packets	A	1
buffer	segment	stack	C	1
half duplex	semi duplex	byte to byte	A	1
UDP and HTTP	TCP and UDP	HTTP and FTP	C	1
Data Language Message Specification	Device Language Message Specification	None of these	C	1
Storing & accessing data and programs on Computers Hard Drive	Storing & accessing data and programs on Mobile	None of these	A	1
Supervisory Control and Data Acquisition	Supervisory Control and Data Adapter	None of these	B	1
Procedures	Format & Procedures	None of these	C	1
Geographical User Interface	Global User Interconnection	Graphical User Interface	D	1
IP Address	Default Mask	Network Address	A	1
36 bits	42 bits	48 bits	D	1

Twisted Pair Cable	Optical Fibre	Unshielded Twisted Pair	C	1
1200bytes	1300bytes	1500bytes	D	1
Hardware	A type of switch	None of these	A	1
Switches and hubs	Modbus server & wiring	None of these	A	1
Modbus RTU	Modbus PLC	None of these	B	1
A real time unit. Which is used in industries for different kinds of real time work.	A computer based device which is used monitor and control different embedded equipment.	None of These	A	1
Standard	Metropolitian communication	Bandwidth	A	1

d ,Multiple communication medium, protocol,

KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
RTU	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
DLMS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Cloud	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
SCADA	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
GUI	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
RTU	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Module generate reports using template

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D
1	What is a Website Template?	A Website Template is a official website	It is a personal website	A website template can be thought of as a mold in which you can easily form your website.	It is a Professional website
2	What is the example of a web application?	Shopping Cards,Word Processors,Online forms	Web browsing	Sending Mails	Both B&C
3	What is widget?	A System application	A software widget is a relatively simple and easy-to-use software application	A utility Software	None of These
4	What URI stands for?	Unit Resource Identifier	Uniform Representation Identifier	Uniform Resource Identifier	None of These
5	What is Web API?	A framework to build HTTP services	A framework to find server error	A framework for data base management	None of These
6	The unit of luminous flux is	Steradian	Candela	Lumen	Lux

7	What is Lux?	The SI unit of illuminance, equal to one lumen per square metre	It is a CGS Unit	It is an Application Software	All of these
8	LDR is made of which matreial	Carbon	silicon cadmium	Germanium	Gallium
9	Full form of CCTV	Closed Camera Television	Close componet Test Version	Closed-circuit television	None of These
10	What is MQ135 ?	Air Quality Sensor	Touch sensor	PIR Sensor	Water flow Sensor
11	What MQ135 gas sensor measures ?	CO,Methane,Hydrogen,LPG	NH3,Alcohol,Bengine,Smoke,CO2	CO,LPG,CH4	None of These
12	What is fullform of MP in CCTV	Media Player	Machine Processor	MultiPlexer	Million Pixel
13	Does night vision camera gives which color view in night?	Black & white	Red & Blue	Yellow & Green	Grey & White
14	what is GREENBUS2?	A class 2 Communication Bus	A address Bus	A data Bus	None of These
15	DALI stands for----	Data Acquisition Line Interface	Digital Addressable Lighting Interface	Different addresable Line Interface	None of These

No. 06 : Module Name:…Web application using APIs and s, Smart Lighting system

ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
C	1	WEBSITE	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
A	1	WEBAPP	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
B	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
C	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
A	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
C	1	Lumen	Demonstrate and Deploy responsive Web Application	34-35	Standard Unit	Internet	

A	1	LUX	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	LDR	Identify and test Smart Lighting system	34-35	Specified	Internet	
C	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	MQ135	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	MQ136	Identify and test Smart Lighting system	34-35	Specified	Internet	
D	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	GREENBUS2	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	WIRED-DALI	Identify and test Smart Lighting system	34-35	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 0

Sl. No.	QUESTION	OPT. A	OPT. B
1	The capacity of a battery is expressed in terms of	current rating	voltage rating
2	The storage battery generally used in electric power station is	Lead-acid battery	Nickel-cadmium battery
3	Howthe batteries are charged ?	Generator	Rectifiers
4	What is a battery container made up of?	Glass	Plastic
5	What indicate battery is fully charged?	Colour of electrode	Gassing
6	What happen to the terminal voltage with increasing temperature when the baterry is being charged ?	Decreases	Increase
7	What is the type of electrodeof a battery ?	A semi conductor	An insulator
8	Why highway lighting is important?	Cities	Towns
9	What are the main parts of solar street light?	Solar Panel, Lighting Fixture, Rechargeable Battery, Pole	Microcontroller, Lighting Fixture, Pole
10	How the intensity of highway lighting is measured?	Candela	Lux
11	What is the full form of IR?	Integrated Radiation	Infrared Radiation

12	Which proximity sensor detects metal objects?	Capacitive Proximity Sensor	Inductive Proximity Sensor
13	What is the fullform of LoRa?	Long Range	Low Range
14	Which proximity sensors are used in automotive?	Capacitive Proximity Sensor	Inductive Proximity Sensor
15	What is LoRa?	A wireless technology offering long range, low power & secure data transmission for M2M & IoT applications	A wire technology offering short range, low power & secure data transmission for M2M & IoT applications

)2- Module No. 08 : Module Name:...Smart streetight based on I Smart Parking

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS
ampere hour rating	none of these	C	1	AMPERE HOUR	SMART Street Light based on IoT and Cloud Technology
Zinc carbon battery	None of the above	A	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Direct on Ac supply	None of the above	B	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Wood	all of the above	D	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Specific gravity	all of the above	D	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
both increases & decreases	None of these	A	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
A good conductor of electricity	A bad conductor of electricity	C	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Villages	Bridges	D	1	Highway Lighting	SMART Street Light based on IoT and Cloud Technology
Pole, Optical fibre, Led,CFL	None of these	A	1	Solar Street Light	SMART Street Light based on IoT and Cloud Technology
Lumen	Dioptres	B	1	Highway Lighting	SMART Street Light based on IoT and Cloud Technology
Infra Red	none of these	C	1	IR Sensor	Different module / devices used in SMART Parking.

Magnetic Proximity Sensor	Ultrasonic Proximity Sensor	B	1	Proximity sensor	Different module / devices used in SMART Parking.
Low Radiation	none of these	A	1	LoRa	Different module / devices used in SMART Parking.
Magnetic Proximity Sensor	Ultrasonic Proximity Sensor	D	1	Proximity sensor	Different module / devices used in SMART Parking.
A wire technology offering short range, high power & unsecure data transmission for M3M & IoT applications	None of these	A	1	LORa	Different module / devices used in SMART Parking.

OT and Cloud Technology ,

WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
38	Specified in sensor	Internet	

38	Specified in sensor	Internet	
38	Wireless Technology	Internet	
38	Specified in sensor	Internet	
38	Specified in wireless technology used in IoT	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Modul
Application for Water and Was

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	Which of the following is considered as modern GPS technology?	GIS	GPS mode	Instantaneous mode	Kinematic positioning technique	D
2	What anemometer measures?	Wind Direction	Relative Humidity	Net Radiation	Wind Velocity	D
3	What rain fall measures?	Rainfall sensor	Touch Sensor	IR sensor	PIR sensor	A
4	What is a Vane sensor ?	Detection sensor	Mass Air flow sensor	Wind speed measurement sensor	Proximity sensor	B
5	What is Pluviometer ?	Rainfall sensor	Pressure sensor	Rain Gauge Sensor	None of these	C

6	What is the formula for pH calculation?	log10[H+]	-log10[H+]	log2[H+]	-log2[H+]	B
7	Pure water is known to be which of the following?	Strong electrolyte	Neither weak nor strong	Weak electrolyte	Not an electrolyte	C
8	The electrodes used in pH measurement have which of the following internal resistances?	Very high resistance	Very low resistance	Moderate resistance	No resistance	A
9	What is the fullform of MQTT ?	MQ Telemetry Things	MQ Transport Telemetry	MQ Transport Things	MQ Telemetry Transport	D
10	Which protocols used in Thingspeak?	MQTT & HTTP	UTP & Smt	I2C & SPI	None of these	A

e No. 08 : Module Name:…Smart Traffic and IOT te Management

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	GPS	Different module / devices used in SMART Traffic	39	Modern GPS Technology	Internet	
1	Anemometer	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Rainfall sensor	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Vane sensor	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Pluviometer	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	

1	PH	IoT Application for Water & Waste Management.	40	Water pH measurement	Internet	
1	Pure water	IoT Application for Water & Waste Management.	40	Water measurement	Internet	
1	PH	IoT Application for Water & Waste Management.	40	Water pH measurement	Internet	
1	protocol	IoT Application for Water & Waste Management.	40	Specified in Thingspeak	Internet	
1	Thingspeak	IoT Application for Water & Waste Management.	40	Specified in Thingspeak	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 01- Module

Sl. No.	Question	OPT A	OPT B	OPT C
1	Why electrical wires are used?	Hanging wet cloths	Safety purposes	For carrying electricity
2	What is the fullform of PPE?	Personal Protective Equipment	Private Protective Equipment	Public Protective Equipment
3	What is the unit of potential difference?	Ohms	Ampere	Henery
4	What is the fullform of SWG?	Standard Wire Gauge	Simple Wound Gauge	Static Wire Gauge
5	What is fullform of R.M.S.?	Replace Means Square	Root Medium Signal	Real Means Space

e No. 01 : Module Name:…Safety Practice & Basics of AC & Ele

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
None of these	C	1	Electrical wires	Safety Practice	1	Specified in safety
Private Precurtion Equipment	A	1	Fullform	Safety Practice	1	Specified in PPE
Volt	D	1	Unit	Basics of AC and Electrical Cables	1	Specified electrical terms
Safety Wire Gauge	A	1	Fullform	Basics of AC and Electrical Cables	1	specified conductors mesurement tool
Root Means Square	D	1	Fullform	Basics of AC and Electrical Cables	1	Specified electrical terms

ctrical Cables

Answer available in NIMI book Page No.	Remarks
Page 11 of 1st sem Electronics Mechanic	
Page 11 of 1st sem Electronics Mechanic	
Page 40 of 1st sem Electronics Mechanic	
Page 43 of 1st sem Electronics Mechanic	
Page 40 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Module I

DC Measu

Sl. No.	Question	OPT A	OPT B	OPT C	OPT D
1	How the resistor rating is measured?	Ohms	Watts	Amperes	Both A & B
2	What are the Passive components among these?	Resistors, SCRs, Capacitors	Diodes, vaccume tubes, SCRs	Transformers, Diodes, Inductors	Transformers, TRIACs, DIACs
3	What is Inductor?	Store electric energy in the form of magnetic	Store electric energy in the form of electric field	Store static energy in the form of magnetic field	Both A & B
4	What is the unit of measuring capacitance?	Henery	Farad	Ampere	Volt
5	What is the correct form of ohm's law?	I = VR	$V \propto I$	V = IR	Both B and C
6	What is the fullform of MSO?	Multiple Signal Oscilloscope	Mixed Sign Observation	Mixed Signal Oscilloscope	Mixed Scope Observation
7	How many channels are there in MSO?	1	2	3	4
8	Which features MSO combines?	Oscilloscope & Logic Analyser	Oscilloscope & Function Generator	Signal generator & Logic Analyser	Pulse generator & Function Generator
9	What type of signal can be meausred by MSO?	Analog Signals	Digital signals	Hybrid Signals	Both A & B
10	What is AVO Meter ?	Multimeter	Voltmeter	Ohm Meter	Ammeter

No. 02 : Module Name:…Active , Passive Components and AC & rements

Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
D	1	Resistor	Active , Passive Components	2-3	Specified in resistor	Page 87 of 1st sem Electronics Mechanic	
C	1	Passive	Active , Passive Components	2-3	Specified in active & passive component	Page 87,110,148of 1st sem Electronics Mechanic	
A	1	Inductor Definition	Active , Passive Components	2-3	Specified in inductors	Page 110 of 1st sem Electronics Mechanic	
B	1	Capacitance unit	Active , Passive Components	2-3	Specified in capacitor	Page 149 of 1st sem Electronics Mechanic	
D	1	Definition	Active , Passive Components	2-3	Formula specified	Page 124 of 1st sem Electronics Mechanic	
C	1	Definition	AC & DC Measurements	2-3	Specified in MSO	Internet	
D	1	Channels	AC & DC Measurements	2-3	Specified in MSO	Internet	
A	1	Feature	AC & DC Measurements	2-3	Specified in MSO	Internet	
D	1	Definition	AC & DC Measurements	2-3	Specified in MSO	Internet	
A	1	Multimeter	AC & DC Measurements	2-3	Specified in multimeter	Page 67 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01

Componen

Sl. No.	Question	OPT A	OPT B	OPT C
1	How many types of Soldering are there?	1	2	3
2	Which material is used for making soldering iron bit?	Copper	Tin	Iron
3	What is Flux made up of?	Silicon	Galium	Rosin
4	What is a "cold" solder joint?	Splder that is cooled at room temperature	Solder that was not heated adequately to make a strong bind with the board	A piece of solder lain across two parts without heating
5	What are required for removal of the molten solder from the joint ?	Plunger & Wicking braid	Soldering iron	Flux
6	What is the name of the equipment for both soldeing & desoldering practice?	Solder Flux	Soldering Iron	Plunger
7	What is the fullform of SMD?	Space Mount Devices	Surface Mixed Devices	Surface Mount Devices
8	Which Passive components are available in SMD Packages?	Resistor, Inductors	Transformers, Capacitors	Resistors, Capacitors

9	How the SMT devices are mount?	Requires holes & pad	Have parallel connecting pin	Mount directly
10	What are the types of Soldering?	1	2	3

- Module No. 03 : Module Name:…Soldering / Desoldering ,
ıts soldering/ Desoldering

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
4	B	1	Types	Soldering / Desoldering	4-5	Specified in soldering
Steel	A	1	Manufacture	Soldering / Desoldering	4-5	Specified in soldering
None of these	C	1	uses	Soldering / Desoldering	4-5	Specified in soldering
A refrigerated solder connection	B	1	composition	Soldering / Desoldering	4-5	Specified in soldering
Soldering Paste	A	1	Desoldeing	Soldering / Desoldering	4-5	Specified in desoldering
Soldering & Desoldering Station	D	1	Name	Soldering / Desoldering	4-5	Specified in soldering desoldering station
None of these	C	1	Fullform	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD
Both A & B	C	1	Components	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD

None of these	C	1	Mount	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD
4	B	1	Types	Soldering / Desoldering	4-5	Specified in soldering

Basic SMD

Answer available in NIMI book Page No.	Remarks
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Page 93 of 1st Sem Electronics Mechanic	
Page 93 of 1st Sem Electronics Mechanic	
Page 98 of 1st Sem Electronics Mechanic	
Page 101 of 1st Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	

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Page92 of 1st Sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Modul
V

Sl. No.	Question	OPT A	OPT B	OPT C
1	Zener Diode is made up of which semiconductor material?	Germanium	Steel	Carbon
	What 'Vz' represents in Zener Diode?	Reverse biased voltage at which the diode begins to conduct	Forward biased voltage at which the diode begins to conduct	Reverse/ Forward biased voltage at which the diode begins to conduct
3	What transformer transfer?	Ac to AC	Ac to DC	D C to DC
4	How many types transformer is Classified depending upon transformation ratio?	1	2	3
5	Which is the majority charge carrier in N-type semiconductor ?	Holes	Electrons	Electrons & Holes
6	What is the cut-in voltage in case ofSilicon diode?	1.1v	1v	0.3v
7	How many types Clippers are divided ?	Positive & Negative Clipper	Biased Clipper	Combination Clipper
8	What basic components are required for Clamping circuit?	A Diode, A Capacitor, A Resistor	A Transformer, A Capacitor,A Diode	A Trimmer, A diode, A switch

9	What are the types of transistor?	1	2	3
10	What are the names of the three terminals of a BJT?	Emitter, Base , Collector	Drain , Gate, Source	Anode, Cathode, Grid
11	What is the fullform of ASCII?	American Standard Coded for Information Interaction	African Standard Code for Information Interface	American Standard Code for Information Interchange
12	Which of these Logic Gates are designated as Universal Gate?	NAND,NOR	XNOR , AND,OR	NAND,NOR,XOR
13	If A and B are the inputs of a half adder then what is the output SUM ?	A AND B	A XOR B	A OR B
14	How many inputs will be in Decimal to BCD encoder have?	4	8	10
15	How is an encoder different from a decoder?	The output of an encoder is a binary code for 1 of N inputs	The output of an decoder is a binary code for 1 of N inputs	The output of an encoder is a binary code for N of 1 output
16	On what a Multiplexer output depends ?	Data Inputs	Select inputs	Select outputs
17	What are the outcome of magnitude Comparator ?	A>B , A-B,A+B	A-B	A<B,A>B,A=B
18	In SR flip flop S &What is the meaning of R?	S=Speed & R=Rest	S=Speed & R=Reset	S=Set & R=Rest
19	What is Counter in Digital electronics?	Counts the number of outputs	Counts the number of inputs	Stores the number of times a particular event or process has occured
20	What is demultiplex?	One into many	Many into one	Distributor

e No. 04 : Module Name:…Input/ Output Characteristics of var
arious Digital Circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Silicon	D	1	Semiconductor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
None of these	A	1	Zener voltage	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
Dc to AC	A	1	Transformer	Input/ Output Characteristics of various Analog Circuits	6-7	specified in transformer
4	C	1	Classification	Input/ Output Characteristics of various Analog Circuits	6-7	Specified Classification in transformer
None of these	B	1	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in n-type semiconductor
0.7v	D	1	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction
All of these	D	1	Clippers	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clipping circuit
An IC, A resistor, A Diode	A	1	Clamping	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clamping circuit

4	B	1	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
Collector , Emitter, Gate	A	1	BJT terminals	Input/ Output Characteristics of various Analog Circuits	6-7	Name of the transistor terminals
None of these	C	1	Codes	Various Digital Circuits	8-9	Specified in coding
AND,OR,NOT	A	1	Logic Gates	Various Digital Circuits	8-9	specified in logic gates
A EX-NOR B	B	1	Adder	Various Digital Circuits	8-9	Specified in adder
16	C	1	Encoder	Various Digital Circuits	8-9	Specified in encoder of digital
The output of an Decoder is a binary code for N of 1 output	A	1	Encoder & Decoder	Various Digital Circuits	8-9	Specified in encoder & decoder of digital
Enable pin	B	1	Definition	Various Digital Circuits	8-9	specified in Multiplxer
A=B, A+B, A*B	C	1	Comparator	Various Digital Circuits	8-9	Specified in comparator
S=Set & R=Reset	D	1	Flip Flop	Various Digital Circuits	8-9	specified in Flip flop
Stores the number of times a clock pulse rises & falls counts the no. of inputs	C	1	counter	Various Digital Circuits	8-9	specified in counter
One into many as well as Distributor	D	1	Demultiplexer	Various Digital Circuits	8-9	Specified in Demultiplexer

ious Analog Circuits ,

Answer available in NIMI book Page No.	Remarks
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Name of the Trade - IoT Smart City. - Semester/Year- 01- Module

Sl. No	Question	OPT A	OPT B	OPT C
1	What are the basic components in a computer system?	CPU, memory, input device & output device	CPU, white board, input device & output device	CPU, memory, Marker & output device
2	What is Fullform Of CPU ?	Central Processing Unit	Control Processing Unit	Central Periferal Unit
3	What a Mother Board contain?	ROM BIOS	LEVEL 2 CACHE	CMOS Baterry
4	What is fullform of HDD?	Hard Disk Drive	Hard Drive Disk	Half Disk Drive
5	What is fullform of SATA & PATA?	Series ATA & Parallel ATA	Serial ATA & Parallel ATA	Slot ATA & Plot ATA
6	Memory of computer is divided into how many types?	1	2	3
7	What is fullform of SMPS?	Serial Mode Power Supply	Switch Mode Power Switch	Switch Mode Processer Supply
8	What is the fullform of URL?	Uniform Resourse Locater	Universal Resourse Locater	Unified Resourse Locater
9	What does Cc stands for in Email ?	Carbon Copy/ Courtesy Copy	Computer Control	Central Control
10	What is the fullform of FTP & SMTP?	Field Transfer Protocol & Static Mail Transfer Protocol	File Transport Protocol & Simple Message Transfer Protocol	Field Transfer Protocol & Simple Mail Transport Protocol
11	What software we need to prepare a circuit simulation?	Solder, Soldering iron, Paste	PCB, Solder, Paste	Circuit Simulation Software
12	What is the fullform of ERC which is the first option under analysis menu?	Error Rules Check	Electronics Rules Check	Effect Rules Circuit

13	Which phase the Simulator enters after an initialisation phase ?	Elaboration	Execution	Compilation
14	From Which menu or Icon we get the wiring function in simulation?	Insert menu/ Icon look like small pencil	Analysis menu	View
15	What are the free & open source circuit simulation software?	MultiSim	MacSpice	Xspice

e No. 05 : Module Name:…Computer System & Networking ,Elec
Software

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Pencil, memory, input device & output device	A	1	Computer fundamentals	Computer System & Networking	10-11	Standard Specified
Computer Processing Unit	A	1	Definition	Computer System & Networking	10-11	Standard Specified
All of these	D	1	Mother board	Computer System & Networking	10-11	Standard Specified
Hard Disk Desktop	A	1	Memory Organisation	Computer System & Networking	10-11	Standard Specified
Special ATA & Processer ATA	B	1	Connector Cables	Computer System & Networking	10-11	Standard Specified
4	C	1	Computer memory	Computer System & Networking	10-11	Standard Specified
Switch Mode Power Supply	D	1	Power supply of computer	Computer System & Networking	10-11	Standard Specified
Unshielded Resourse Locater	A	1	Memory	Computer System & Networking	10-11	Standard Specified
Carbon Computer	A	1	Email	Computer System & Networking	10-11	Standard Specified
File Transfer Protocol & Simple Mail Transfer Protocol	D	1	Protocol	Computer System & Networking	10-11	Standard Specified
None among these	C	1	Simulation	Electronic Simulation Software	12	Standard Specified
Electrical Resolution Circuit	A	1	Simulation	Electronic Simulation Software	12	Standard Specified

None of these	B	1	Simulation	Electronic Simulation Software	12	Standard Specified
Tools	A	1	Simulation	Electronic Simulation Software	12	Standard Specified
All of these	D	1	Simulation	Electronic Simulation Software	12	Standard Specified

:tronic Simulation

Answer available in NIMI book Page No.	Remarks
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263 page of 1st sem Electronics Mechanic	
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Name of the Trade - IoT Smart City. - Semester/Year- C

Conditioning , Converter Circuits A

Sl. No.	Question	OPT A	OPT B	OPT C
1	Which among these represent active transducer?	Strain Gauge	Thermistor	LVDT
2	Which transducer known as self generating transducer?	Analog transducer	Secondary transducer	Active transducer
3	What is RTD made up of?	Gold, Silver , Cobalt	Iron, Magnesium , Cobalt	Copper, Nickel , Platinum
4	Which among these is an Analog transducer?	Encoders	Digital tachometers	Limit switches
5	What is NTC(Negative Temeperature Coefficient?	Temerature increases, Resistance Decreases	Temerature decreases, Resistance Decreases	Temerature Increases, Resistance Increases
6	What is Pt 100 means?	Platinum RTD with resistance of 100Ω at 0℃	Plastic RTD with resistance of 1000Ω at 1℃	Premium RTD with resistance of 500Ω at 2℃
7	What is the Temperature range of Themocouple ?	200 upto 5000℃	150 upto 1000℃	200 upto 2000℃
8	Which bridge is there in Strain gauge ?	Kelvin bridge	Wheatstone bridge	De Sauty's bridge
9	What is a load cell ?	Thermistor	Strain Gauge	Photovoltaic Cell
10	Which sensor can detect nearby objects?	Touch sensor	Pressure Sensor	Humidity Sensor
11	Which Proximity Sensor detects metal object?	Capacitive	Magnetic	Inductive

12	According to what sensors are classified?	Functions	Performance	Output
13	What is Strain Gauge?	Active device & converts mechanical displacement into a change of resistance	Passive device & converts electrical displacement into a change of resistance	Passive device & converts mechanical displacement into a change of resistance
14	In power amplifier what type of output tranformer is required?	1:1 ratio	Step-up	Step-down
15	What is Differential Amplifier?	Amplifies the difference between two voltages	Amplifies dc input signal voltage only	Amplifies ac input signal voltage only
16	What is the input of an Inverting amplifier?	Equal to output	Equal to inverted output	Not equal to output
17	In which terminals the positive and negative terminals of the non inverting configuration amplifier connected?	Power Source & Ground	Ground & Ground	Ground & Power Source
18	What instrument is used to amplify output signal of transducer?	Peaking Amplifier	Bridge Amplifier	Instrumentation Amplifier
19	The monitoring of machines, gears and objects are achieved by which sensor?	Humidity sensor	Proximity sensor	Touch Sensor
20	Which Proximity Sensor detects metals along with also detect resins, Liquids?	Inductive Proximity	Capacitive Proximity	Magnetic Proximity

)1- Module No. 06 : Module Name:…Sensors, Transducers & Applicat
And various types of sensor inputs as well as control circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Thermocouple	D	1	classification ofv transducer	Sensor Transducer	13-14	Specified in transducer
Passive transducer	C	1	Classification of transducer	Sensor Transducer	13-14	Specified in transducer
Iron, Nickel , Cobalt	C	1	metal used	Sensor Transducer	13-14	Specified in transducer
Strain Gauge	D	1	Analog transducer	Sensor Transducer	13-14	Specified in transducer
Temerature Decreases, Resistance Increases	A	1	Thermistor types	Sensor Transducer	13-14	Specified in transducer
Platinum RTD with resistance of 100Ω at 10℃	A	1	RTD	Sensor Transducer	13-14	Specified in transducer
270 upto 3000℃	D	1	Range	Sensor Transducer	13-14	Specified in transducer
Anderson bridge	B	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
None of these	B	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
Proximity Sensor	D	1	Sensor	Sensor Transducer	13-14	Specifeid in sensor
Ultrasonic	C	1	Proximity Sensor types	Sensor Transducer	13-14	Specifeid in sensor

A,B & C	D	1	Sensor Types	Sensor Transducer	13-14	Specifeid in sensor
Active device & converts electrical displacement into a change of resistance	C	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
None of these	C	1	Power amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	A	1	Difference Amplifier definition	Various types of sensor inputs as well as control outputs	15-16	Specified
Output is equal to input	B	1	Inverting amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	A	1	Non-inverting Amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
Difference Amplifier	C	1	Instrumentation amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
Pressure Sensor	B	1	Proximity Sensor	Various types of sensor inputs as well as control outputs	15-16	Specified
Parallel Proximity	B	1	Proximity Sensor	Various types of sensor inputs as well as control outputs	15-16	Specified

tions, Signal

Answer available in NIMI book Page No.	Remarks
245 & 246 of Electronics Mechanic	
245 of Electronics Mechanic	
251 of Electronics Mechanic	
243 of Electronics Mechanic	
243 of Electronics Mechanic	
253 of Electronics Mechanic	
257 of Electronics Mechanic	
258 of Electronics Mechanic	
258 of Electronics Mechanic	
262 of Electronics Mechanic	
262 of Electronics Mechanic	

245 of Electronics Mechanic	
258 of Electronics Mechanic	
Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	
3rd sem Electronics Mechanic	
3rd sem Electronics Mechanic, pg-262	
3rd sem Electronics Mechanic,pg-262	

Name of the Trade - IOT Smart City. - Semester/

Sl. No.	Question	OPT A	OPT B
1	How many pins are there in 8051 Microcontroller?	40	28
2	What are two instruction set architecture (ISA) classification?	CISC & VISC	CISC & RISC
3	What is the internal RAM memory of 8051 & 8052 microcontroller?	32 & 128 Bytes	64 & 256 Bytes
4	What is the fullform of PIC Microcontroller?	Peripheral Interface Controller	Programmable Interrupt Controller
5	How many timers/ counter 8051 microcontroller have?	1	2
6	How many ports are there in PIC & 8051 Microcontroller?	7 & 5	5 & 5
7	Microcontrollers often have	CPU	RAM
8	What is the fullform of SFR?	Special Form Register	Special Function Regulator
9	What is fullform of ALE & instuction set of 8051 is divided into how many functional groups?	Address Logic Enable & 4	Address Latch Enable & 4
10	What is the address range of SFR Register bank?	00H-77H	40H-80H

/Year- 01- Module No. 07 : Module Name:…Families of Mic

OPT C	OPT D	Ans	Level	Key word for question
14	8	A	1	Pin
SIDC & VISC	BISC & VISC	B	1	ISA Classification
128 & 256 Bytes	32 & 64 Bytes	C	1	Memory Organisation
Peripheral Interrupt Controller	Programmable Interface Controller	A	1	Microcontroller
3	4	B	1	General features
4 & 6	5 & 4	D	1	I/O ports
ROM	All of the above	D	1	Architecture
Special Function Register	Specific Function Register	C	1	Memory Organisation
Address Latch Enable & 6	Address Latch Enable & 7	B	1	Pin diagram & Instruction set
80H-7FH	80H-FFH	D	1	SFR Organisation

crocontroller with performance evaluation

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Families of Microcontroller & performance evaluation	17-18	Standard	223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard	218 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	standard comparision of different version	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Different types of Microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Nomencleture	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard	222 & 223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Architecture	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	221 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	224 & 226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	221 of Electronics Mechanic	

Name of the Trade - IOT Smart City. - Semeste

Sl. No.	Question	OPT A	OPT B
1	What is the fullform of IoT?	Internet of Things	Industry of Things
2	What is the fullform of RFID?	Radio frequency identitty module	Receiver frequency identitty module
3	What is the fullform of Wi - Fi?	Wireless Filter	Wireless Fidelity
4	Explain what is microcontroller?	Microcrontroller is a computer system.	The microcontroller is a self-contained system with peripherals, memory and a processor that can be
5	What is Embeded system in IoT?	IoT Devices & IoT gateway	IoT Devices & Data link layer
6	Name the microcontroller used in ARDUINO UNO board	8051	Atmega32114
7	How many digital pins are there in ARDUINO UNO baord?	32	14
8	How many analog pins are there in ARDUINO UNO board?	6	7
9	What does IDE stands for?	In Deep Environment	Integrated Development Environment
10	What is the program written with the IDE for Arduino ?	IDE source	Sketch

er/Year- 01- Module No. 08 : Module Name:…IOT Architect

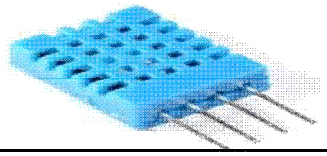
OPT C	OPT D	Ans	Level	Key word for question
Internet of Theory	Both B & C	A	1	IOT
Radio frequency identitty multiplexer	None of these	A	1	RFID
Wire Fidelity	Width Fidelity	B	1	Wi-Fi
Microcontroller is a mechanical component.	Microcontroller is a small computer. Basic components of a computer integrated in single	D	1	Microcontroller
IoT Devices & Application Layer	IoT Devices & IoT Platform Layer	A	1	IoT
ESP8266	ATmega328p	D	1	ARDUINO UNO
16	11	B	1	DIGITAL
8	9	A	1	ANALOG
Internal Deep Escape	IDE	B	1	Arduino IDE
Cryptography	Source Code	A	1	Arduino

ure & components of IOT System

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- N

Sl. No.	QUESTION	OPT. A	OPT. B
1	What is Arduino ?	Arduino is a Robot. Which is used to make differernt types Robot.	Arduino is board having microcontroller only in it. It is used program microcontroller with help of sata cable.
2	How many analog pins are used in Arduino Mega board?	16	14
3	what is the full form of LDR ?	Light Dependant Resourse	Light Dependant Register
4	what is the full form of IDE ?	Interpreter Devlopment Environment	Integrated Document Envelope
5	Arduino IDE consists of 2 functions. What are they?	Build() and loop()	Setup() and build()
6	What Arduino sheilds called?	Extra peripherals	Add on modules

7	Identify the component-- 	DHT11	LM35
8	Identify the component--	Uno Cards	Ultrasonic sensor
9	Identify the pressure sensor	LM35	Touch Sensor
10	How many types of Arduino we have?	5	6

Module No. 01 : Module Name:…Embedded System and types of Sens City

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS
Arduino is kind of hybrid computer system which is used in CISC system only.	Arduino is an open source electronic platform. It is based on easy-to-use hardware and software. It able to read input signal. It is used to write and upload the computer code to the physical board by using Arduino.	D	1	Arduino	Identify and test various parts of embedded system.	21
12	10	A	1	Arduino	Identify and test various parts of embedded system.	21
Light Independant Resistive cell	None of these	B	1	LDR	Identify and test various parts of embedded system.	21
Insulated Devlopment Environment	Integrated Devlopment Environment	D	1	IDE	Identify and test various parts of embedded system.	21
Setup() and loop()	Loop() and build() and setup()	C	1	Arduino	Identify and test various parts of embedded system.	21
Connectivity modules	Another Arduino	B	1	Arduino sheilds	Identify and select various types of sensors used in Smart City.	22

PIR	IR	A	1	DHT11	Identify and select various types of sensors used in Smart City.	22
Arduino Duo board	Rasberry Pi	B	1	Ultrasonic sensor	Identify and select various types of sensors used in Smart City.	22
BMP 180	PIR Sensor	C	1	Sensor	Identify and select various types of sensors used in Smart City.	22
7	8	D	1	Arduino Board	Identify and select various types of sensors used in Smart City.	22

ɔors used in Smart

JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	

Specified	Internet	
Specified	Internet	
Specified	Internet	
Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Modu
required in Smar

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	What is the full form of USB?	Universal Sequence Bus	Ultra Safe Box	Uninterrupted Safe Bus	Universal Serial Bus	D
2	What is PM Stands in PM2.5 & PM10?	Pressure Measurement	Particulate Matter	Permanent Magnet	Present Matter	B
3	What does NO2 sensor stands for?	Nitrogen Oxide Sensor	Nitrous Oxide	Nitrate	Nitrite	A
4	CO2 sensor stands for	Carbon Monoxide	Carbon Oxide	Carbon Dioxide Sensor	None of these	C
5	IN DHT11 "DHT" STANDS FOR	Direct Home Television	Digital Humidity Temperature	Digital Temperature and humidity	None of these	B

ule No. 02 : Module Name:…Sensors & information
t City

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	USB	Sensors & information required in Smart City	23	Specified	Internet	
1	Particle Pollutant	Sensors & information required in Smart City	23	Specified	Internet	
1	NO2	Sensors & information required in Smart City	23	Specified	Internet	
1	CO2	Sensors & information required in Smart City	23	Specified	Internet	
1	DHT	Sensors & information required in Smart City	23	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Module Nc protocol and solar panel basic

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C
1	What is WSN stands for?	Wire Sensor Network	Wi Fi Sensor Net	Wireless Sensor Network
2	What is M2M communication?	Man to Man Communication	Mobile to Mobile Communication	Machine to Machine Communication
3	What is ZIGBEE?	It is a wireless device	It is a Wire Device	WIFi
4	Full form of GSM	Geographical System for Mobile communication	Global System for Mobile communication	Geometrical System for Machine communication
5	Identify the GSM module	PM10	HCSR-04	sim900
6	UART Stand for------	Universal Asynchrounous Receiver Transmitter	Usual Acceptable Receiver Transmitter	Unified Asynchrounous Receiver Transmitter
7	GPRS stands for----------	Global Pocket Service	General Packet Radio Service	Global Position System
8	What is SPI stands for?	Serial programmable Identity	Serial Peripheral Interface	Subscriber Position Identity
9	What is I2C Stands for?	Inter Integrated Circuit	Internet Circuit	Isolation Circuit
10	What s the full form of GPS?	Global Positioning System	Geographical Positioning System	Geographical Pointing Structure

11	What is the fullform of PV in Solar PV Module?	Prescribed Value	Position Value	Peripheral Value
12	How does Solar PV module works ?	Solar energy	Light energy	Thermal energy
13	What a PV module is made up of?	Insulator	Semiconductor	Conductor
14	What is an Inverter?	It Converts AC to Ac	It Converts DC to DC	It Converts DC to AC
15	Which is the module of solar panel?	Series arrangement of solar cells	Parallel arrangement of Solar Cells	Series & Parallel arrangement of Solar Cellls

›. 03 : Module Name:…Wired and wireless communication , commumicatic

OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO
None of these	C	1	WSN	Identify and test Wired & Wireless communication	24-25	Specified Network	Internet
Macro to Micro Communication	C	1	M2M	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Bluetooth	A	1	ZIGBEE	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Geosynchronous System for Mobile communication	B	1	GSM	Identify and test Wired & Wireless communication	24-25	Specified	Internet
ACS712	C	1	GSM	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Uniform Available Receiver Transmitter	A	1	UART	Identify and test Wired & Wireless communication	24-25	Specified	Internet
None of these	B	1	GPRS	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Scheduled Position Interpreter	B	1	SPI	Identify and test Wired & Wireless communication	24-25	Specified	Internet
Internet Communication	A	1	I2C	Identify and test Wired & Wireless communication	24-25	Specified	Internet
None of these	B	1	GPS	Identify and test Wired & Wireless communication	24-25	Specified	Internet

Photo Voltaic	D	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
None of these	A	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
Super Conductor	B	1	PV	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
It Converts AC to DC	C	1	INVERTER	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified	Internet
None of these	C	1	Solar Cell	Solar Panel Basic Testing,Characteristics, Charge Controller Circuit.	26	Specified solar cell	Internet

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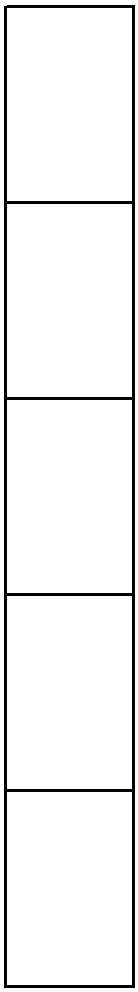
REMARK



Name of the Trade - IOT Smart City. - Semester/Year- 02- Module
network, database , app and web services an

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	What is a LINUX?	It is an operating system	It is an android application	It is a browser	None of these	A
2	What command is used for remove a file in LINUX ?	dm	rm	erase	delete	B
3	What command is used to remove the directory LINUX?	dir	rd	rmdir	remove	C
4	Which among these is the core of LINUX operating system ?	kernel	shell	terminal	comand	A
5	What command is use to create a linux file system?	fsck	mkfs	mount	none of them	B

6	Which command is used to display the operating system name in LINUX?	os	unix	kernel	uname	D
7	Which command is used to record a user login session in a file?	marco	read	script	none of them	C
8	Which command is used to print a file in LINUX?	print	ptr	lpr	none of them	C
9	Which command changes a file's group owner?	cgrp	chgrp	change	group	B
10	What is a shell script?	A file containing special symbols	A group of Commands	A file containing a series of commands	Group of Functions	C

No. 04 : Module Name:…Working of IOT Devices, d environmental parameters

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	LINUX	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	OPERATING SYSTEM	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	

1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	LINUX command	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	COMMAND	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	COMMAND	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	
1	Shell	Perform installation, configuration and check working of IOT devices	27-28	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Ye

Sl. No.	QUESTION	OPT. A
1	What RTU stands for?	Resistor Terminal Unit
2	What is the Full form of TCP?	Transfer Control Protocol
3	How the **data** is sent and received in TCP?	stream of bytes
4	What a packet is called, when TCP groups a number of bytes together into a packet?	packet
5	Which type of communication is offered by TCP ?	full duplex
6	What Types of Protocols are there in Transport layer?	TCP and FTP
7	Wha DLMS stands for?	Development Language Message Specification
8	Define Cloud?	Storing & accessing data and programs over internet
9	What is the full form of SCADA?	Specific Control and Data Acquisition
10	What is a Protocol ?	Formats
11	What is GUI stands for in IOT?	Global User Interface
12	What ethernet Frame consists of?	MAC Address
13	MAC Address is of how many bits?	24 bits

14	Which type of cable is used for High Speed Ethernet ?	Co-axial Cable
15	The Maximum size of payload field in Ethernet Frame is	1000bytes
16	What is Modbus tcp/ip ?	Protocol
17	What two things, roughly, are key factors in terms of performance of a modbus tcp/ip system ?	The network and hardware
18	Modbus TCP/IP was mainly developed from which other protocol?	Modbus ASCII
19	What IS RTU?	A microprocessor based device that monitors and controls field devices, that then connects to plant control or SCADA (supervisory control and data acquisition) systems.
20	Why are Protocols used?	Communication

ear- 02- Module No. 05 : Module Name:…IOT connectivity to Cloud device management .

OPT. B	OPT. C	OPT. D	ANSWER	LEVEL
Remote Terminal Unit	Receiver Terminal Unit	Remote Termination Unit	B	1
Transmission Communication Protocol	Transfer Communication Protocol	Transmission Control Protocol	D	1
sequence of characters	line of characters	packets	A	1
buffer	segment	stack	C	1
half duplex	semi duplex	byte to byte	A	1
UDP and HTTP	TCP and UDP	HTTP and FTP	C	1
Data Language Message Specification	Device Language Message Specification	None of these	C	1
Storing & accessing data and programs on Computers Hard Drive	Storing & accessing data and programs on Mobile	None of these	A	1
Supervisory Control and Data Acquisition	Supervisory Control and Data Adapter	None of these	B	1
Procedures	Format & Procedures	None of these	C	1
Geographical User Interface	Global User Interconnection	Graphical User Interface	D	1
IP Address	Default Mask	Network Address	A	1
36 bits	42 bits	48 bits	D	1

Twisted Pair Cable	Optical Fibre	Unshielded Twisted Pair	C	1
1200bytes	1300bytes	1500bytes	D	1
Hardware	A type of switch	None of these	A	1
Switches and hubs	Modbus server & wiring	None of these	A	1
Modbus RTU	Modbus PLC	None of these	B	1
A real time unit. Which is used in industries for different kinds of real time work.	A computer based device which is used monitor and control different embedded equipment.	None of These	A	1
Standard	Metropolitian communication	Bandwidth	A	1

d ,Multiple communication medium, protocol,

KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
RTU	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
TCPIP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
DLMS	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Cloud	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
SCADA	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
GUI	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Ethernet	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Modbus TCP	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
RTU	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	
Protocol	Establish and troubleshoot IoT connectivity	29-32	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Module generate reports using template

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D
1	What is a Website Template?	A Website Template is a official website	It is a personal website	A website template can be thought of as a mold in which you can easily form your website.	It is a Professional website
2	What is the example of a web application?	Shopping Cards,Word Processors,Online forms	Web browsing	Sending Mails	Both B&C
3	What is widget?	A System application	A software widget is a relatively simple and easy-to-use software application	A utility Software	None of These
4	What URI stands for?	Unit Resource Identifier	Uniform Representation Identifier	Uniform Resource Identifier	None of These
5	What is Web API?	A framework to build HTTP services	A framework to find server error	A framework for data base management	None of These
6	The unit of luminous flux is	Steradian	Candela	Lumen	Lux

7	What is Lux?	The SI unit of illuminance, equal to one lumen per square metre	It is a CGS Unit	It is an Application Software	All of these
8	LDR is made of which matreial	Carbon	silicon cadmium	Germanium	Gallium
9	Full form of CCTV	Closed Camera Television	Close componet Test Version	Closed-circuit television	None of These
10	What is MQ135 ?	Air Quality Sensor	Touch sensor	PIR Sensor	Water flow Sensor
11	What MQ135 gas sensor measures ?	CO,Methane,Hydrogen,LPG	NH3,Alcohol,Bengine,Smoke,CO2	CO,LPG,CH4	None of These
12	What is fullform of MP in CCTV	Media Player	Machine Processor	MultiPlexer	Million Pixel
13	Does night vision camera gives which color view in night?	Black & white	Red & Blue	Yellow & Green	Grey & White
14	what is GREENBUS2?	A class 2 Communication Bus	A address Bus	A data Bus	None of These
15	DALI stands for----	Data Acquisition Line Interface	Digital Addressable Lighting Interface	Different addresable Line Interface	None of These

No. 06 : Module Name:…Web application using APIs and s, Smart Lighting system

ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
C	1	WEBSITE	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
A	1	WEBAPP	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
B	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
C	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
A	1	WIDGET	Demonstrate and Deploy responsive Web Application	33	Specified	Internet	
C	1	Lumen	Demonstrate and Deploy responsive Web Application	34-35	Standard Unit	Internet	

A	1	LUX	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	LDR	Identify and test Smart Lighting system	34-35	Specified	Internet	
C	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	MQ135	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	MQ136	Identify and test Smart Lighting system	34-35	Specified	Internet	
D	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	CCTV	Identify and test Smart Lighting system	34-35	Specified	Internet	
A	1	GREENBUS2	Identify and test Smart Lighting system	34-35	Specified	Internet	
B	1	WIRED-DALI	Identify and test Smart Lighting system	34-35	Specified	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 0

Sl. No.	QUESTION	OPT. A	OPT. B
1	The capacity of a battery is expressed in terms of	current rating	voltage rating
2	The storage battery generally used in electric power station is	Lead-acid battery	Nickel-cadmium battery
3	Howthe batteries are charged ?	Generator	Rectifiers
4	What is a battery container made up of?	Glass	Plastic
5	What indicate battery is fully charged?	Colour of electrode	Gassing
6	What happen to the terminal voltage with increasing temperature when the baterry is being charged ?	Decreases	Increase
7	What is the type of electrodeof a battery ?	A semi conductor	An insulator
8	Why highway lighting is important?	Cities	Towns
9	What are the main parts of solar street light?	Solar Panel, Lighting Fixture, Rechargeable Battery, Pole	Microcontroller, Lighting Fixture, Pole
10	How the intensity of highway lighting is measured?	Candela	Lux
11	What is the full form of IR?	Integrated Radiation	Infrared Radiation

12	Which proximity sensor detects metal objects?	Capacitive Proximity Sensor	Inductive Proximity Sensor
13	What is the fullform of LoRa?	Long Range	Low Range
14	Which proximity sensors are used in automotive?	Capacitive Proximity Sensor	Inductive Proximity Sensor
15	What is LoRa?	A wireless technology offering long range, low power & secure data transmission for M2M & IoT applications	A wire technology offering short range, low power & secure data transmission for M2M & IoT applications

)2- Module No. 08 : Module Name:...Smart streetight based on I Smart Parking

OPT. C	OPT. D	ANSWER	LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS
ampere hour rating	none of these	C	1	AMPERE HOUR	SMART Street Light based on IoT and Cloud Technology
Zinc carbon battery	None of the above	A	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Direct on Ac supply	None of the above	B	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Wood	all of the above	D	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Specific gravity	all of the above	D	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
both increases & decreases	None of these	A	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
A good conductor of electricity	A bad conductor of electricity	C	1	BATTERY	SMART Street Light based on IoT and Cloud Technology
Villages	Bridges	D	1	Highway Lighting	SMART Street Light based on IoT and Cloud Technology
Pole, Optical fibre, Led,CFL	None of these	A	1	Solar Street Light	SMART Street Light based on IoT and Cloud Technology
Lumen	Dioptres	B	1	Highway Lighting	SMART Street Light based on IoT and Cloud Technology
Infra Red	none of these	C	1	IR Sensor	Different module / devices used in SMART Parking.

Magnetic Proximity Sensor	Ultrasonic Proximity Sensor	B	1	Proximity sensor	Different module / devices used in SMART Parking.
Low Radiation	none of these	A	1	LoRa	Different module / devices used in SMART Parking.
Magnetic Proximity Sensor	Ultrasonic Proximity Sensor	D	1	Proximity sensor	Different module / devices used in SMART Parking.
A wire technology offering short range, high power & unsecure data transmission for M3M & IoT applications	None of these	A	1	LORa	Different module / devices used in SMART Parking.

OT and Cloud Technology ,

WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
36-37	Specified	Internet	
38	Specified in sensor	Internet	

38	Specified in sensor	Internet	
38	Wireless Technology	Internet	
38	Specified in sensor	Internet	
38	Specified in wireless technology used in IoT	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 02- Modul
Application for Water and Was

Sl. No.	QUESTION	OPT. A	OPT. B	OPT. C	OPT. D	ANSWER
1	Which of the following is considered as modern GPS technology?	GIS	GPS mode	Instantaneous mode	Kinematic positioning technique	D
2	What anemometer measures?	Wind Direction	Relative Humidity	Net Radiation	Wind Velocity	D
3	What rain fall measures?	Rainfall sensor	Touch Sensor	IR sensor	PIR sensor	A
4	What is a Vane sensor ?	Detection sensor	Mass Air flow sensor	Wind speed measurement sensor	Proximity sensor	B
5	What is Pluviometer ?	Rainfall sensor	Pressure sensor	Rain Gauge Sensor	None of these	C

6	What is the formula for pH calculation?	log10[H+]	-log10[H+]	log2[H+]	-log2[H+]	B
7	Pure water is known to be which of the following?	Strong electrolyte	Neither weak nor strong	Weak electrolyte	Not an electrolyte	C
8	The electrodes used in pH measurement have which of the following internal resistances?	Very high resistance	Very low resistance	Moderate resistance	No resistance	A
9	What is the fullform of MQTT ?	MQ Telemetry Things	MQ Transport Telemetry	MQ Transport Things	MQ Telemetry Transport	D
10	Which protocols used in Thingspeak?	MQTT & HTTP	UTP & Smt	I2C & SPI	None of these	A

e No. 08 : Module Name:…Smart Traffic and IOT te Management

LEVEL	KEYWORD FOR QUESTION	TOPIC OF THE SYLLABUS	WEEK NO OF THE SYLLABUS	JUSTIFICATION OF THE ANSWER	NIMI BOOK . PAGE NO	REMARK
1	GPS	Different module / devices used in SMART Traffic	39	Modern GPS Technology	Internet	
1	Anemometer	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Rainfall sensor	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Vane sensor	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	
1	Pluviometer	Different module / devices used in SMART Traffic.	39	Specified in sensor	Internet	

1	PH	IoT Application for Water & Waste Management.	40	Water pH measurement	Internet	
1	Pure water	IoT Application for Water & Waste Management.	40	Water measurement	Internet	
1	PH	IoT Application for Water & Waste Management.	40	Water pH measurement	Internet	
1	protocol	IoT Application for Water & Waste Management.	40	Specified in Thingspeak	Internet	
1	Thingspeak	IoT Application for Water & Waste Management.	40	Specified in Thingspeak	Internet	

Name of the Trade - IOT Smart City. - Semester/Year- 01- Module

Sl. No.	Question	OPT A	OPT B	OPT C
1	Why electrical wires are used?	Hanging wet cloths	Safety purposes	For carrying electricity
2	What is the fullform of PPE?	Personal Protective Equipment	Private Protective Equipment	Public Protective Equipment
3	What is the unit of potential difference?	Ohms	Ampere	Henery
4	What is the fullform of SWG?	Standard Wire Gauge	Simple Wound Gauge	Static Wire Gauge
5	What is fullform of R.M.S.?	Replace Means Square	Root Medium Signal	Real Means Space

e No. 01 : Module Name:…Safety Practice & Basics of AC & Ele

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
None of these	C	1	Electrical wires	Safety Practice	1	Specified in safety
Private Precurtion Equipment	A	1	Fullform	Safety Practice	1	Specified in PPE
Volt	D	1	Unit	Basics of AC and Electrical Cables	1	Specified electrical terms
Safety Wire Gauge	A	1	Fullform	Basics of AC and Electrical Cables	1	specified conductors mesurement tool
Root Means Square	D	1	Fullform	Basics of AC and Electrical Cables	1	Specified electrical terms

ctrical Cables

Answer available in NIMI book Page No.	Remarks
Page 11 of 1st sem Electronics Mechanic	
Page 11 of 1st sem Electronics Mechanic	
Page 40 of 1st sem Electronics Mechanic	
Page 43 of 1st sem Electronics Mechanic	
Page 40 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Module I

DC Measu

Sl. No.	Question	OPT A	OPT B	OPT C	OPT D
1	How the resistor rating is measured?	Ohms	Watts	Amperes	Both A & B
2	What are the Passive components among these?	Resistors, SCRs, Capacitors	Diodes, vaccume tubes, SCRs	Transformers, Diodes, Inductors	Transformers, TRIACs, DIACs
3	What is Inductor?	Store electric energy in the form of magnetic	Store electric energy in the form of electric field	Store static energy in the form of magnetic field	Both A & B
4	What is the unit of measuring capacitance?	Henery	Farad	Ampere	Volt
5	What is the correct form of ohm's law?	I = VR	$V \propto I$	V = IR	Both B and C
6	What is the fullform of MSO?	Multiple Signal Oscilloscope	Mixed Sign Observation	Mixed Signal Oscilloscope	Mixed Scope Observation
7	How many channels are there in MSO?	1	2	3	4
8	Which features MSO combines?	Oscilloscope & Logic Analyser	Oscilloscope & Function Generator	Signal generator & Logic Analyser	Pulse generator & Function Generator
9	What type of signal can be meausred by MSO?	Analog Signals	Digital signals	Hybrid Signals	Both A & B
10	What is AVO Meter ?	Multimeter	Voltmeter	Ohm Meter	Ammeter

No. 02 : Module Name:…Active , Passive Components and AC & rements

Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
D	1	Resistor	Active , Passive Components	2-3	Specified in resistor	Page 87 of 1st sem Electronics Mechanic	
C	1	Passive	Active , Passive Components	2-3	Specified in active & passive component	Page 87,110,148of 1st sem Electronics Mechanic	
A	1	Inductor Definition	Active , Passive Components	2-3	Specified in inductors	Page 110 of 1st sem Electronics Mechanic	
B	1	Capacitance unit	Active , Passive Components	2-3	Specified in capacitor	Page 149 of 1st sem Electronics Mechanic	
D	1	Definition	Active , Passive Components	2-3	Formula specified	Page 124 of 1st sem Electronics Mechanic	
C	1	Definition	AC & DC Measurements	2-3	Specified in MSO	Internet	
D	1	Channels	AC & DC Measurements	2-3	Specified in MSO	Internet	
A	1	Feature	AC & DC Measurements	2-3	Specified in MSO	Internet	
D	1	Definition	AC & DC Measurements	2-3	Specified in MSO	Internet	
A	1	Multimeter	AC & DC Measurements	2-3	Specified in multimeter	Page 67 of 1st sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01

Componen

Sl. No.	Question	OPT A	OPT B	OPT C
1	How many types of Soldering are there?	1	2	3
2	Which material is used for making soldering iron bit?	Copper	Tin	Iron
3	What is Flux made up of?	Silicon	Galium	Rosin
4	What is a "cold" solder joint?	Splder that is cooled at room temperature	Solder that was not heated adequately to make a strong bind with the board	A piece of solder lain across two parts without heating
5	What are required for removal of the molten solder from the joint ?	Plunger & Wicking braid	Soldering iron	Flux
6	What is the name of the equipment for both soldeing & desoldering practice?	Solder Flux	Soldering Iron	Plunger
7	What is the fullform of SMD?	Space Mount Devices	Surface Mixed Devices	Surface Mount Devices
8	Which Passive components are available in SMD Packages?	Resistor, Inductors	Transformers, Capacitors	Resistors, Capacitors

9	How the SMT devices are mount?	Requires holes & pad	Have parallel connecting pin	Mount directly
10	What are the types of Soldering?	1	2	3

- Module No. 03 : Module Name:…Soldering / Desoldering ,
ıts soldering/ Desoldering

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
4	B	1	Types	Soldering / Desoldering	4-5	Specified in soldering
Steel	A	1	Manufacture	Soldering / Desoldering	4-5	Specified in soldering
None of these	C	1	uses	Soldering / Desoldering	4-5	Specified in soldering
A refrigerated solder connection	B	1	composition	Soldering / Desoldering	4-5	Specified in soldering
Soldering Paste	A	1	Desoldeing	Soldering / Desoldering	4-5	Specified in desoldering
Soldering & Desoldering Station	D	1	Name	Soldering / Desoldering	4-5	Specified in soldering desoldering station
None of these	C	1	Fullform	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD
Both A & B	C	1	Components	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD

None of these	C	1	Mount	Basic SMD Components soldering/ Desoldering	4-5	Specified in SMD
4	B	1	Types	Soldering / Desoldering	4-5	Specified in soldering

Basic SMD

Answer available in NIMI book Page No.	Remarks
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Page 93 of 1st Sem Electronics Mechanic	
Page 93 of 1st Sem Electronics Mechanic	
Page 98 of 1st Sem Electronics Mechanic	
Page 101 of 1st Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	
Page of 2nd Sem Electronics Mechanic	

Page of 2nd Sem Electronics Mechanic	
Page92 of 1st Sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Modul
V

Sl. No.	Question	OPT A	OPT B	OPT C
1	Zener Diode is made up of which semiconductor material?	Germanium	Steel	Carbon
	What 'Vz' represents in Zener Diode?	Reverse biased voltage at which the diode begins to conduct	Forward biased voltage at which the diode begins to conduct	Reverse/ Forward biased voltage at which the diode begins to conduct
3	What transformer transfer?	Ac to AC	Ac to DC	D C to DC
4	How many types transformer is Classified depending upon transformation ratio?	1	2	3
5	Which is the majority charge carrier in N-type semiconductor ?	Holes	Electrons	Electrons & Holes
6	What is the cut-in voltage in case ofSilicon diode?	1.1v	1v	0.3v
7	How many types Clippers are divided ?	Positive & Negative Clipper	Biased Clipper	Combination Clipper
8	What basic components are required for Clamping circuit?	A Diode, A Capacitor, A Resistor	A Transformer, A Capacitor,A Diode	A Trimmer, A diode, A switch

9	What are the types of transistor?	1	2	3
10	What are the names of the three terminals of a BJT?	Emitter, Base , Collector	Drain , Gate, Source	Anode, Cathode, Grid
11	What is the fullform of ASCII?	American Standard Coded for Information Interaction	African Standard Code for Information Interface	American Standard Code for Information Interchange
12	Which of these Logic Gates are designated as Universal Gate?	NAND,NOR	XNOR , AND,OR	NAND,NOR,XOR
13	If A and B are the inputs of a half adder then what is the output SUM ?	A AND B	A XOR B	A OR B
14	How many inputs will be in Decimal to BCD encoder have?	4	8	10
15	How is an encoder different from a decoder?	The output of an encoder is a binary code for 1 of N inputs	The output of an decoder is a binary code for 1 of N inputs	The output of an encoder is a binary code for N of 1 output
16	On what a Multiplexer output depends ?	Data Inputs	Select inputs	Select outputs
17	What are the outcome of magnitude Comparator ?	A>B , A-B,A+B	A-B	A<B,A>B,A=B
18	In SR flip flop S &What is the meaning of R?	S=Speed & R=Rest	S=Speed & R=Reset	S=Set & R=Rest
19	What is Counter in Digital electronics?	Counts the number of outputs	Counts the number of inputs	Stores the number of times a particular event or process has occured
20	What is demultiplex?	One into many	Many into one	Distributor

e No. 04 : Module Name:…Input/ Output Characteristics of var
arious Digital Circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Silicon	D	1	Semiconductor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
None of these	A	1	Zener voltage	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in zener diode
Dc to AC	A	1	Transformer	Input/ Output Characteristics of various Analog Circuits	6-7	specified in transformer
4	C	1	Classification	Input/ Output Characteristics of various Analog Circuits	6-7	Specified Classification in transformer
None of these	B	1	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in n-type semiconductor
0.7v	D	1	PN junction	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in pn junction
All of these	D	1	Clippers	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clipping circuit
An IC, A resistor, A Diode	A	1	Clamping	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in clamping circuit

4	B	1	Transistor	Input/ Output Characteristics of various Analog Circuits	6-7	Specified in transistor
Collector , Emitter, Gate	A	1	BJT terminals	Input/ Output Characteristics of various Analog Circuits	6-7	Name of the transistor terminals
None of these	C	1	Codes	Various Digital Circuits	8-9	Specified in coding
AND,OR,NOT	A	1	Logic Gates	Various Digital Circuits	8-9	specified in logic gates
A EX-NOR B	B	1	Adder	Various Digital Circuits	8-9	Specified in adder
16	C	1	Encoder	Various Digital Circuits	8-9	Specified in encoder of digital
The output of an Decoder is a binary code for N of 1 output	A	1	Encoder & Decoder	Various Digital Circuits	8-9	Specified in encoder & decoder of digital
Enable pin	B	1	Definition	Various Digital Circuits	8-9	specified in Multiplxer
A=B, A+B, A*B	C	1	Comparator	Various Digital Circuits	8-9	Specified in comparator
S=Set & R=Reset	D	1	Flip Flop	Various Digital Circuits	8-9	specified in Flip flop
Stores the number of times a clock pulse rises & falls counts the no. of inputs	C	1	counter	Various Digital Circuits	8-9	specified in counter
One into many as well as Distributor	D	1	Demultiplexer	Various Digital Circuits	8-9	Specified in Demultiplexer

ious Analog Circuits ,

Answer available in NIMI book Page No.	Remarks
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Page 210 of 1st Sem Electronics Mechanic	
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Page 157 of 2nd sem Electronics Mechanic	

Name of the Trade - IoT Smart City. - Semester/Year- 01- Module

Sl. No	Question	OPT A	OPT B	OPT C
1	What are the basic components in a computer system?	CPU, memory, input device & output device	CPU, white board, input device & output device	CPU, memory, Marker & output device
2	What is Fullform Of CPU ?	Central Processing Unit	Control Processing Unit	Central Periferal Unit
3	What a Mother Board contain?	ROM BIOS	LEVEL 2 CACHE	CMOS Baterry
4	What is fullform of HDD?	Hard Disk Drive	Hard Drive Disk	Half Disk Drive
5	What is fullform of SATA & PATA?	Series ATA & Parallel ATA	Serial ATA & Parallel ATA	Slot ATA & Plot ATA
6	Memory of computer is divided into how many types?	1	2	3
7	What is fullform of SMPS?	Serial Mode Power Supply	Switch Mode Power Switch	Switch Mode Processer Supply
8	What is the fullform of URL?	Uniform Resourse Locater	Universal Resourse Locater	Unified Resourse Locater
9	What does Cc stands for in Email ?	Carbon Copy/ Courtesy Copy	Computer Control	Central Control
10	What is the fullform of FTP & SMTP?	Field Transfer Protocol & Static Mail Transfer Protocol	File Transport Protocol & Simple Message Transfer Protocol	Field Transfer Protocol & Simple Mail Transport Protocol
11	What software we need to prepare a circuit simulation?	Solder, Soldering iron, Paste	PCB, Solder, Paste	Circuit Simulation Software
12	What is the fullform of ERC which is the first option under analysis menu?	Error Rules Check	Electronics Rules Check	Effect Rules Circuit

13	Which phase the Simulator enters after an initialisation phase ?	Elaboration	Execution	Compilation
14	From Which menu or Icon we get the wiring function in simulation?	Insert menu/ Icon look like small pencil	Analysis menu	View
15	What are the free & open source circuit simulation software?	MultiSim	MacSpice	Xspice

e No. 05 : Module Name:…Computer System & Networking ,Elec
Software

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Pencil, memory, input device & output device	A	1	Computer fundamentals	Computer System & Networking	10-11	Standard Specified
Computer Processing Unit	A	1	Definition	Computer System & Networking	10-11	Standard Specified
All of these	D	1	Mother board	Computer System & Networking	10-11	Standard Specified
Hard Disk Desktop	A	1	Memory Organisation	Computer System & Networking	10-11	Standard Specified
Special ATA & Processer ATA	B	1	Connector Cables	Computer System & Networking	10-11	Standard Specified
4	C	1	Computer memory	Computer System & Networking	10-11	Standard Specified
Switch Mode Power Supply	D	1	Power supply of computer	Computer System & Networking	10-11	Standard Specified
Unshielded Resourse Locater	A	1	Memory	Computer System & Networking	10-11	Standard Specified
Carbon Computer	A	1	Email	Computer System & Networking	10-11	Standard Specified
File Transfer Protocol & Simple Mail Transfer Protocol	D	1	Protocol	Computer System & Networking	10-11	Standard Specified
None among these	C	1	Simulation	Electronic Simulation Software	12	Standard Specified
Electrical Resolution Circuit	A	1	Simulation	Electronic Simulation Software	12	Standard Specified

None of these	B	1	Simulation	Electronic Simulation Software	12	Standard Specified
Tools	A	1	Simulation	Electronic Simulation Software	12	Standard Specified
All of these	D	1	Simulation	Electronic Simulation Software	12	Standard Specified

:tronic Simulation

Answer available in NIMI book Page No.	Remarks
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258 page of 1st sem Electronics Mechanic	
263 page of 1st sem Electronics Mechanic	
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320 & 326 page of 1st sem Electronics Mechanic	
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Name of the Trade - IoT Smart City. - Semester/Year- C

Conditioning , Converter Circuits A

Sl. No.	Question	OPT A	OPT B	OPT C
1	Which among these represent active transducer?	Strain Gauge	Thermistor	LVDT
2	Which transducer known as self generating transducer?	Analog transducer	Secondary transducer	Active transducer
3	What is RTD made up of?	Gold, Silver , Cobalt	Iron, Magnesium , Cobalt	Copper, Nickel , Platinum
4	Which among these is an Analog transducer?	Encoders	Digital tachometers	Limit switches
5	What is NTC(Negative Temeperature Coefficient?	Temerature increases, Resistance Decreases	Temerature decreases, Resistance Decreases	Temerature Increases, Resistance Increases
6	What is Pt 100 means?	Platinum RTD with resistance of 100Ω at 0℃	Plastic RTD with resistance of 1000Ω at 1℃	Premium RTD with resistance of 500Ω at 2℃
7	What is the Temperature range of Themocouple ?	200 upto 5000℃	150 upto 1000℃	200 upto 2000℃
8	Which bridge is there in Strain gauge ?	Kelvin bridge	Wheatstone bridge	De Sauty's bridge
9	What is a load cell ?	Thermistor	Strain Gauge	Photovoltaic Cell
10	Which sensor can detect nearby objects?	Touch sensor	Pressure Sensor	Humidity Sensor
11	Which Proximity Sensor detects metal object?	Capacitive	Magnetic	Inductive

12	According to what sensors are classified?	Functions	Performance	Output
13	What is Strain Gauge?	Active device & converts mechanical displacement into a change of resistance	Passive device & converts electrical displacement into a change of resistance	Passive device & converts mechanical displacement into a change of resistance
14	In power amplifier what type of output tranformer is required?	1:1 ratio	Step-up	Step-down
15	What is Differential Amplifier?	Amplifies the difference between two voltages	Amplifies dc input signal voltage only	Amplifies ac input signal voltage only
16	What is the input of an Inverting amplifier?	Equal to output	Equal to inverted output	Not equal to output
17	In which terminals the positive and negative terminals of the non inverting configuration amplifier connected?	Power Source & Ground	Ground & Ground	Ground & Power Source
18	What instrument is used to amplify output signal of transducer?	Peaking Amplifier	Bridge Amplifier	Instrumentation Amplifier
19	The monitoring of machines, gears and objects are achieved by which sensor?	Humidity sensor	Proximity sensor	Touch Sensor
20	Which Proximity Sensor detects metals along with also detect resins, Liquids?	Inductive Proximity	Capacitive Proximity	Magnetic Proximity

)1- Module No. 06 : Module Name:…Sensors, Transducers & Applicat
And various types of sensor inputs as well as control circuits

OPT D	Ans	Level	Key word for question	Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer
Thermocouple	D	1	classification ofv transducer	Sensor Transducer	13-14	Specified in transducer
Passive transducer	C	1	Classification of transducer	Sensor Transducer	13-14	Specified in transducer
Iron, Nickel , Cobalt	C	1	metal used	Sensor Transducer	13-14	Specified in transducer
Strain Gauge	D	1	Analog transducer	Sensor Transducer	13-14	Specified in transducer
Temerature Decreases, Resistance Increases	A	1	Thermistor types	Sensor Transducer	13-14	Specified in transducer
Platinum RTD with resistance of 100Ω at 10℃	A	1	RTD	Sensor Transducer	13-14	Specified in transducer
270 upto 3000℃	D	1	Range	Sensor Transducer	13-14	Specified in transducer
Anderson bridge	B	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
None of these	B	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
Proximity Sensor	D	1	Sensor	Sensor Transducer	13-14	Specifeid in sensor
Ultrasonic	C	1	Proximity Sensor types	Sensor Transducer	13-14	Specifeid in sensor

A,B & C	D	1	Sensor Types	Sensor Transducer	13-14	Specifeid in sensor
Active device & converts electrical displacement into a change of resistance	C	1	Strain Gauge	Sensor Transducer	13-14	Specified in transducer
None of these	C	1	Power amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	A	1	Difference Amplifier definition	Various types of sensor inputs as well as control outputs	15-16	Specified
Output is equal to input	B	1	Inverting amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
None of these	A	1	Non-inverting Amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
Difference Amplifier	C	1	Instrumentation amplifier	Various types of sensor inputs as well as control outputs	15-16	Specified
Pressure Sensor	B	1	Proximity Sensor	Various types of sensor inputs as well as control outputs	15-16	Specified
Parallel Proximity	B	1	Proximity Sensor	Various types of sensor inputs as well as control outputs	15-16	Specified

tions, Signal

Answer available in NIMI book Page No.	Remarks
245 & 246 of Electronics Mechanic	
245 of Electronics Mechanic	
251 of Electronics Mechanic	
243 of Electronics Mechanic	
243 of Electronics Mechanic	
253 of Electronics Mechanic	
257 of Electronics Mechanic	
258 of Electronics Mechanic	
258 of Electronics Mechanic	
262 of Electronics Mechanic	
262 of Electronics Mechanic	

245 of Electronics Mechanic	
258 of Electronics Mechanic	
Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	
2nd sem Electronics Mechanic	
3rd sem Electronics Mechanic	
3rd sem Electronics Mechanic, pg-262	
3rd sem Electronics Mechanic,pg-262	

Name of the Trade - IOT Smart City. - Semester/

Sl. No.	Question	OPT A	OPT B
1	How many pins are there in 8051 Microcontroller?	40	28
2	What are two instruction set architecture (ISA) classification?	CISC & VISC	CISC & RISC
3	What is the internal RAM memory of 8051 & 8052 microcontroller?	32 & 128 Bytes	64 & 256 Bytes
4	What is the fullform of PIC Microcontroller?	Peripheral Interface Controller	Programmable Interrupt Controller
5	How many timers/ counter 8051 microcontroller have?	1	2
6	How many ports are there in PIC & 8051 Microcontroller?	7 & 5	5 & 5
7	Microcontrollers often have	CPU	RAM
8	What is the fullform of SFR?	Special Form Register	Special Function Regulator
9	What is fullform of ALE & instuction set of 8051 is divided into how many functional groups?	Address Logic Enable & 4	Address Latch Enable & 4
10	What is the address range of SFR Register bank?	00H-77H	40H-80H

/Year- 01- Module No. 07 : Module Name:…Families of Mic

OPT C	OPT D	Ans	Level	Key word for question
14	8	A	1	Pin
SIDC & VISC	BISC & VISC	B	1	ISA Classification
128 & 256 Bytes	32 & 64 Bytes	C	1	Memory Organisation
Peripheral Interrupt Controller	Programmable Interface Controller	A	1	Microcontroller
3	4	B	1	General features
4 & 6	5 & 4	D	1	I/O ports
ROM	All of the above	D	1	Architecture
Special Function Register	Specific Function Register	C	1	Memory Organisation
Address Latch Enable & 6	Address Latch Enable & 7	B	1	Pin diagram & Instruction set
80H-7FH	80H-FFH	D	1	SFR Organisation

crocontroller with performance evaluation

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Families of Microcontroller & performance evaluation	17-18	Standard	223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard	218 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	standard comparision of different version	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Different types of Microcontroller	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Nomencleture	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard	222 & 223 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Architecture	220 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	221 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	224 & 226 of Electronics Mechanic	
Families of Microcontroller & performance evaluation	17-18	Standard specified	221 of Electronics Mechanic	

Name of the Trade - IOT Smart City. - Semeste

Sl. No.	Question	OPT A	OPT B
1	What is the fullform of IoT?	Internet of Things	Industry of Things
2	What is the fullform of RFID?	Radio frequency identitty module	Receiver frequency identitty module
3	What is the fullform of Wi - Fi?	Wireless Filter	Wireless Fidelity
4	Explain what is microcontroller?	Microcrontroller is a computer system.	The microcontroller is a self-contained system with peripherals, memory and a processor that can be
5	What is Embeded system in IoT?	IoT Devices & IoT gateway	IoT Devices & Data link layer
6	Name the microcontroller used in ARDUINO UNO board	8051	Atmega32114
7	How many digital pins are there in ARDUINO UNO baord?	32	14
8	How many analog pins are there in ARDUINO UNO board?	6	7
9	What does IDE stands for?	In Deep Environment	Integrated Development Environment
10	What is the program written with the IDE for Arduino ?	IDE source	Sketch

er/Year- 01- Module No. 08 : Module Name:…IOT Architect

OPT C	OPT D	Ans	Level	Key word for question
Internet of Theory	Both B & C	A	1	IOT
Radio frequency identitty multiplexer	None of these	A	1	RFID
Wire Fidelity	Width Fidelity	B	1	Wi-Fi
Microcontroller is a mechanical component.	Microcontroller is a small computer. Basic components of a computer integrated in single	D	1	Microcontroller
IoT Devices & Application Layer	IoT Devices & IoT Platform Layer	A	1	IoT
ESP8266	ATmega328p	D	1	ARDUINO UNO
16	11	B	1	DIGITAL
8	9	A	1	ANALOG
Internal Deep Escape	IDE	B	1	Arduino IDE
Cryptography	Source Code	A	1	Arduino

ure & components of IOT System

Topic of the syllabus	Week No. Of the Syllabus	Justification of correct answer	Answer available in NIMI book Page No.	Remarks
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
Identify different IoT Applications with IoT architecture.	19	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	
components of IOT System	20	Specified	Internet	