Question Paper Preview

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name:	Junior Engineer 16th August 2018 Shift 1
Subject Name:	Junior Engineer
Creation Date:	2018-08-16 12:01:48
Duration:	120
Total Marks:	100
Display Marks:	Yes
Share Answer Key With Delivery Engine:	No
Actual Answer Key:	Yes
Calculator:	None
Magnifying Glass Required?:	No
Ruler Required?:	No
Eraser Required?:	No
Scratch Pad Required?:	No
Rough Sketch/Notepad Required?:	No
Protractor Required?:	No

Junior Engineer

Group Number :	1
Group Id :	5528914
Group Maximum Duration :	0
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0

Technical Ability

Section Id :	55289110
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	75
Number of Questions to be attempted:	75
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	55289112
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 552891301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

RTD stands for:

Options :

1. ✖ Resistance Temperature Deflector

2. ✖ Resistance Transfer Deflector

3. ✔ Resistance Temperature Detector

4. ✖ Resistance Transfer Detector

Question Number : 2 Question Id : 552891302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An integrator contains a 100 kΩ and 1μF capacitor. If the voltage applied to the integrator input is 1 V, what is the voltage present at the integrator output after 1s?

Options :

1. ✖ 1 V

2. ✖ 5 V

3. ✖ 2 V

4. ✔ 10 V

Question Number : 3 Question Id : 552891303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a series RLC circuit of resistance 1 KΩ, inductance 10 mH and capacitance 100 μF, calculate the resonant frequency for the supply voltage of 100 V.

Options :

1. ✖ 39.75 Hz

2. ✖ 318.3 Hz

3. ✖ 79.5 Hz

4. ✔ 159.15 Hz

Question Number : 4 Question Id : 552891304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A series R-L-C circuit has R = 1000 Ω, L = 100 mH, C = 10 pF. The supply voltage is 100 V. Calculate the bandwidth.

Options :

1. ✔ 10 rad/s

2. ✗ 1 rad/s

3. ✗ 100 rad/s

4. ✗ 50 rad/s

Question Number : 5 Question Id : 552891305 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A 50 micro farad capacitor is connected across 230 V 50Hz supply. Find the maximum current.

Options :

1. ✔ 5.11 A

2. ✗ 7.24 A

3. ✗ 3.62 A

4. ✗ 2 A

Question Number : 6 Question Id : 552891306 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Determine the amount of charge stored on either plate of the capacitor of 2μF when connected to a 9 V battery?

Options :

1. ✔ 18 μC

2. ✗ 4.5 μC

3. ✗ 2 μC

4. ✗ 36 μC

Question Number : 7 Question Id : 552891307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is an active component?

Options :

1. ✔ Transistor

2. ✗ Resistor

3. ✗ Inductor

4. ✗ Capacitor

Question Number : 8 Question Id : 552891308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of following devices exhibits negative resistance region?

Options :

1. ✖ Zener diode

2. ✖ P-N junction diode

3. ✔ Tunnel diode

4. ✖ BJT

Question Number : 9 Question Id : 552891309 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A bi-stable multi-vibrator has how many stable states?

Options :

1. ✔ Two

2. ✖ Three

3. ✖ One

4. ✖ No stable states are present

Question Number : 10 Question Id : 552891310 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Solve the following Boolean algebra expression:

A(A'+C)(A'B+C)(A'BC+C')

Options :

1. ✖ AC

2. ✖ BC

3. ✔ 0

4. ✖ AB

Question Number : 11 Question Id : 552891311 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A 10V power supply would use filter capacitor of following type:

Options :

1. ✔ Electrolytic capacitor

2. ✖ Air capacitor

3. ✖ Paper capacitor

4. ✖ Mica capacitor

Question Number : 12 Question Id : 552891312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an example of a semiconductor material?

Options :

1. ✔ Iron

2. ✖ Silicon

3. ✖ Germanium

4. ✖ Tellurium

Question Number : 13 Question Id : 552891313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not true with respect to dielectric strength?

Options :

1. ✖ It decreases with increase in frequency

2. ✔ It increases with increase in frequency

3. ✖ It decreases with increase in operating temperature

4. ✖ It decreases with increase in humidity

Question Number : 14 Question Id : 552891314 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following relations holds true in the case of the transformer having turns N_1 and N_2 voltages V_1 and V_2 and current I_1 and I_2 in primary and secondary coils respectively?

Options :

1. ✔ $\dfrac{V_1}{V_2} = \dfrac{N_1}{N_2}$

2. ✖ $\dfrac{V_2}{V_1} = \dfrac{N_1}{N_2}$

3. ✖ $\dfrac{I_1}{I_2} = \dfrac{N_1}{N_2}$

4. ✖ $\dfrac{I_1}{V_1} = \dfrac{N_1}{N_2}$

**Question Number : 15 Question Id : 552891315 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Transformer works on principle of:

Options :

1. ✖ Self-inductance

2. ✔ Mutual inductance

3. ✖ Ohm's law

4. ✖ Faraday's law

**Question Number : 16 Question Id : 552891316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

A 3 phase induction motor runs at 1500 rpm at no load and 750 rpm at full load when connected to 60 Hz 3 phase line. Calculate the number of poles the motor has:

Options :

1. ✖ 2

2. ✖ 4

3. ✔ 5

4. ✖ 8

**Question Number : 17 Question Id : 552891317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

The transformer utilisation factor of a full wave rectifier is:

Options :

1. ✔ 0.693

2. ✖ 0.936

3. ✖ 0.369

4. ✖ 0.5

Question Number : 18 Question Id : 552891318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the input AC voltage is 10 V_{rms}, find the maximum voltage across the diode of a half wave rectifier with capacitor input filter.

Options :

1. ✔ 14.1 V

2. ✖ 20 V

3. ✖ 10 V

4. ✖ 7.07 V

Question Number : 19 Question Id : 552891319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In case of a BJT, if $\alpha = 0.99$, $I_E = 10$ mA and $I_{co} = 0.5$ μA, then the value of I_{CEO} is:

Options :

1. ✖ 100 μA

2. ✖ 25 μA

3. ✔ 50 μA

4. ✖ 10 μA

Question Number : 20 Question Id : 552891320 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a non-inverting OPAMP, if R1 = 20 K ohms and Rf = 200 K ohms, then find the gain of the amplifier.

Options :

1. ✔ 11

2. ✖ 10

3. ✖ 1.1

4. ✖ 100

Question Number : 21 Question Id : 552891321 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which amplifier circuit is used as an emitter follower circuit?

Options :

1. ✖ Common base

2. ✖ Common emitter

3. ✔ Common collector

4. ✖ Common source JFET amplifier

Question Number : 22 Question Id : 552891322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A power supply has a full load voltage of 24 V. It's no load voltage for 5% regulation is:

Options :

1. ✖ 29 V

2. ✔ 25.2 V

3. ✖ 22.8 V

4. ✖ 19 V

Question Number : 23 Question Id : 552891323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The gain of MOSFET amplifiers at high frequency reduces due to the effect of:

Options :

1. ✖ Coupling capacitors

2. ✔ Parasitic capacitors

3. ✖ Oxide capacitors

4. ✖ Bypass capacitors

Question Number : 24 Question Id : 552891324 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is true as per Barkhausen criteria for sustainable oscillations for amplifier gain of A and the feedback β of the feedback network?

Options :

1. ✔ $A \geq (1/\beta)$

2. ✖ $A < (1/\beta)$

3. ✖ $A\beta = 0$

4. ✖ $A \geq \beta$

**Question Number : 25 Question Id : 552891325 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

A 0-150 V has a guaranteed accuracy of 1 percent full scale reading. The voltage measured by the instrument is 83 V. Calculate the limiting error in percentage value.

Options :

1. ✖ 1.5%

2. ✔ 1.81%

3. ✖ 3%

4. ✖ 3.6%

**Question Number : 26 Question Id : 552891326 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Calculate the sensitivity of 200 μA meter movement that is to be used as a DC voltmeter.

Options :

1. ✔ 5 KΩ/V

2. ✖ 5 Ω/V

3. ✖ 5 KΩ

4. ✖ 5 Ω

**Question Number : 27 Question Id : 552891327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Which of the following is not an advantage of PMMC?

Options :

1. ✖ It displays no hysteresis

2. ✔ There is friction due to jewel-pivot suspension

3. ✖ Its operating fields not significantly affected by stray magnetic fields

4. ✖ It can be used for wide range of current and voltage

**Question Number : 28 Question Id : 552891328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Which of the following is a disadvantage of using Linear Motion Variable Inductance Transducer (LMVT)?

Options :

1. ✖ It responds to dynamic systems

2. ✖ It responds to static systems

3. ✖ It is free from mechanical hysteresis problem

4. ✔ It is affected by external magnetic field

Question Number : 29 Question Id : 552891329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an example of semiconductor diode rectifiers?

Options :

1. ✖ Half wave rectifier

2. ✖ Full wave rectifier

3. ✖ Bridge rectifier

4. ✔ Hold cathode gas diode rectifier

Question Number : 30 Question Id : 552891330 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a cathode ray tube, the length of deflecting plate of the direction of beam is 2 cm, the spacing of the plate is 0.5 cm and the distance of the florescent screen from the centre of the plate is 18 cm. Calculate deflection sensitivity if anode voltage is 400 V.

Options :

1. ✔ 0.09 cm/volt

2. ✖ 0.9 cm/volt

3. ✖ 0.18 cm/volt

4. ✖ 0.018 cm/volt

Question Number : 31 Question Id : 552891331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A resistance strain gauge with gauge factor of 2.1 is fastened to a steel subjected to a stress of 1500 kg/cm^3. The modulus of elasticity is 2.1×10^6 kg/cm^2. Find strain in axial direction σ using Hooke's law.

Options :

1. ✔ 7.14×10^{-4}

2. ✖ 1.4×10^{-4}

3. ✖ 7.14×10^4

4. ✖ 1.4×10^4

Question Number : 32 Question Id : 552891332 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not an example of open loop system?

Options :

1. ✖ Theatre lamp dimmer

2. ✖ Traffic signals

3. ✖ Electric lift

4. ✔ Automatic electric iron

Question Number : 33 Question Id : 552891333 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a characteristic of open loop system?

Options :

1. ✖ It is inaccurate

2. ✖ It is economical

3. ✖ It has small bandwidth

4. ✔ It has feedback elements

Question Number : 34 Question Id : 552891334 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The impulse response of e^{-3t} is:

Options :

1. ✔ $\dfrac{1}{s+3}$

2. ✖ $\dfrac{1}{s+9}$

3. ✖ $\dfrac{1}{s-3}$

4. ✖ $\dfrac{1}{s-9}$

Question Number : 35 Question Id : 552891335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the stability of the system $s^3 + s^2 + s + 4 = 0$ using Hurwitz criteria?

Options :

1. ✔ Unstable

2. ✘ Stable

3. ✘ Critically stable

4. ✘ Marginally stable

Question Number : 36 Question Id : 552891336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Find the range of k for stable operation if $H(s) = 1$ and $G(s) = \dfrac{k}{(s)(s+1)(s+2)}$

Options :

1. ✘ $0 < k < 3$

2. ✔ $0 < k < 6$

3. ✘ $0 < k < 12$

4. ✘ $k > 6$

Question Number : 37 Question Id : 552891337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If gain margin and phase margin both are positive, then the system is said to be:

Options :

1. ✔ Stable

2. ✘ Unstable

3. ✘ Critically stable

4. ✘ Marginally stable

Question Number : 38 Question Id : 552891338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following conditions is true for over-damped systems?

Options :

1. ✘ $\zeta = 1$

2. ✖ $\zeta = -1$

3. ✖ $\zeta < 1$

4. ✔ $\zeta > 1$

Question Number : 39 Question Id : 552891339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time required for the response curve to reach and stay within the specified 2-5% of final value is referred to as:

Options :

1. ✖ Peak time

2. ✖ Rise time

3. ✔ Settling time

4. ✖ Peak overshoot time

Question Number : 40 Question Id : 552891340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

TTL stands for:

Options :

1. ✔ Transistor-Transistor Logic

2. ✖ Transistor-Thermocouple Logic

3. ✖ Transistor-Thermostat Logic

4. ✖ Transistor-Thermistor Logic

Question Number : 41 Question Id : 552891341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The BCD equivalent of decimal number 7 is:

Options :

1. ✔ 0111

2. ✖ 1110

3. ✖ 0011

4. ✖ 1100

Question Number : 42 Question Id : 552891342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of flip-flops required for constructing a mod-12 counter is:

Options :

1. ✖ 3

2. ✔ 4

3. ✖ 2

4. ✖ 1

Question Number : 43 Question Id : 552891343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the decimal equivalent number of binary number 101101?

Options :

1. ✔ 45

2. ✖ 90

3. ✖ 40

4. ✖ 8

Question Number : 44 Question Id : 552891344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a full-scale voltage range of 0-5 V, the resolution of 6 bit ADC is nearest to:

Options :

1. ✔ 78 mV

2. ✖ 833 mV

3. ✖ 156 mV

4. ✖ 20 mV

Question Number : 45 Question Id : 552891345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In TTL family HIGH output corresponds to:

Options :

1. ✔ 2.4 V to 5V

2. ✖ 2 V to 5 V

3. ✖ 0.8 V to 2 V

4. ✖ 0.4 V to 2.4 V

Question Number : 46 Question Id : 552891346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is the fastest A-D convertor?

Options :

1. ✖ Successive approximation type

2. ✔ Flash type

3. ✖ Integration type

4. ✖ Ramp type

Question Number : 47 Question Id : 552891347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
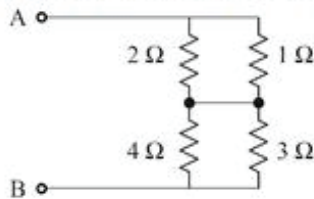Single Line Question Option : No Option Orientation : Vertical

What is the value of 1s compliment of 010010?

Options :

1. ✔ 101101

2. ✖ 100110

3. ✖ 011001

4. ✖ 011101

Question Number : 48 Question Id : 552891348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a sequential circuit?

Options :

1. ✖ Flip flop

2. ✖ Counter

3. ✖ Shift register

4. ✔ Multiplexer

Question Number : 49 Question Id : 552891349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

An SCR has average power dissipation of 0.5 W. Allowable voltage variation is 2 V to 8 V. Consider the power dissipation to be constant. Find the value of gate current for gate voltage of 2 V.

Options :

1. ✔ 0.25 A

2. ✖ 0.5 A

3. ✖ 1 A

4. ✖ 2 A

Question Number : 50 Question Id : 552891350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Class A commutation is often referred to as:

Options :

1. ✔ Load commutation

2. ✖ Forced commutation

3. ✖ Natural commutation

4. ✖ External pulse commutation

Question Number : 51 Question Id : 552891351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Maximum percent rectifier efficiency of half wave rectifier is:

Options :

1. ✖ 10.1

2. ✖ 80.2

3. ✖ 20.3

4. ✔ 40.6

Question Number : 52 Question Id : 552891352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the below circuit is reduced to single resistance circuit then the value of resistance will be:

Options :

1. ✔ 2.38 Ω

2. ✖ 1.9 Ω

3. ✖ 10 Ω

4. ✖ 0.5 Ω

**Question Number : 53 Question Id : 552891353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

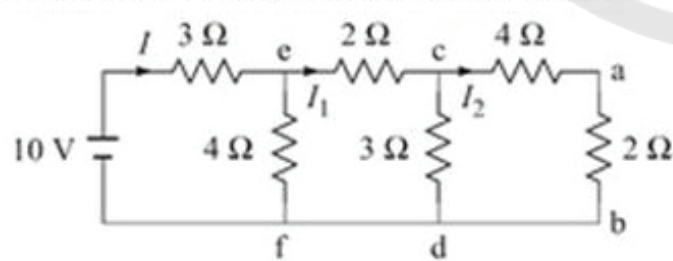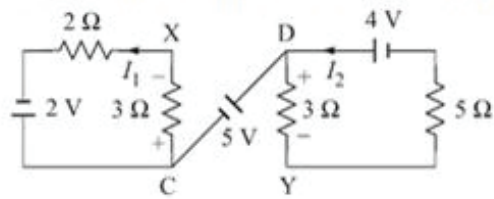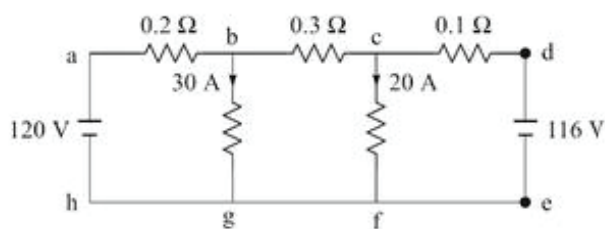Determine the value of current I in the following circuit:
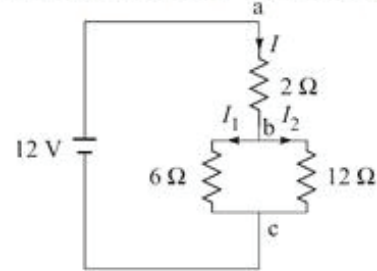
Options :

1. ✔ 2 A

2. ✖ 4 A

3. ✖ 6 A

4. ✖ 10 A

**Question Number : 54 Question Id : 552891354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Find the current I in the following circuit.

Options :

1. ✖ 4 A

2. ✔ 2 A

3. ✖ 6 A

4. ✖ 8 A

Question Number : 55 Question Id : 552891355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the potential difference V_{XY} in the following network:

Options :

1. ✖ 4.7 V

2. ✔ -4.7 V

3. ✖ 9.4 V

4. ✖ -9.4 V

Question Number : 56 Question Id : 552891356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the value of resistance R in the circuit shown below:
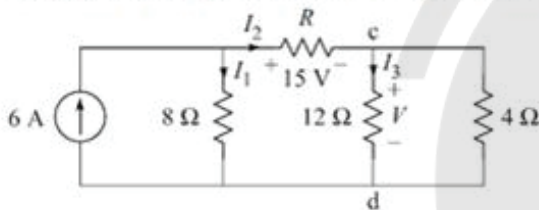
Options :

1. ✔ 5 Ω

2. ✖ 10 Ω

3. ✖ 2.5 Ω

4. ✖ 15 Ω

Question Number : 57 Question Id : 552891357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

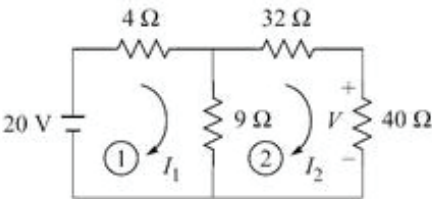Determine the voltage at node b & node c respectively in the following circuit.

Options :

1. ✔ 114, 114

2. ✖ 114, 342

3. ✖ 114, 171

4. ✖ 171, 67

Question Number : 58 Question Id : 552891358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
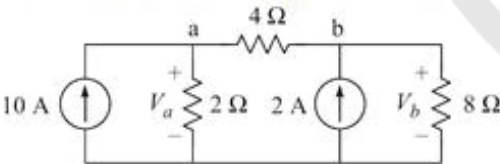
Find the value of voltage V in the following network.

Options :

1. ✖ 4.7 V

2. ✖ 10 V

3. ✖ 20 V

4. ✔ 7.4 V

Question Number : 59 Question Id : 552891359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

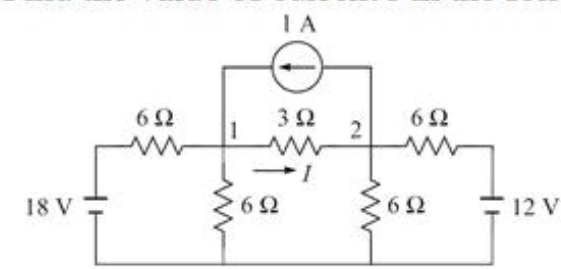Find the value of V_a and V_b, respectively, in the following circuit.

Options :

1. ✔ 19.42 V,18.28 V

2. ✖ 18.28 V, 19.42 V

3. ✖ 9.14 V, 9.71 V

4. ✖ 9.71V, 9.14 V

Question Number : 60 Question Id : 552891360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

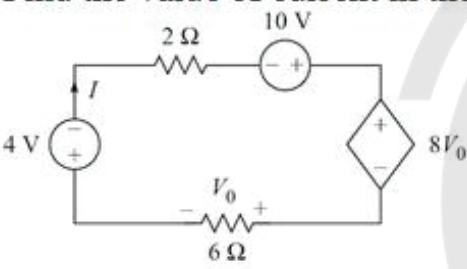Find the value of current *I* in the following circuit.

Options :

1. ✔ 1 A

2. ✖ 0.5 A

3. ✖ 0.25 A

4. ✖ 2 A

Question Number : 61 Question Id : 552891361 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
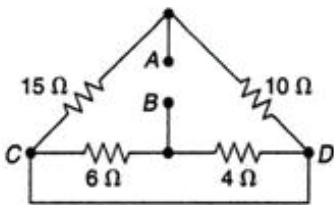
Find the value of current in the following circuit.

Options :

1. ✔ 0.107 A

2. ✖ 0.4 A

3. ✖ 0.142 A

4. ✖ 0.6 A

Question Number : 62 Question Id : 552891362 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

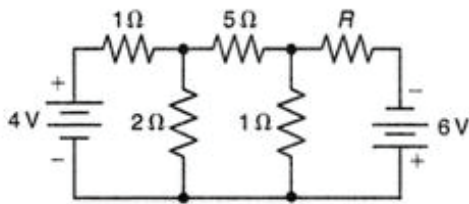In the above circuit, find the value of resistance between points A & B.

Options :

1. ✔ 8.4 Ω

2. ✖ 48 Ω

3. ✖ 25 Ω

4. ✖ 5 Ω

Question Number : 63 Question Id : 552891363 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find value of R in the below circuit.

Options :

1. ✔ 0.85 Ω

2. ✖ 1 Ω

3. ✖ 2 Ω

4. ✖ 5 Ω

Question Number : 64 Question Id : 552891364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a sinusoidal wave, the value of the form factor is:

Options :

1. ✖ 1.73

2. ✖ 2.22

3. ✖ 1.41

4. ✔ 1.11

Question Number : 65 Question Id : 552891365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An RRC instruction in 8085 will affect which flag?

Options :

1. ✔ CY

2. ✖ Z

3. ✖ S

4. ✖ AC

Question Number : 66 Question Id : 552891366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a two byte instruction in 8085 microprocessor?

Options :

1. ✖ MOV

2. ✖ CMA

3. ✖ ADD

4. ✔ MVI

Question Number : 67 Question Id : 552891367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following interrupt has least priority in 8085 microprocessor?

Options :

1. ✔ INTR

2. ✖ TRAP

3. ✖ RST 7.5

4. ✖ RST 6.5

Question Number : 68 Question Id : 552891368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The address bus width of 8085 microprocessor is:

Options :

1. ✖ 32 bit

2. ✖ 8 bit

3. ✔ 16 bit

4. ✖ 64 bit

Question Number : 69 Question Id : 552891369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of status flags in 8085 microprocessor is:

Options :

1. ✖ 6

2. ✖ 4

3. ✖ 3

4. ✔ 5

Question Number : 70 Question Id : 552891370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In 8085, what is the output after the execution of the following instructions:

MVI A, 06H
MVI L, 04H
ADD L

Options :

1. ✔ 0A H

2. ✖ 10 H

3. ✖ 06 H

4. ✖ 04 H

Question Number : 71 Question Id : 552891371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Compute the peak inverse voltage of thyristor connected in three-phase, six-pulse bridge rectifier having input voltage of 415 V. Consider the voltage safety factor to be 2.1.

Options :

1. ✖ 415 V

2. ✖ 830.4 V

3. ✔ 1232.49 V

4. ✖ 585.15 V

Question Number : 72 Question Id : 552891372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of layers present in SCR are:

Options :

1. ✖ 2

2. ✖ 3

3. ✔ 4

4. ✘ 5

Question Number : 73 Question Id : 552891373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The time instant between which the gate current reaches 90% of its final value and anode current reaches 10% of its final value is referred to as:

Options :

1. ✘ Rise time

2. ✘ Turn-on time

3. ✘ Spread time

4. ✔ Delay time

Question Number : 74 Question Id : 552891374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An AC voltage of peak value 20 V is connected in series with a silicon diode and load resistance of 500 Ω. If the forward resistance is 10 Ω, then find the value of peak current through diode.

Options :

1. ✘ 19.3 mA

2. ✘ 40 mA

3. ✘ 18.9 mA

4. ✔ 37.8 mA

Question Number : 75 Question Id : 552891375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A triode used as an amplifier has amplification factor of 15. The AC plate resistance is 10 KΩ and load resistance is 20 KΩ. Find the voltage gain of amplifier.

Options :

1. ✔ 10

2. ✘ 20

3. ✘ 5

4. ✘ 15

General Awareness and Aptitude

Section Id :	55289111
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	55289113
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 552891376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which state government has launched 'Reuse of Treated Waste Water Policy', wherein it is planned to fulfil the 50 percent requirement of water from retreated water?

Options :

1. ✖ Telangana

2. ✔ Gujarat

3. ✖ Arunachal Pradesh

4. ✖ Punjab

Question Number : 77 Question Id : 552891377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which Indian freedom fighter died due to the injuries sustained during lathi charge by British police while leading the demonstration against the Simon Commission?

Options :

1. ✖ Bipin Chandra Pal

2. ✖ Bal Gangadhar Tilak

3. ✔ Lala Lajpat Rai

4. ✖ Surya Sen

Question Number : 78 Question Id : 552891378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

As per the Constitution of India, no child below the age of _____ years can be employed to work in any factory or mine or engaged in any hazardous employment.

Options :

1. ✖ thirteen

2. ✔ fourteen

3. ✖ fifteen

4. ✖ sixteen

Question Number : 79 Question Id : 552891379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which Indian gymnast has won Gold Medal in the Mersin World Challenge Cup 2018 in Turkey?

Options :

1. ✔ Dipa Karmakar

2. ✖ Palak Kour Bijral

3. ✖ Rucha Divekar

4. ✖ Aruna Reddy

Question Number : 80 Question Id : 552891380 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which state is the Namdroling Monastery situated?

Options :

1. ✖ Jammu and Kashmir

2. ✔ Karnataka

3. ✖ Himachal Pradesh

4. ✖ Bihar

Question Number : 81 Question Id : 552891381 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Lakshadweep is a group of islands, which consists of how many islands?

Options :

1. ✖ 16

2. ✖ 26

3. ✔ 36

4. ✖ 46

1. ✖ Ban Ki-Moon

2. ✖ Kofi Annan

3. ✖ Boutros Boutros-Ghali

4. ✔ Antonio Guterres

Sub-Section Number:	2
Sub-Section Id:	55289114
Question Shuffling Allowed :	Yes

Question Number : 86 Question Id : 552891386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Select the option that is related to the third term in the same way as the second term is related to the first term.

Rabbit : Bunny : : Wolf : ?

Options :

1. ✔ Pup

2. ✖ Vixen

3. ✖ Calf

4. ✖ Colt

Question Number : 87 Question Id : 552891387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a code language, *rent* is written as *3124*, *sent* is written as *5124*, and *sect* is written as *5164*. How will *crest* be written in that language?

Options :

1. ✖ 63451

2. ✖ 51432

3. ✔ 63154

4. ✖ 42513

Question Number : 88 Question Id : 552891388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following options is different from the remaining three?

Options :

1. ✖ Rome

2. ✖ Paris

3. ✔ Greece

4. ✖ London

Question Number : 89 Question Id : 552891389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Gauri is Girish's father's wife's only daughter-in-law. How is Girish related to Gauri?

Options :

1. ✖ Father-in-law

2. ✖ Brother

3. ✖ Brother-in-law

4. ✔ Husband

Question Number : 90 Question Id : 552891390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Select the option that correctly fills in the blank and completes the below series.

afk, bgl, chm, din, ___

Options :

1. ✖ fjp

2. ✖ ehp

3. ✔ ejo

4. ✖ fko

Question Number : 91 Question Id : 552891391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Select the option that correctly fills in the blank and completes the below series.

1, 2, 4, 7, 11, 16, __

Options :

1. ✔ 22

2. ✖ 21

3. ✖ 23

4. ✖ 24

**Question Number : 92 Question Id : 552891392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Fred went for a walk from his office. First, he went 50 feet facing the East; then, he turned right and went for 100 feet. From there, he turned left and went for a distance of 50 feet and stopped by a coffee shop. To which direction is the coffee shop located with respect to Fred's office?

Options :

1. ✔ South-East

2. ✖ South-West

3. ✖ North-East

4. ✖ North-West

**Question Number : 93 Question Id : 552891393 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Six friends, M, N, O, P, Q, and R, are sitting around a circular table facing the centre. N is second to the right of P. P does not sit immediately next to Q. R is sitting to M's immediate left. O is sitting next to neither Q nor R. Who is sitting to R's immediate right?

Options :

1. ✖ Q

2. ✖ P

3. ✖ N

4. ✔ M

**Question Number : 94 Question Id : 552891394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Select the option that correctly replaces the question mark (?) and completes the matrix correctly.

2	9	4
7	5	3
6	1	?

Options :

1. ✔ 8

2. ✖ 2

3. ✖ 7

4. ✖ 4

Question Number : 95 Question Id : 552891395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A certain number of students are standing in a row. Sheela is 11th from the left and Geeta is 14th from the right. On interchanging their positions, Geeta's new position is 18th from the right. What is the number of students in the row?

Options :

1. ✔ 28

2. ✖ 30

3. ✖ 29

4. ✖ 27

Sub-Section Number:	3
Sub-Section Id:	55289115
Question Shuffling Allowed :	Yes

Question Number : 96 Question Id : 552891396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When 416, 888, 1537 and 2245 are divided by the greatest number x, the remainder in each case is the same. The remainder is:

Options :

1. ✖ 1

2. ✔ 3

3. ✖ 11

4. ✖ 13

Question Number : 97 Question Id : 552891397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The price of a commodity rises from ₹ 9 to ₹ 12.60. If the expenditure does not increase, the percentage of reduction in its consumption is:

Options :

1. ✖ 40

2. ✖ 32

3. ✖ $28\dfrac{3}{7}$

4. ✔ $28\dfrac{4}{7}$

**Question Number : 98 Question Id : 552891398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

The marked price of an article is 40% above its cost price. What is the maximum percentage discount a shopkeeper can offer on the marked price so that he ends up selling it at no profit or loss (correct to one decimal place)?

Options :

1. ✔ 28.6

2. ✖ 30.2

3. ✖ 32.3

4. ✖ 32.8

**Question Number : 99 Question Id : 552891399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Anu invested a certain sum in schemes A and B, for 2 years, in the ratio 3 : 5 respectively. Schemes A and B offer compound interest (compounded yearly) and simple interest respectively. Rate of interest in A is 20% p.a. and that in B is 25% less than that in A. If the interest received from scheme B is ₹ 900 more than that in A, then the sum invested in scheme B is:

Options :

1. ✖ ₹ 15000

2. ✖ ₹ 15600

3. ✔ ₹ 25000

4. ✖ ₹ 25800

**Question Number : 100 Question Id : 552891400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

The ratio of monthly incomes of A and B is 6 : 7, and the ratio of their expenditure is 4 : 5. If A and B save ₹ 8000 and ₹ 8500 per month respectively, then what is the ratio of B's income to A's expenditure?

Options :

1. ✖ 7 : 4

2. ✖ 14 : 9

3. ✖ 7 : 5

4. ✓ 21 : 10