

EAD ONLINE CLASSES

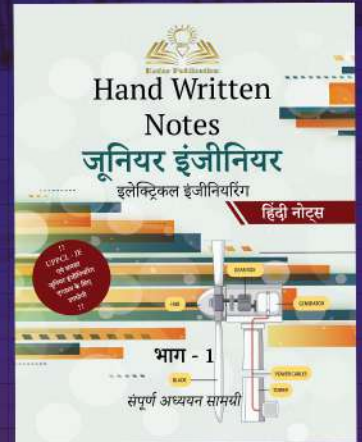
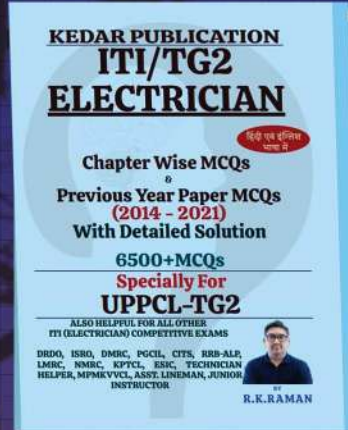
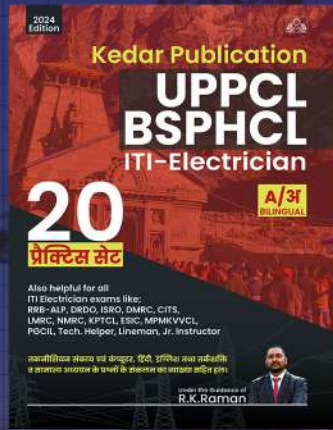
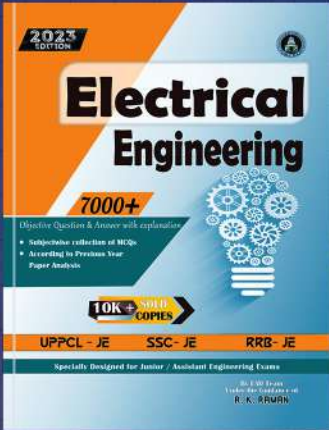
Objective Book for

Electrical-JE

UPPCL BSPHCL

ITI-Electrician

JE Short Notes



Buy our Books at:-

eadbooks.in

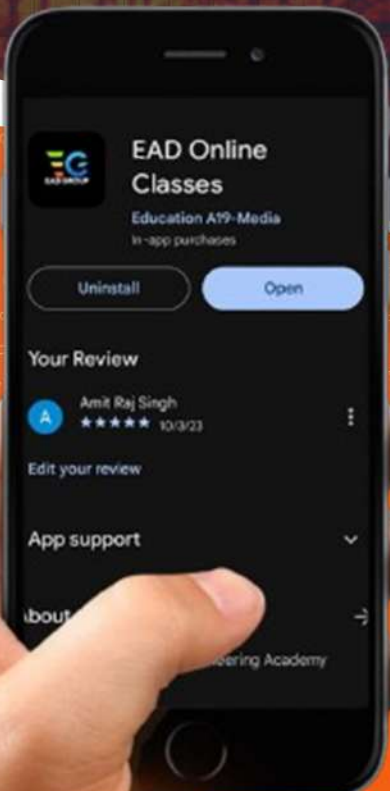
kedarpublication.com

Exam Targeted:-

UPPCL-JE, SSC-JE RRB-JE
PGCIL-DT, DFCCIL-JE, ITI Etc.



Raman sir
Electrical Engg. Expert



LOCATION

DEHRADUN CENTRE

EAD Educational Group, Pithuwalan kalan, Dehradun (UK)

PRAYAGRAJ CENTRE

EAD Educational Group, Horizon public school, Pandey Tower, Om gayatari nagar, Near shiv chowraha, Salori Prayagraj (UP)

Contact us:-

9389973136

Download EAD Online Classes application on playstore

Exam Date: 06-Jan-2021

Exam Time: 16:00-18:00

Post Name: Vidhyut Sahayak - Junior Eng-Electrical

GENERAL KNOWLEDGE - GENERAL KNOWLEDGE**Question No.1**

Marks: 1.00

Bookmark

During the Covid-19 pandemic situation, which of the following operations was launched by Indian Navy to repatriate Indian citizens from Maldives in May 2020?

- (A) **Operation Samudra Setu (Correct Answer)**
(B) Operation Raahat
(C) Operation Sunshine
(D) Operation Vijay

Question No.2

Marks: 1.00

Bookmark

What is the full form of 'UIDAI', an authority associated with Aadhaar?

- (A) Unified Identification Authority of India
(B) Universal Identification Authority of India
(C) **Unique Identification Authority of India (Correct Answer)**
(D) United Identification Authority of India

Question No.3

Marks: 1.00

Bookmark

Which authority conducts repo and reverse repo economic operations in India?

- (A) Ministry of Finance
(B) Ministry of Home Affairs
(C) **Reserve Bank of India (Correct Answer)**
(D) Central Statistical Organisation

Question No.4

Marks: 1.00

Bookmark

Who was the last Mughal emperor of British India?

- (A) Muhammad Shah
(B) **Bahadur Shah Zafar (Correct Answer)**
(C) Akbar II
(D) Aurangzeb

Question No.5

Marks: 1.00

Bookmark

Durgapur iron and steel power plant is located in which state?

- (A) **West Bengal (Correct Answer)**
(B) Andhra Pradesh
(C) Maharashtra
(D) Rajasthan

Question No.6

Marks: 1.00

Bookmark

Sharad Arvind Bobde, who is often seen in news, is currently serving as _____.

- (A) Governor of RBI
(B) Chairman of ISRO

- (C) Chief Justice of India (Correct Answer)
(D) Chairman of NITI Aayog

Question No.7

Marks: 1.00
Bookmark

In 2022, which city will host the 19th Asian Games?

- (A) Delhi
(B) Hangzhou (Correct Answer)
(C) Kigali
(D) Montreal

Question No.8

Marks: 1.00
Bookmark

Which of the following is an example of block mountain?

- (A) Alps
(B) Vosges (Correct Answer)
(C) Himalayas
(D) Ural

Question No.9

Marks: 1.00
Bookmark

What is the full form of 'CAT', a test conducted by Indian Institute of Management?

- (A) Common Attitude Test
(B) Common Attrition Test
(C) Common Application Test
(D) Common Admission Test (Correct Answer)

Question No.10

Marks: 1.00
Bookmark

How many countries share land border with India?

- (A) 9
(B) 7 (Correct Answer)
(C) 8
(D) 6

ENGLISH KNOWLEDGE - ENGLISH KNOWLEDGE

Question No.1

Marks: 1.00
Bookmark

Replace the underlined phrase grammatically and conceptually with the help of the given options. If the given sentence is correct then select the option 'The given sentence is correct'.

We would like for reiterate that a application remains safe to use, both for our citizens and for our esteemed officials.

- (A) would like in reiterate that an application remains
(B) The given sentence is correct
(C) will like to reiterate that the application remain
(D) would like to reiterate that the application remains (Correct Answer)

Question No.2

Marks: 1.00
Bookmark

In the following question, one part of the sentence may have an error. Find out which part of the sentence has an error and select the option corresponding to it. If the sentence does not have any error then select the option 'NO ERROR'. (Avoid

punctuation errors)

(A) Engineering is the / (B) four-year / (C) degree course. / (D) NO ERROR.

- (A) C
(B) **A (Correct Answer)**
(C) D
(D) B

Question No.3

Marks: 1.00

Bookmark

Rearrange the following to form a meaningful sentence and find the most logical order from the given options.

P: has seen an increase amid the
Q: the demand for refurbished smartphones
R: COVID-19 pandemic with many
S: looking at affordable options

- (A) QRPS
(B) **QPRS (Correct Answer)**
(C) RSPQ
(D) PQRS

Question No.4

Marks: 1.00

Bookmark

Choose the word which best expresses the similar meaning of the given word "ACCLAIM".

- (A) **Honor (Correct Answer)**
(B) Disapproval
(C) Vituperation
(D) Blame

Question No.5

Marks: 1.00

Bookmark

Find the word which is correctly spelt from the given options.

- (A) Recuncile
(B) Acknowledge
(C) **Apparently (Correct Answer)**
(D) Accountablity

Question No.6

Marks: 1.00

Bookmark

Choose the best option from the given alternatives which can be substituted for the given word/sentence.

A word composed of the first letters of the words in a phrase.

- (A) Antonym
(B) Synonym
(C) **Acronym (Correct Answer)**
(D) Phantonym

Question No.7

Marks: 1.00

Bookmark

Choose the word which expresses nearly the opposite meaning of the given word "ACME".

- (A) Apogee
(B) Peak

- (C) Culmination
(D) **Bottom (Correct Answer)**

Question No.8

Marks: 1.00
Bookmark

Fill in the blanks with suitable Preposition from the given alternatives.

The post was published _____ Tuesday but was taken down later.

- (A) at
(B) **on (Correct Answer)**
(C) above
(D) in

Question No.9

Marks: 1.00
Bookmark

Find the word which is correctly spelt from the given options.

- (A) Synchronise
(B) Cardiologist
(C) **Tremendous (Correct Answer)**
(D) Brutel

Question No.10

Marks: 1.00
Bookmark

Fill in the blanks with suitable Article from the given alternatives.

All _____ institutions are publishing their result by today.

- (A) a
(B) No Article
(C) an
(D) **the (Correct Answer)**

ELECTRICAL ENGINEERING - ELECTRICAL ENGINEERING

Question No.1

Marks: 1.00
Bookmark

Which of the following is not a pressure measurement transducer?

- (A) Strain gauge
(B) LVDT
(C) Piezoelectric transducers
(D) **Thermocouple (Correct Answer)**

Question No.2

Marks: 1.00
Bookmark

The radius of curvature for pedal curve $p=f(r)$ is _____.

The radius of curvature for pedal curve $p = f(r)$ is

- (A) $\rho = \frac{dr}{dp}$
(B) $\rho = r^2 \frac{dr}{dp}$
(C) $\rho = \frac{1}{r} \frac{dr}{dp}$
(D)

$$\rho = r \frac{dr}{dp} \quad (\text{Correct Answer})$$

Question No.3

Marks: 1.00

Bookmark

Statement 1: At resonant frequency, the voltage across inductor is equal to the voltage across capacitor.

Statement 2: The circuit is said to be in resonance if the current is 90° out of phase with the applied voltage.

- (A) Both Statement 1 and Statement 2 are FALSE.
(B) Statement 1 is FALSE and Statement 2 is TRUE.
(C) **Statement 1 is TRUE and Statement 2 is FALSE. (Correct Answer)**
(D) Both Statement 1 and Statement 2 are TRUE.

Question No.4

Marks: 1.00

Bookmark

Two turbo-alternators with ratings given below are interconnected via a short transmission line. Machine 1: 500 MVA, 0.8 power factor, 2000 rpm, $H_1 = 5$ MJ/MVA; Machine 2: 200 MVA, 0.85 power factor, 1500 rpm, $H_2 = 6$ MJ/MVA. Calculate the inertia constant of the single equivalent machine on a base of 100 MVA.

- (A) 43 MJ/MVA
(B) **37 MJ/MVA (Correct Answer)**
(C) 25 MJ/MVA
(D) 34 MJ/MVA

Question No.5

Marks: 1.00

Bookmark

The gate produces logic high output for similar types of inputs only.

- (A) NAND
(B) EX-OR
(C) **EX-NOR (Correct Answer)**
(D) NOR

Question No.6

Marks: 1.00

Bookmark

Input to a step up chopper is 250 V. The output required is 450 V. If the conducting time of thyristor is 200 μ sec, the chopping frequency is

- (A) 4.44 kHz
(B) 1.11 kHz
(C) 3.33 kHz
(D) **2.22 kHz (Correct Answer)**

Question No.7

Marks: 1.00

Bookmark

The power factor of a three-phase induction motor on no load is found to be 0.15 lagging. When the motor is fully loaded its power factor would be around

- (A) **0.85 lagging (Correct Answer)**
(B) 0.15 lagging
(C) 0.85 leading
(D) 0.05 leading

Question No.8

Marks: 1.00

Bookmark

The primary and secondary windings of a single-phase 1000 kVA, 2000/1000 V

transformer have leakage reactances each of 2Ω . Find the per unit reactance of the transformer.

- (A) 0.5 pu
- (B) 1.5 pu
- (C) 0.25 pu
- (D) 2.5 pu (Correct Answer)

Question No.9

Marks: 1.00

Bookmark

An ideal 230 V, 50 Hz single-phase AC source supplies power to a load resistor 100Ω through a single ideal diode. Calculate the average value of the current.

- (A) 1.03 A (Correct Answer)
- (B) 1.75 A
- (C) 2.06 A
- (D) 2.35 A

Question No.10

Marks: 1.00

Bookmark

The direct form-I realization of IIR digital filters require multiplications, where M and N are the orders of numerator and denominator of rational system function respectively.

- (A) M+N+1 (Correct Answer)
- (B) M+N-1
- (C) M-N+1
- (D) M+N

Question No.11

Marks: 1.00

Bookmark

A second order system is given by

$$\dot{x} = \begin{bmatrix} 1 & 1 \\ -3 & -2 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} + \begin{bmatrix} 1 \\ 0 \end{bmatrix} u$$
$$y = \begin{bmatrix} 1 & 0 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$$

- (A) The system is output controllable but not state controllable
- (B) The system is state controllable but not output controllable
- (C) The system is state controllable and output controllable (Correct Answer)
- (D) The system is neither state controllable nor output controllable

Question No.12

Marks: 1.00

Bookmark

The radius of convergence of $\sin z$ in a Taylor's series about $z=0$ is equal to _____.

The radius of convergence of $\sin z$ in a Taylor's series about $z = 0$ is equal to

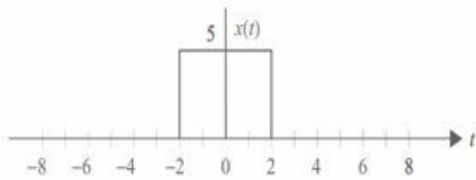
- (A) 0
- (B) ∞ (Correct Answer)
- (C) <1
- (D) 1

Question No.13

Marks: 1.00

Bookmark

Calculate the energy present in the signal shown in Fig.



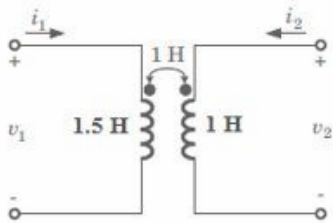
- (A) 100 (Correct Answer)
- (B) 150
- (C) 200
- (D) 50

Question No.14

Marks: 1.00

Bookmark

For the coupled circuit shown in Fig., where $i_1 = 5 \sin(2t)$ and $i_2 = 0$, $v_1(t)$ is given by



- (A) $v_1(t) = -15 \cos(2t)$ V
- (B) $v_1(t) = 7.5 \cos(2t)$ V
- (C) $v_1(t) = 15 \cos(2t)$ V (Correct Answer)
- (D) $v_1(t) = -7.5 \cos(2t)$ V

Question No.15

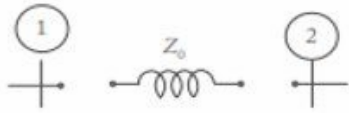
Marks: 1.00

Bookmark

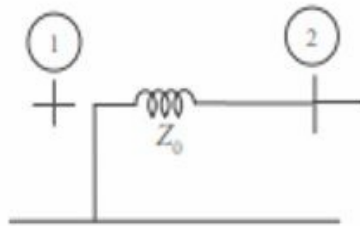
The zero-sequence network equivalent for the transformer connected between buses 1 and 2 as shown in Fig. is



- (A) (Correct Answer)
- (B)
- (C)



(D)



Question No.16

Marks: 1.00

Bookmark

The no-load current of a certain transformer is 2 A. Its magnetizing component may be

- (A) 0.4 A
- (B) 1.8 A (Correct Answer)
- (C) 0.02 A
- (D) 0.2 A

Question No.17

Marks: 1.00

Bookmark

Statement 1: The Biot-Savart's law is a general modification of Faraday's Law.
Statement 2: Ampere's circuit law is used for determining magnetic field intensity for symmetrical current distributions.

- (A) Statement 1 is TRUE and Statement 2 is FALSE.
- (B) Statement 1 is FALSE and Statement 2 is TRUE. (Correct Answer)
- (C) Both Statement 1 and Statement 2 are FALSE.
- (D) Both Statement 1 and Statement 2 are TRUE.

Question No.18

Marks: 1.00

Bookmark

A band-limited signal with band-width 'B' may be reconstructed perfectly from its samples, if the signal is sampled at a rate

- (A) greater than '2B' (Correct Answer)
- (B) less than '2B'
- (C) equal to 'B/2'
- (D) equal to 'B'

Question No.19

Marks: 1.00

Bookmark

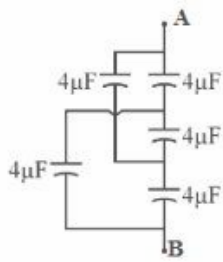
The value of $\int_0^{\infty} te^{-2t} \sin t dt$ is equal to _____.

- (A) 1/25
- (B) $\sqrt{2/5}$
- (C) 25
- (D) 4/25 (Correct Answer)

Question No.20

Marks: 1.00

The equivalent capacitance between the point A and B for the circuit shown in Fig. is



- (A) 8 μF
- (B) 6 μF
- (C) 2 μF
- (D) 4 μF (Correct Answer)

Question No.21

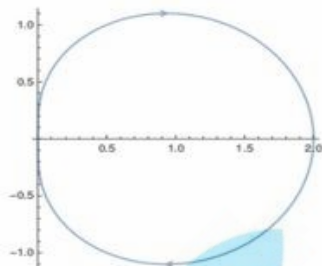
Marks: 1.00

Bookmark

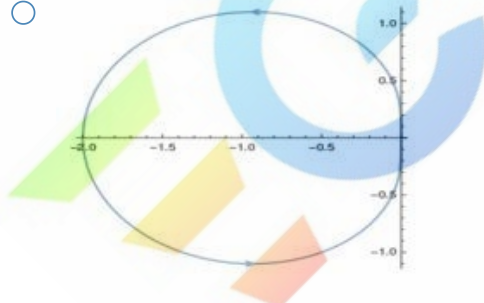
The Nyquist plot for the following transfer function

$$G(s)H(s) = \frac{(s-2)}{(s+1)^2} s$$

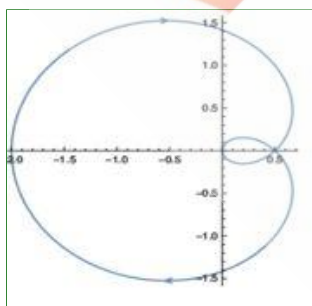
- (A)



- (B)

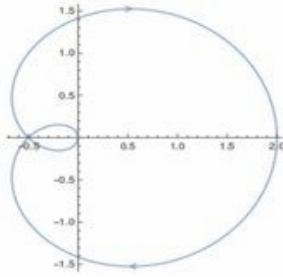


- (C)



(Correct Answer)

- (D)



Question No.22

Marks: 1.00

Bookmark

A voltage source of e.m.f. 30 V is connected to a load consisting of three resistors with resistances of 10 Ω, 6Ω and 4 Ω in series. Determine the current in 4 Ω resistor.

- (A) 6A
- (B) 3A
- (C) **1.5 A (Correct Answer)**
- (D) 5A

Question No.23

Marks: 1.00

Bookmark

Consider that the light goes from medium A to medium B at angle of incidence of 40 degrees and the angle of refraction is 30 degrees. Then,

- (A) speed of light in B is the same as that in A
- (B) **speed of light in B is less than that in A (Correct Answer)**
- (C) speed of light in B is greater than that in A
- (D) speed of light does not depend on the specific medium

Question No.24

Marks: 1.00

Bookmark

The severity of line-to-ground and 3-phase faults at the terminals of an unloaded synchronous generator is to be same. If the terminal voltage is 1 p.u. and $X_1 = X_2 = j0.35$ p.u., $X_{g0} = j0.05$ p.u., for the alternator, then the required inductive reactance for neutral grounding is

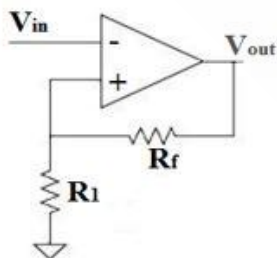
- (A) $X_n = j 0.2$ p.u
- (B) $X_n = j 0.25$ p.u
- (C) $X_n = j 0.015$ p.u
- (D) **$X_n = j 0.1$ p.u (Correct Answer)**

Question No.25

Marks: 1.00

Bookmark

The circuit shown in Fig. is a/an



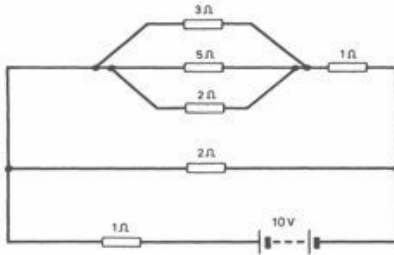
- (A) Inverting Amplifier
- (B) Non-Inverting Amplifier
- (C) Oscillator
- (D) **Schmitt Trigger (Correct Answer)**

Question No.26

Marks: 1.00

Bookmark

The current supplied by the battery in the electric circuit shown in Fig. is



- (A) 5.02 A (Correct Answer)
 (B) 6.5 A
 (C) 2.25 A
 (D) 8.52 A

Question No.27

Marks: 1.00

Bookmark

The Singular solution of $p=2qx$ is _____.

The Singular solution of $p = 2qx$ is

- (A) Not exists
 (B) $z = 0$
 (C) $z = k(x^2 + y) + c$ (Correct Answer)
 (D) $z = k(x^2 - y) + c$

Question No.28

Marks: 1.00

Bookmark

A DC motor having armature circuit resistance of 0.3Ω is running at 1000 rpm. The motor draws a current of 40 A from 400 V supply. Find the emf induced in the rotor.

- (A) 388 V (Correct Answer)
 (B) 219 V
 (C) 412 V
 (D) 243 V

Question No.29

Marks: 1.00

Bookmark

The master-slave JK flip-flop is an example of

- (A) negative edge-triggered device
 (B) pulse-triggered device (Correct Answer)
 (C) level-triggered device
 (D) positive edge-triggered device

Question No.30

Marks: 1.00

Bookmark

Consider two concentric spheres of radius r_1 and r_2 respectively. What is the electric potential at their common centre if they have equal charges and surface charge densities?

- (A) $\frac{\sigma}{\epsilon_0} \left(\frac{r_1}{r_1 + r_2} \right)$
 (B)

$$\frac{\sigma}{\epsilon_0} \left(\frac{r_2}{r_1 + r_2} \right)$$

(C) $\frac{\sigma}{\epsilon_0} (r_1 - r_2)$

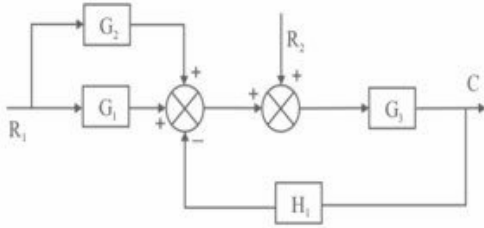
(D) $\frac{\sigma}{\epsilon_0} (r_1 + r_2)$ (Correct Answer)

Question No.31

Marks: 1.00

Bookmark

For the block diagram shown in Fig., $C(s)/R_2(s) =$



(A) $\frac{G_1 G_3 + G_2 G_3}{1 + (G_1 + G_2) G_3 H_1}$

(B) $\frac{G_3}{1 + G_3 H_1}$ (Correct Answer)

(C) $\frac{G_1 G_2 G_3}{1 + G_1 G_2 G_3 H_1}$

(D) $\frac{G_1 G_3 + G_2}{1 + G_2 + G_3 H_1}$

Question No.32

Marks: 1.00

Bookmark

The efficiency of a 400/200 V, 200 kVA single-phase transformer is 98.5 % at full load at 0.8 lagging power factor. At half load, 0.8 power factor lagging the efficiency is 97.5 %. Calculate the values of core loss and full-load copper loss.

(A) 1842 W and 595 W

(B) 1887 W and 550 W

(C) 1922 W and 515 W (Correct Answer)

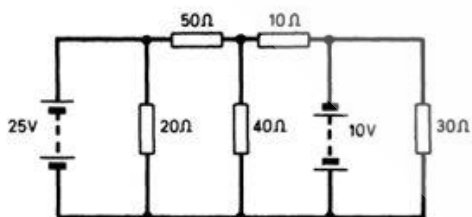
(D) 1812 W and 625 W

Question No.33

Marks: 1.00

Bookmark

The voltage across the 40 Ω resistor in the electric network shown in Fig. is



(A) 1.25 V

(B) 4.75 V

(C) 3.45 V (Correct Answer)

(D) 6.25 V

Question No.34

Marks: 1.00

Bookmark

Which of the following expression is true for thyristors?

- (A) Latching current = Holding current
- (B) Latching current > Holding current (Correct Answer)
- (C) Latching current < Holding current
- (D) Latching current = (Holding current) /2

Question No.35

Marks: 1.00

Bookmark

The ratio of amplitude of voltage oscillation to the amplitude of current oscillation in a LC circuit zero-input response is

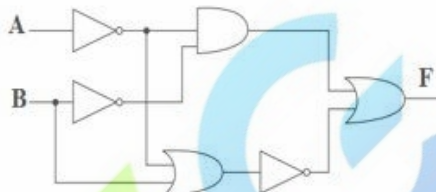
- (A) $\frac{\sqrt{LC}}{2}$
- (B) \sqrt{LC}
- (C) $\frac{1}{2\sqrt{LC}}$
- (D) $\sqrt{\frac{L}{C}}$ (Correct Answer)

Question No.36

Marks: 1.00

Bookmark

The output expression 'F' for the combinational logic circuit shown in Fig. is given by



- (A) $F = \bar{A}$
- (B) $F = B$
- (C) $F = \bar{B}$ (Correct Answer)
- (D) $F = A$

Question No.37

Marks: 1.00

Bookmark

A 0-10 V voltmeter has a little bit of bearing friction due to which its pointer can stay within ± 1 division of the correct / desired position. The voltmeter has 100 divisions and has no other error/inaccuracy. If we measure a voltage of 8 V with this voltmeter, how much could be the maximum absolute error?

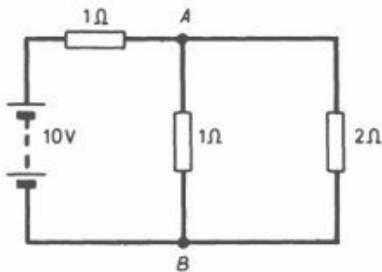
- (A) 0.1 V (Correct Answer)
 (B) 1 V
 (C) 0.01 V
 (D) 2 V

Question No.38

Marks: 1.00

Bookmark

The voltage across A-B in the circuit shown in Fig. is



- (A) 10 V
 (B) 4 V (Correct Answer)
 (C) 8 V
 (D) 2 V

Question No.39

Marks: 1.00

Bookmark

The Root Mean square value of $f(x)=x^2$ in $(0,1)$ is _____.

The Root Mean square value of $f(x) = x^2$ in $(0,1)$ is

- (A) $\frac{l^2}{5}$
 (B) $\frac{l^2}{\sqrt{5}}$ (Correct Answer)
 (C) $\frac{l^4}{\sqrt{5}}$
 (D) $\frac{l}{\sqrt{5}}$

Question No.40

Marks: 1.00

Bookmark

The four no-load speeds of three-phase induction motors operating on 400 V, 50 Hz supply are 576 rpm, 720 rpm, 1440 rpm, and 2880 rpm. The number of poles of the motor, respectively, are

- (A) 12, 8, 4, 2
 (B) 8, 6, 4, 2

- (C) 16, 8, 4, 2
(D) 10, 8, 4, 2 (Correct Answer)

Question No.41

Marks: 1.00
Bookmark

Three similar coils, each of resistance $10\ \Omega$ and reactance $10\ \Omega$, are connected in star across a 400-V, three phase supply. Find the sum of the readings of two wattmeters connected to measure the power by two wattmeter method.

- (A) 2000 W
(B) 6000 W
(C) 8000 W (Correct Answer)
(D) 10,000 W

Question No.42

Marks: 1.00
Bookmark

The base impedance of a three phase, 10 kV, 5 MVA system is

- (A) $5\ \Omega$
(B) $15\ \Omega$
(C) $20\ \Omega$ (Correct Answer)
(D) $10\ \Omega$

Question No.43

Marks: 1.00
Bookmark

A series DC generator delivers a load current of 50 A at 400 V and has armature and series field resistance of $0.05\ \Omega$ and $0.04\ \Omega$ respectively. Determine the induced emf in the armature if the brush contact drop is 1 V per brush.

- (A) 402.5 V
(B) 406.5 V (Correct Answer)
(C) 393.5 V
(D) 404.5 V

Question No.44

Marks: 1.00
Bookmark

In a single phase induction motor, the relationship between the slip of the rotor with respect to the forward rotating field (S_f) and backward rotating field (S_b) is

- (A) $S_f + S_b = 4$
(B) $S_f + S_b = 2$ (Correct Answer)
(C) $S_f + S_b = 1$
(D) $S_f + S_b = 0$

Question No.45

Marks: 1.00
Bookmark

A single phase full wave AC voltage controller has a resistive load of $10\ \Omega$ and the input voltage is 230 V, 50 Hz. The delay angle of both the thyristors are 45° . The input power factor is

- (A) 0.853
(B) 0.953 (Correct Answer)
(C) 0.707
(D) 0.505

Question No.46

Marks: 1.00
Bookmark

The Fourier cosine transform for $f(x)=1$ if $|x|\leq 1$ is _____.

The Fourier cosine transform for $f(x) = 1$ if $|x| \leq 1$ is

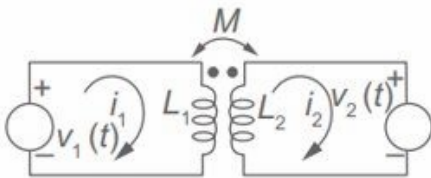
- (A) $\frac{2 \sin s}{\pi s}$
- (B) $\frac{\pi \sin s}{2 s}$
- (C) $\sqrt{\frac{2 \sin s}{\pi s}}$ (Correct Answer)
- (D) $\sqrt{\frac{\pi \sin s}{2 s}}$

Question No.47

Marks: 1.00

Bookmark

Assume that the coils have zero winding resistance values, the mesh equations of the circuit shown in Fig. are given as



- (A) $v_1(t) = L_1 \frac{di_1}{dt} + M \frac{di_2}{dt}$
 $v_2(t) = -M \frac{di_1}{dt} + L_2 \frac{di_2}{dt}$
- (B) $v_1(t) = L_1 \frac{di_1}{dt} - M \frac{di_2}{dt}$
 $v_2(t) = -M \frac{di_1}{dt} + L_2 \frac{di_2}{dt}$ (Correct Answer)
- (C) $v_1(t) = L_1 \frac{di_1}{dt} - M \frac{di_2}{dt}$
 $v_2(t) = M \frac{di_1}{dt} - L_2 \frac{di_2}{dt}$
- (D) $v_1(t) = -L_1 \frac{di_1}{dt} - M \frac{di_2}{dt}$
 $v_2(t) = M \frac{di_1}{dt} + L_2 \frac{di_2}{dt}$

Question No.48

Marks: 1.00

Bookmark

Statement 1: Cylindrical system is employed in waveguides.

Statement 2: The Cartesian system is also called as Rectangular coordinate system.

- (A) Statement 1 is FALSE and Statement 2 is TRUE.
- (B) Both Statement 1 and Statement 2 are FALSE.
- (C) Statement 1 is TRUE and Statement 2 is FALSE.
- (D) Both Statement 1 and Statement 2 are TRUE. (Correct Answer)

Question No.49

Marks: 1.00

Bookmark

In all rotating electrical machines, electrical torque is developed when relative speed

between stator field and rotor field is

- (A) equal to rotor speed
- (B) equal and opposite to rotor speed
- (C) dependent upon the type of electrical machine
- (D) **zero (Correct Answer)**

Question No.50

Marks: 1.00

Bookmark

When a synchronous generator is loaded, its terminal voltage may increase when the load power factor is

- (A) unity
- (B) lagging
- (C) **leading (Correct Answer)**
- (D) zero

Question No.51

Marks: 1.00

Bookmark

If $u = \frac{yz}{x}$, $v = \frac{xz}{y}$, $w = \frac{xy}{z}$, then $\frac{\partial(u,v,w)}{\partial(x,y,z)} =$

- (A) 3
- (B) 1
- (C) **4 (Correct Answer)**
- (D) 2

Question No.52

Marks: 1.00

Bookmark

The solution of $(D^2+1)y=0$, given that $y(0)=0, y'(0)=1$ is _____.

The solution of $(D^2 + 1)y = 0$, given that $y(0) = 0, y'(0) = 1$ is

- (A) **sin x (Correct Answer)**
- (B) cos x
- (C) -sin x
- (D) -cos x

Question No.53

Marks: 1.00

Bookmark

The loop transfer function of a feedback control system is given by

$$G(s)H(s) = \frac{K(s+a)}{s(s+b)}$$

If no part of the root locus lie on the RHP then break-away and break-in points will exist only when

- (A) not dependent of a and b
- (B) $|a| = |b|$
- (C) **$|a| > |b|$ (Correct Answer)**
- (D)

$$|a| < |b|$$

Question No.54

Marks: 1.00

Bookmark

In current source inverters,

- (A) L filter is used after the CSI (load side)
- (B) C filter is used after the CSI (load side)
- (C) L filter is used before the CSI (input side) (Correct Answer)
- (D) C filter is used before the CSI (input side)

Question No.55

Marks: 1.00

Bookmark Consider two buses connected by an impedance of $j2 \Omega$.The bus-1 voltage is $50 \angle 30^\circ V$ and bus-2 voltage is $50 \angle 0^\circ V$.

The real and reactive powers supplied by bus-1, respectively, are

- (A) 625 W, 167.5 VAR (Correct Answer)
- (B) 457.5 W, 457.5 VAR
- (C) 625 W, -167.5 VAR
- (D) -457.5 W, 457.5 VAR

Question No.56

Marks: 1.00

Bookmark

The volume of the solid formed by the revolutions of the area A in xy plane about x axis is _____.

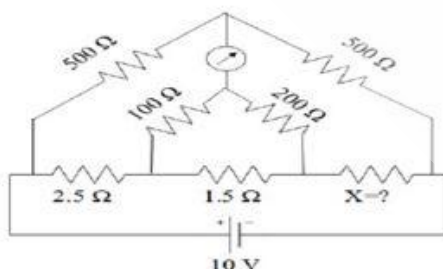
- (A) $\iint_A \pi x dx dy$
- (B) $\iint_A 2\pi y dx dy$ (Correct Answer)
- (C) $\iint_A 2\pi x dx dy$
- (D) $\iint_A \pi y dx dy$

Question No.57

Marks: 1.00

Bookmark

In the circuit, the galvanometer shows no deflection. What is the value of 'X'?



- (A) 1 Ω

- (B) 2 Ω (Correct Answer)
 (C) 3 Ω
 (D) 4 Ω

Question No.58

Marks: 1.00
 Bookmark

The line current in a three-phase, delta-connected synchronous generator is 10 A. Determine the current in each phase of synchronous generator.

- (A) 5.77 A (Correct Answer)
 (B) 1.55 A
 (C) 2.66 A
 (D) 7.33 A

Question No.59

Marks: 1.00
 Bookmark

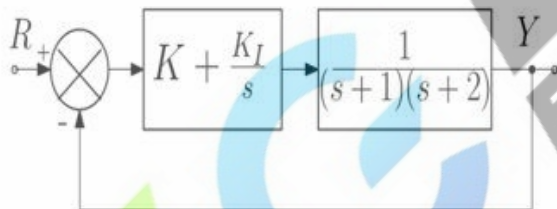
The eigen values of the matrix $A = \begin{pmatrix} 4 & 1 \\ 3 & 2 \end{pmatrix}$ are_____.

- (A) 1, 5 (Correct Answer)
 (B) -1, -5
 (C) -1, 5
 (D) 1, -5

Question No.60

Marks: 1.00
 Bookmark

Find the range of controller gains K and K_I for the block diagram shown in Fig. such that the feedback system is stable.



- (A) $K > 0, K_I > 0$
 (B) $K > -5, K_I > 2$
 (C) $K > 0, K_I > 3K_I - 2$
 (D) $K > \frac{K_I}{3} - 2, K_I > 0$ (Correct Answer)

COMPUTER KNOWLEDGE - COMPUTER KNOWLEDGE

Question No.1

Marks: 1.00
 Bookmark

Which of the following statements is FALSE about the OSI Layers?

- (A) When data arrives at the Network layer, the source and destination addresses contained inside each frame are examined to determine if the data has reached its final destination.
 (B) The Data Link layer of the OSI model is responsible for the ultimate transmission of digital data bits from the Physical layer of the sending

(source) device over network communications media to the Physical layer of the receiving (destination) device. (Correct Answer)

- (C) The Application layer supplies network services to end-user applications.
- (D) The Session Layer manages the sequence and flow of events that initiate and tear down network connections.

Question No.2

Marks: 1.00

Bookmark

Which of the following memory management methods divides primary memory into various memory partitions, which are mostly contiguous areas of memory?

- (A) Single Contiguous Allocation
- (B) **Partitioned Allocation (Correct Answer)**
- (C) Segmented Memory Management
- (D) Paged Memory Management

Question No.3

Marks: 1.00

Bookmark

You are working in MS Word document and want to zoom the document without using a mouse. Which of the following shortcuts will help you?

- (A) **Alt + W (Correct Answer)**
- (B) Ctrl + Q
- (C) Ctrl + W
- (D) Alt + Z

Question No.4

Marks: 1.00

Bookmark

Which of the following is false about MS Outlook recall message feature?

- (A) You cannot recall a message in Outlook on the web.
- (B) You can recall an email message in Outlook Exchange if the recipient has yet to open it.
- (C) **You cannot replace the message while recalling it, you have only option to delete it. (Correct Answer)**
- (D) Only certain Microsoft Outlook accounts have the ability to recall a message after it has been sent.

Question No.5

Marks: 1.00

Bookmark

Which of the following is false about thrashing?

- (A) High paging activity is called thrashing.
- (B) Thrashing occurs when a computer's virtual memory resources are overused.
- (C) **Thrashing is a condition in which congestion prevents or limits useful communication. (Correct Answer)**
- (D) A process is thrashing if it is spending more time paging than executing.

Question No.6

Marks: 1.00

Bookmark

An Ethernet repeater with multiple ports is known as an _____.

- (A) Bridge
- (B) Switch
- (C) Router
- (D) **Ethernet hub (Correct Answer)**

Question No.7

Marks: 1.00

Bookmark

_____ brought the fourth generation of computers, as thousands of integrated circuits

were built onto a single silicon chip.

- (A) Artificial Intelligence
(B) Vacuum tubes
(C) **Microprocessors (Correct Answer)**
(D) Transistors

Question No.8

Marks: 1.00

Bookmark

Which of the following is false about Equidistant locality?

- (A) In Equidistant locality, a simple linear function can predict which location will be accessed in the near future.
(B) Equidistant locality is halfway between the spatial locality and the branch locality.
(C) **Equidistant locality is typically not a spatial locality since the few possibilities can be located far away from each other. (Correct Answer)**
(D) Consider a loop accessing locations in an equidistant pattern, i.e., the path in the spatial-temporal coordinate space is a dotted line.

Question No.9

Marks: 1.00

Bookmark

Which of the following defines the Denial of Service attack?

- (A) is a technique by which an attacker sends Address Resolution Protocol messages onto a local area network.
(B) **is a cyber-attack in which the perpetrator seeks to make a machine or network resource unavailable to its intended users by temporarily or indefinitely disrupting services of a host connected to the Internet. (Correct Answer)**
(C) is an attack where the attacker secretly relays and possibly alters the communications between two parties who believe that they are directly communicating with each other.
(D) is a form of computer security hacking in which corrupt Domain Name System data is introduced into the DNS resolver's cache, causing the name server to return an incorrect result record.

Question No.10

Marks: 1.00

Bookmark

Which of the following is true about Phishing?

- (A) Phishing is performed by one machine and its internet connection, by flooding a website with packets and making it impossible for legitimate users to access the content of flooded website.
(B) Phishing refers to tricking someone into inviting an attacker into a securely protected area.
(C) **Phishing is a method of a social engineering with the goal of obtaining sensitive data such as passwords, usernames, and credit card numbers. (Correct Answer)**
(D) Phishing is malicious software that mislead users to believe there is a computer virus installed on their computer or that their security measures are not up to date.

GUJARATI LANGUAGE AND GRAMMAR - GUJARATI LANGUAGE AND GRAMMAR

Question No.1

Marks: 1.00

Bookmark

રૂપિયા : ભારત :: યેન :

- (A) દુબઈ
(B) **જાપાન (Correct Answer)**
(C) ચાઇના

(D) સિંગાપુર

Question No.2

Marks: 1.00

Bookmark

'કદરદાન', 'ગુલાબદાન' આ બન્નેમાં કઈ ભાષામાંથી ગુજરાતીમાં સ્વીકારવામાં આવેલ પર પ્રત્યય છે.

- (A) મરાઠી-તામિલ
(B) અરબી-ફારસી (Correct Answer)
(C) તુર્કી- કન્નડ
(D) ગુજરાતી-મરાઠી

Question No.3

Marks: 1.00

Bookmark

'જ્યાં ઉજ્જડ ગામમાં એરંડો પ્રધાન હોય ત્યાં લોકો પાણી પહેલાં પાળ બાંધે નહિ પણ આલ ફાટે પછી થીગડું મારવા માટે આકાશ પાતાળ એક કરે પછી ખબર પડે કે ઊલમાંથી ચૂલમાં પડ્યા' ઉક્ત વાક્યમાં કેટલી કહેવતો/રૂઢિપ્રયોગોનો ઉપયોગ કરાયો છે.

- (A) કુલ 5 (Correct Answer)
(B) કુલ 4
(C) કુલ 3
(D) કુલ 6

Question No.4

Marks: 1.00

Bookmark

'એકાંગી'નો વિરુદ્ધાર્થી વિકલ્પ કયો છે?

- (A) અનેક અંગી
(B) સર્વાંગી (Correct Answer)
(C) એક અંગી
(D) દ્વિ અંગી

Question No.5

Marks: 1.00

Bookmark

નીચેમાંથી શેમાં સંજ્ઞાવાચક નામનો ઉપયોગ જાતિવાચક તરીકે કરવામાં આવ્યો છે?

- (A) શેક્સપિયર એટલે શેક્સપિયર, એની તોલે કોઈ ન આવે
(B) એ ગોઠવણનું કોઈ પણ વાક્ય આપેલ વિકલ્પોમાં નથી.
(C) એ કવિ તો જાણે શેક્સપિયર (Correct Answer)
(D) તમારો પ્રેમ જોઈ હું બહુ ખુશ થયો

Question No.6

Marks: 1.00

Bookmark

ત્રીજી વિભક્તિનાં પ્રત્યયથી બનેલ અધિકરણનો અર્થ દર્શાવતું વાક્ય નીચેના વિકલ્પોમાંથી કયું છે?

- (A) સાંજે અમે તમારે ત્યાં આવીશું (Correct Answer)
(B) રામે રાવણને માર્યો
(C) ડાંગે માર્યા પાણી જુદા ન થાય
(D) એ યોધાર આંસુએ રડ્યો

Question No.7

Marks: 1.00

Bookmark

'અજપાળ'નો સમાનાર્થી વિકલ્પ કયો છે?

- (A) ઉત્પલ
(B) હજામ
(C)

- (C) ગોવાળ
(D) ભરવાડ (Correct Answer)

Question No.8

Marks: 1.00
Bookmark

ગ્લુકોમીટર : બ્લડશુગર :: થર્મોમીટર: ???

- (A) થર્મોકોલની જાડાઈ
(B) વ્યક્તિની ઊંચાઈ
(C) ઊંડાઈ
(D) ઉષ્ણતામાન (Correct Answer)

Question No.9

Marks: 1.00
Bookmark

'કુંભકરણ બનીને સુવું એ સારું નથી'
વાક્યમાં અધોરેખિત શું છે?

- (A) ભાવ
(B) આજ્ઞા
(C) ઉદ્દેશ્ય
(D) વિધેય (Correct Answer)

Question No.10

Marks: 1.00
Bookmark

'આવનારા બધાં આવી ગયા'
વાક્યમાં કયા કૃદન્તનો ઉપયોગ કરાયો છે?

- (A) ભવિષ્ય (Correct Answer)
(B) વર્તમાન
(C) ભૂત
(D) સામાન્ય

Save & Print