Exam Date: **05-Jan-2021**
Exam Time: **12:30-14:30**
Post Name: **Vidhyut Sahayak - Junior Eng-Electrical**

GENERAL KNOWLEDGE - GENERAL KNOWLEDGE

Question No.1

Marks:
Bookmark

As per 'India State of Forest Report 2019' which state ranked as first in terms of highest growth in forest cover?

(A) ○ **Karnataka (Correct Answer)**

(B) ○ Manipur

(C) ○ Punjab

(D) ○ Arunachal Pradesh

Question No.2

Marks:
Bookmark

The computer related term 'UPS' stands for _____.

(A) ○ Undulated Power Source

(B) ○ **Uninterruptible Power Supply (Correct Answer)**

(C) ○ Unregulated Power Source

(D) ○ Universal Power Supply

Question No.3

Marks:
Bookmark

The district Yanam belongs to which union territory?

(A) ○ Andaman and Nicobar Islands

(B) ○ Ladakh

(C) ○ Lakshadweep

(D) ○ **Puducherry (Correct Answer)**

Question No.4

Marks:
Bookmark

Recently the second edition of joint tri-services exercise 'Indra' was done between India and _____.

(A) ○ Sri Lanka

(B) ○ United States of America

(C) ○ Nepal

(D) ○ **Russia (Correct Answer)**

Question No.5

Marks:
Bookmark

Who is the second woman to hold the chair as 'Finance minister in India'?

(A) ○ Sheila Dixit

(B) ○ **Nirmala Sitharaman (Correct Answer)**

(C) ○ Indira Gandhi

(D) ○ Sushma Swaraj

Question No.6

Marks:
Bookmark

Who among the following chaired the first Round Table Conference held at London in 1930-31?

(A) ○ **Ramsay MacDonald (Correct Answer)**

(B) ○ Winston Churchill

(C) ○ Clement Attlee

(D) ○ Neville Chamberlain

Question No.7

Marks:
Bookmark

Under the cheap money policy, the inflation rate in the economy will _____.

(A) ○ Remains constant

(B) ○ **Increases (Correct Answer)**

(C) ○ Decreases slowly

(D) ○ Decreases rapidly

Question No.8

Marks:
Bookmark

What is the full form of ISRO?

(A) ○ Indian Scientific Research Organisation

(B) ○ **Indian Space Research Organisation (Correct Answer)**

(C) ○ Indian Satellite Research Organisation

(D) ○ Indian Solar-system Research Organisation

Question No.9

Marks:
Bookmark

Sandstone is an example of which type of rock?

(A) ○ Plutonic Rock

(B) ○ Volcanic Rock

(C) ○ **Sedimentary Rock (Correct Answer)**

(D) ○ Metamorphic Rock

Question No.10

Marks:
Bookmark

Which of the following institutes is known as 'Mecca of Indian Sports'?

(A) ○ Lakshmibai National College of Physical Education, Thiruvananthapuram

(B) ○ Institute of Sports Science & Technology, Pune

(C) ○ Inspire Institute of Sport, Vijayanagar

(D) ○ **Netaji Subhas National Institute of Sports, Patiala (Correct Answer)**

ENGLISH KNOWLEDGE - ENGLISH KNOWLEDGE

Question No.1

Marks:
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'.

Before sending the e-mail, the shopkeeper **add a word file as a** attachment

(A) ○ add a word file as an

(B) ○ The given sentence is correct

(C) ○ added a word file as a

(D) ○ **added a word file as an (Correct Answer)**

Question No.2

Marks:
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 contains no error, Select "No error" option. (Avoid punctuation errors)

(A) A number of / (B) girls have passed / (C) on the interview / (D) NO ERROR

(A) ○ A

(B) ○ B

(C) ○ D

(D) ○ **C (Correct Answer)**

Question No.3

Marks:
Bookmark

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

P: Australia's catastrophic fire season that began in
Q: August last year is unprecedented, and has
R: New South Wales and Queensland
S: caused large scale destruction, mainly in

(A) ○ **PQSR (Correct Answer)**

(B) ○ RQSP

(C) ○ PQRS

(D) ○ RQPS

Question No.4

Marks:
Bookmark

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

(A) ○ **Encomium (Correct Answer)**

(B) ○ Concentratad

(C) ○ Fasionable

(D) ○ Zealosness

Question No.5

Marks:
Bookmark

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

(A) ○ Confidance

(B) ○ **Encountered (Correct Answer)**

(C) ○ Tyranical

(D) ○ Gratitous

Question No.6

Marks:
Bookmark

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

One who offers one's services
(A) ○ **Volunteer (Correct Answer)**
(B) ○ Pauper
(C) ○ Alien
(D) ○ Pedestrian

Question No.7

Marks:
Bookmark

Choose the word which best expresses the similar **meaning** of the given word " EFFICACY "
(A) ○ **Capacity (Correct Answer)**
(B) ○ Failure
(C) ○ Lethargy
(D) ○ Enervation

Question No.8

Marks:
Bookmark

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

I've been married _____ my wife for 15 years.
(A) ○ beside
(B) ○ since
(C) ○ **to (Correct Answer)**
(D) ○ for

Question No.9

Marks:
Bookmark

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

_____ fruits are good for our health.
(A) ○ **No article (Correct Answer)**
(B) ○ the
(C) ○ an
(D) ○ a

Question No.10

Marks:
Bookmark

Choose the word which expresses nearly the **opposite** meaning of the given word " INTIMIDATE "
(A) ○ Bluster
(B) ○ Alarm
(C) ○ **Assure (Correct Answer)**
(D) ○ Force

ELECTRICAL ENGINEERING - ELECTRICAL ENGINEERING

Question No.1

Marks:
Bookmark

The number of roots of $s^4 + 6s^3 + 21s^2 + 36s + 20 = 0$ in the left half of the s – plane is _____.
(A) ○ Two
(B) ○ Three
(C) ○ One
(D) ○ **Four (Correct Answer)**

Question No.2

Marks:
Bookmark

The circuit diagram shown in Figure is a:
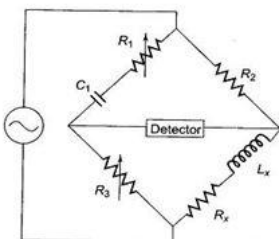
(A) ○ Owen's bridge
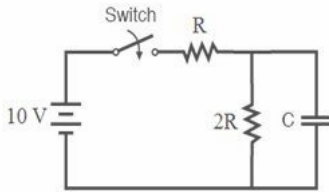(B) ○ Schering bridge
(C) ○ **Hay's bridge (Correct Answer)**

(D) ○ Maxwell-Wien bridge

Question No.3

Marks:
Bookmark

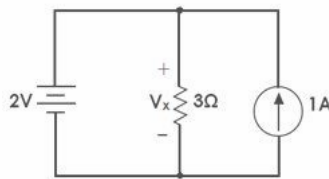The time constant of the RC network shown in Fig. is_____.

(A) ○ **(2/3) RC (Correct Answer)**
(B) ○ (1/2)RC
(C) ○ 3RC
(D) ○ 2RC

Question No.4

Marks:
Bookmark

Find the voltage across the 3Ω resistor 'V_x' in the circuit shown in Fig.

(A) ○ 0V
(B) ○ 1V
(C) ○ **2V (Correct Answer)**
(D) ○ 3V

Question No.5

Marks:
Bookmark

The magnitude of the magnetic field of a wire loop at the center of the circle with radius R and current I is _____.

(A) ○ $\dfrac{\mu_0 I}{R}$

(B) ○ $\dfrac{\mu_0 I}{3R}$

(C) ○ $\dfrac{\mu_0 I}{2R}$ **(Correct Answer)**

(D) ○ $\dfrac{\mu_0 I}{4R}$

Question No.6

Marks:
Bookmark

A cube of side 'a' has charge 'q' at each of its eight vertices. The electric field due to this charge array at the centre of the cube is _____.

(A) ○ $\dfrac{8q}{3\pi\varepsilon_0 a}$

(B) ○ $\dfrac{16q}{3\pi\varepsilon_0 a}$

(C) ○ **Zero (Correct Answer)**

(D) ○ $\dfrac{4q}{3\pi\varepsilon_0 a}$

Question No.7

Marks:
Bookmark

If the current in the faulted phase for a single line to ground fault is 300 A, the its zero sequence current is _____.
(A) ○ 300 A
(B) ○ Zero
(C) ○ **100 A (Correct Answer)**

(D) ○ 900 A

Question No.8

Marks:
Bookmark

The retardation test on a dc shunt motor is used for finding the _____.
(A) ○ eddy current losses
(B) ○ windage losses
(C) ○ copper losses
(D) ○ **stray losses (Correct Answer)**
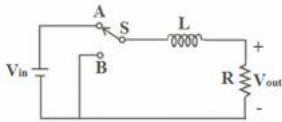

Question No.9

Marks:
Bookmark

For 'n' on cycles and 'm' off cycles, the duty cycle of AC voltage controller 'k' is given by _____.

(A) ○ $k = \dfrac{n}{n+m}$ **(Correct Answer)**

(B) ○ $k = \sqrt{\dfrac{m}{n+m}}$

(C) ○ $k = \sqrt{\dfrac{n}{n+m}}$

(D) ○ $k = \dfrac{m}{n+m}$

Question No.10

Marks:
Bookmark

Consider a simple power electronic converter circuit with single-pole double throw switch as shown in the figure. The pole 'S' of the switch is connected alternately to throws A and B. The converter shown is a _____.

(A) ○ step-up chopper
(B) ○ **step-down chopper (Correct Answer)**
(C) ○ half-wave rectifier
(D) ○ full-wave rectifier

Question No.11

Marks:
Bookmark

If all the inputs of a NAND gate are connected together, then the resulting circuit is _____.
(A) ○ EX-OR gate
(B) ○ **NOT gate (Correct Answer)**
(C) ○ AND gate
(D) ○ OR gate

Question No.12

Marks:
Bookmark

The value of leakage co-efficient (λ) is usually about _____.
(A) ○ **1.12 to 1.25 (Correct Answer)**
(B) ○ less than 1
(C) ○ above 10
(D) ○ 5 to 10

Question No.13

Marks:
Bookmark

Choose the integration represents the area of the ellipse $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$

(A) ○ $4\displaystyle\int_0^a \int_0^{\sqrt{1-\frac{x^2}{a^2}}} dy\,dx$

(B) ○ $4\displaystyle\int_0^a \int_0^{1-\frac{x^2}{a^2}} dy\,dx$

(C) ○

$$4 \int_0^a \int_a^{b\sqrt{1-\frac{x^2}{a^2}}} dy\,dx$$

(D) ○
$$4 \int_0^a \int_0^{b\sqrt{1-\frac{x^2}{a^2}}} dy\,dx$$ **(Correct Answer)**

Question No.14

Marks:
Bookmark

In a balanced star connected network, the line voltages are _____ ahead of their respective phase voltages.

(A) ○ 120°

(B) ○ 60°

(C) ○ **30° (Correct Answer)**

(D) ○ 90°

Question No.15

Marks:
Bookmark

The Complete integral of $z = px + qy + \sqrt{pq}$ is _____ .

(A) ○ $Z = ax^2 - by^2 + \sqrt{a^2 b^2}$

(B) ○ $Z = ax + by + \sqrt{ab}$ **(Correct Answer)**

(C) ○ $Z = ax - by + \sqrt{ab}$

(D) ○ $Z = ax^2 + by^2 + \sqrt{a^2 b^2}$

Question No.16

Marks:
Bookmark

A 6-pole, lap connected dc generator has 720 conductors, a flux of 40 mWb per pole is driven at 800 rpm. Calculate the generated e.m.f.

(A) ○ 125 V

(B) ○ **384 V (Correct Answer)**

(C) ○ 192 V

(D) ○ 240 V

Question No.17

Marks:
Bookmark

A 12-bus power system has a slack bus and 4 - voltage controlled buses. For the load flow analysis using Newton-Raphson method in polar coordinates, the size of the Jacobian matrix is _____.

(A) ○ 22 x 22

(B) ○ 16 x 16

(C) ○ **18 x 18 (Correct Answer)**

(D) ○ 20 x 20

Question No.18

Marks:
Bookmark

The system model described by the state equations

$$\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \end{bmatrix} = \begin{bmatrix} 0 & 1 \\ 2 & -3 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} + \begin{bmatrix} 0 \\ 1 \end{bmatrix} u$$

and $y = \begin{bmatrix} 1 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$ is

(A) ○ **controllable and observable (Correct Answer)**

(B) ○ controllable but not observable

(C) ○ neither controllable nor observable

(D) ○ observable but not controllable

Question No.19

Marks:
Bookmark

The velocity of wave propagation in a conductor with frequency 6 x 10^8 rad/sec and phase constant of 2x10^8 units is _____.

(A) ○ 8
(B) ○ 2
(C) ○ 4
(D) ○ **3 (Correct Answer)**

Question No.20

In a sinusoidal PWM, if the peak of the triangular carrier wave is coincident with zero of the **reference sinusoid**, then the number of pulses generated in each half cycle is _____, where ' f_c ' is the frequency of the carrier wave and ' f ' is the frequency of the reference sinusoid.

(A) ○ $\dfrac{f_c}{f}$

(B) ○ $\boxed{\dfrac{f_c}{2f}}$ **(Correct Answer)**

(C) ○ $\sqrt{\dfrac{f_c}{f}}$

(D) ○ $\sqrt{\dfrac{f_c}{2f}}$

Question No.21

A balanced three phase power system consists of _____.
(A) ○ Negative sequence currents only
(B) ○ Positive, negative and zero sequence currents
(C) ○ Zero sequence currents only
(D) ○ **Positive sequence currents only (Correct Answer)**

Question No.22

A series RLC circuit has R = 2Ω, L=1H and C =1F respectively. If V_m = 230V, the current I_m at resonance is_____.
(A) ○ 100 A
(B) ○ 90 A
(C) ○ **115 A (Correct Answer)**
(D) ○ 110 A

Question No.23

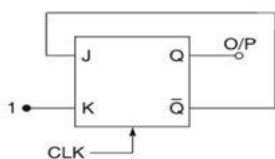For the network shown in Fig., the equivalent capacitance between the terminals A and B is _____.

(A) ○ 1 µF
(B) ○ **3 µF (Correct Answer)**
(C) ○ 2 µF
(D) ○ (1/3) µF

Question No.24

In a JK flip flop as shown in Figure, J = Q' and K=1. If the flip flop was initially cleared and then clocked for 6 pulses, then the sequence at the Q output will be _____.
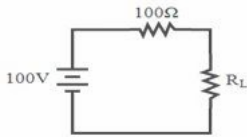

(A) ○ 010011
(B) ○ 011010
(C) ○ $\boxed{010101}$ **(Correct Answer)**
(D) ○ 010010

Question No.25

For the circuit shown in Fig., the maximum power that can be transferred to the load R_L from the voltage sources is _____.

(A) ○ 2.5 W
(B) ○ 250W
(C) ○ 0.25 W
(D) ○ **25W (Correct Answer)**

Question No.26

A 30 kVA, single phase transformer has 250 turns on the primary and 40 turns on the secondary winding. The primary is connected to 1500 V, 50 Hz mains. On full-load, the primary and secondary currents are _____ and _____ respectively.

(A) ○ **20 A and 125 A (Correct Answer)**
(B) ○ 20 A and 140 A
(C) ○ 40 A and 120 A
(D) ○ 40 A and 150 A

Question No.27

A three phase squirrel cage induction motor has a starting current of six times the full load current and full load slip of 5%. If a star-delta starter is used to start this induction motor, then the ratio of starting torque to the full load torque will be _____.

(A) ○ 0.3
(B) ○ 1.8
(C) ○ 1.2
(D) ○ **0.6 (Correct Answer)**

Question No.28

The Fourier sine transform of e^{-ax} is _____ .

(A) ○ $\sqrt{\dfrac{2}{\pi}}\dfrac{s}{(s^2+a^2)}$ **(Correct Answer)**

(B) ○ $\dfrac{a}{(s^2+a^2)}$

(C) ○ $\dfrac{s}{(s^2+a^2)}$

(D) ○ $\sqrt{\dfrac{\pi}{2}}\dfrac{s}{(s^2+a^2)}$

Question No.29

If the Fourier series of an odd function $f(x)$ in the interval $(-\pi, \pi)$ is $f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos nx + \sum_{n=1}^{\infty} b_n \sin nx$, then _____ .

(A) ○ $a_0 = a_n = 0$ **(Correct Answer)**

(B) ○ $a_0 = b_n = 0$

(C) ○ $a_n = b_n = 0$

(D) ○ $a_0 = \dfrac{1}{2}, a_n = b_n = 0$

Question No.30

The critical clearing time of a fault in power systems is related to _____.

(A) ○ steady-state stability limit
(B) ○ **transient stability limit (Correct Answer)**
(C) ○ short-circuit current limit
(D) ○ reactive power limit

Question No.31

If the transfer function of a phase lead compensator is (s + a)/(s + b) and that of a lag compensator is (s + c)/(s + d), then which of the following sets of conditions must be satisfied?
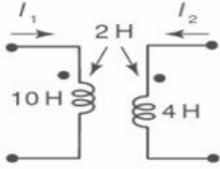
(A) ○ a>b and c

(B) ○ a

(C) ○ **ad (Correct Answer)**

(D) ○ a>b and c>d

Question No.32

Marks:

The T-equivalent circuit of the linear transformer shown in Fig. is

(A) ○

(Correct Answer)

$L_a = 8\,H \quad L_b = 2H$

$L_c = 2\,H$

(B) ○

$L_a = 10\,H \quad L_b = 4\,H$

$L_c = 2\,H$

(C) ○

$L_a = 2\,H \quad L_b = 2H$

$L_c = 8\,H$

(D) ○

$L_a = 8\,H \quad L_b = 8\,H$

$L_c = 2\,H$

Question No.33

Marks:

MOSFET can be used as a _____.

(A) ○ Current controlled capacitor

(B) ○ Voltage controlled inductor

(C) ○ **Voltage controlled capacitor (Correct Answer)**

(D) ○ Current controlled inductor

Question No.34

Marks:

If the rotor of induction motor rotates at a synchronous speed theoretically, the emf induced in the rotor is _____.

(A) ○ more than the applied voltage

(B) ○ **equal to zero (Correct Answer)**

(C) ○ equal to the applied voltage

(D) ○ less than the applied voltage

Question No.35

Marks:
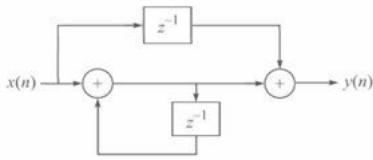
A microphone is classified as a _____.

(A) ○ Optical transducer

(B) ○ Thermal transducer

(C) ○ Magnetic transducer

(D) ○ **Acoustical transducer (Correct Answer)**

Question No.36

Marks:

A parallel form realization of an IIR filter is shown in Fig. Which one of the following would be its correct input-output relation?

(A) ○ y(n) = x(n) + x(n-1) + x(n-2) + y(n-1)
(B) ○ y(n) = x(n) - x(n-1) - x(n-2) + y(n-1)
(C) ○ **y(n) = x(n) + x(n-1) - x(n-2) + y(n-1) (Correct Answer)**
(D) ○ y(n) = x(n) - x(n-1) - x(n-2) - y(n-1)

Question No.37

Marks:
Bookmark

$$L\left(\frac{1-e^t}{t}\right) =$$

(A) ○ $\boxed{\log \dfrac{s-1}{s}}$ **(Correct Answer)**

(B) ○ $\log \dfrac{s}{s-1}$

(C) ○ $\log \dfrac{s}{s+1}$

(D) ○ $\log \dfrac{s+1}{s}$

Question No.38

Marks:
Bookmark

If $y^2 = f(x)$, a polynomial of degree three, then $\dfrac{d}{dx}\left(y^3 \dfrac{d^2y}{dx^2}\right) =$

(A) ○ $\dfrac{1}{2}f(x)f''(x)$

(B) ○ $\boxed{\dfrac{1}{2}f(x)f'''(x)}$ **(Correct Answer)**

(C) ○ $f(x)f'''(x)$

(D) ○ $\dfrac{1}{2}f'(x)f'''(x)$

Question No.39

Marks:
Bookmark

For the circuit in Fig., the output expression 'Y' is given by_____.

(A) ○ $\overline{A}\,\overline{B}$

(B) ○ **A+B (Correct Answer)**

(C) ○ AB

(D) ○ $\overline{A+B}$

Question No.40

Marks:
Bookmark

Maximum rank of a matrix of order 4 X 3 is _____.

(A) ○ **3 (Correct Answer)**
(B) ○ 0
(C) ○ 4
(D) ○ 1

Question No.41

Marks:

Three delta connected resistors absorb 60 kW when connected to a three phase line. If the resistors are connected in star, then the power absorbed is _____.
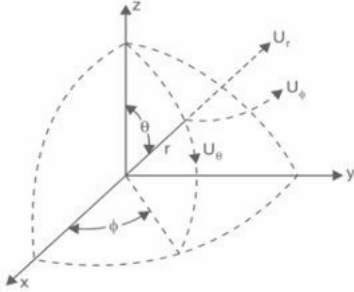(A) ○ 180 kW
(B) ○ **20 kW (Correct Answer)**
(C) ○ 60 kW
(D) ○ 40 kW

Question No.42

In terms of Spherical coordinate system variables as shown in Fig., 'y' of Cartesian coordinate system is given as _____.

(A) ○ r cosθ cosφ
(B) ○ **r sinθ sinφ (Correct Answer)**
(C) ○ r cosθ sinφ
(D) ○ r sinθ cosφ

Question No.43

Which of the following functions satisfies C-R equations but not analytic at origin?
(A) ○ $\sqrt{|xy|}$ **(Correct Answer)**
(B) ○ $\sqrt{x}$
(C) ○ $\sqrt{y}$
(D) ○ $\bar{z}$

Question No.44

The maximum power developed in a synchronous motor occurs at a coupling angle of _____.
(A) ○ 180 degree
(B) ○ 30 degree
(C) ○ 45 degree
(D) ○ **90 degree (Correct Answer)**

Question No.45

If the differential voltage gain and the common mode voltage gain of a differential amplifier are 46 dB and 2 dB respectively, then its common mode rejection ratio (CMMR) is_____.
(A) ○ 24 dB
(B) ○ **44 dB (Correct Answer)**
(C) ○ 48 dB
(D) ○ 22 dB

Question No.46

What is the Nyquist rate for a signal x(t)=3cos(1000πt)+43sin(2000πt)?
(A) ○ 3000 HZ
(B) ○ 1000 Hz
(C) ○ **2000 Hz (Correct Answer)**
(D) ○ 1500 Hz

Question No.47

The base impedance and base voltage for a given single phase power system are 25Ω and 500 V respectively. The base kVA and base current is _____.
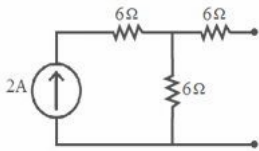(A) ○ 20 kVA and 5 A
(B) ○ 5 kVA and 10 A
(C) ○ **10 kVA and 20 A (Correct Answer)**
(D) ○ 10 kVA and 15 A

Question No.48

Marks:
Bookmark

The Thevenin voltage and Norton current of the circuit shown in Fig. are

(A) ○ **12 V, 1 A (Correct Answer)**
(B) ○ 10 V, 2 A
(C) ○ 10 V, 1 A
(D) ○ 12 V, 2 A

Question No.49

Marks:
Bookmark

The span of a zero centered voltmeter having a scale from -10 V to +10V is _____.
(A) ○ 15V
(B) ○ 0V
(C) ○ 10V
(D) ○ **20 V (Correct Answer)**

Question No.50

Marks:
Bookmark

If the full load copper loss of a transformer is 600 W, then the copper loss at half load is _____.
(A) ○ 600 W
(B) ○ 1200 W
(C) ○ 300 W
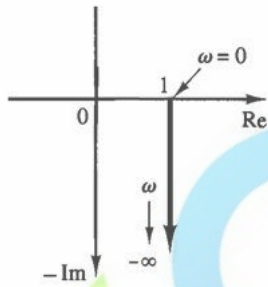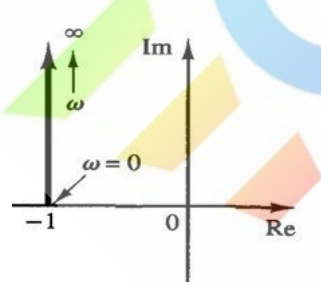(D) ○ **150W (Correct Answer)**

Question No.51

Marks:
Bookmark

The polar plot of G(s) = 1+sT is _____.
(A) ○

(B) ○

(C) ○

(Correct Answer)

(D) ○

Question No.52

Marks:
Bookmark

What is the particular integral of $(D^2 - 4)y = \sin 3x$?

(A) ○ $\frac{1}{4}\sin 3x$

(B) ○ $\boxed{\frac{-1}{13}\sin 3x}$ **(Correct Answer)**

(C) ○ $\frac{1}{5}\sin 3x$

(D) ○ None of these

Question No.53

Marks:
Bookmark

A 4-pole, 3-phase, 440 V induction motor runs at 960 rpm when the slip is 4%. The supply frequency is _____.
(A) ○ **33.33 Hz (Correct Answer)**
(B) ○ 25 Hz
(C) ○ 66.66 Hz
(D) ○ 50 Hz

Question No.54

Marks:
Bookmark

If a signal f(t) has energy 'E', then the energy of the signal f(2t) is equal to _____.
(A) ○ 2E
(B) ○ E
(C) ○ 4E
(D) ○ **E/2 (Correct Answer)**

Question No.55

Marks:
Bookmark

What is the overall transfer function C(s)/R(s) for the block diagram shown in figure:

(A) ○ $G_1G_2 + G_2G_3$

(B) ○ $\dfrac{G_1 + G_2}{1 + G_3H_1}$

(C) ○ $\boxed{\dfrac{G_1G_2 + G_2G_3}{1 + G_2H_1}}$ **(Correct Answer)**

(D) ○ $\dfrac{G_1G_2 + G_2G_3}{1 + G_1G_2G_3H_1}$

Question No.56

Marks:
Bookmark

The equivalent circuit representation of off-nominal transformer with turns ratio 'a' and series admittance of the transformer 'Y_t'
connected to the unity side as shown in the Figure is:

(A) ○

(B) ○

(C) ○

(Correct Answer)

(D) ○

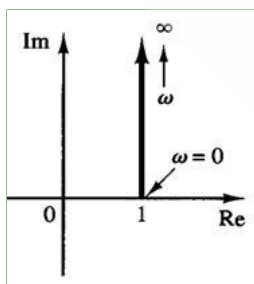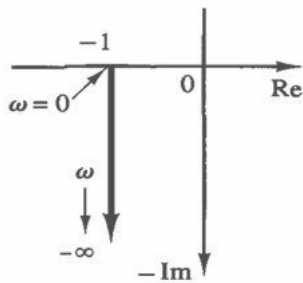**Question No.57**   Marks:
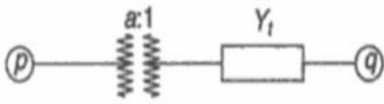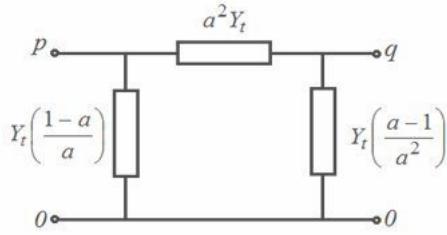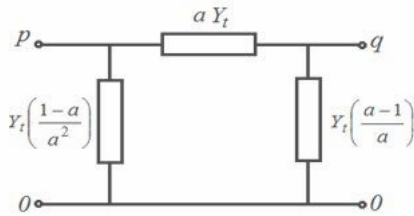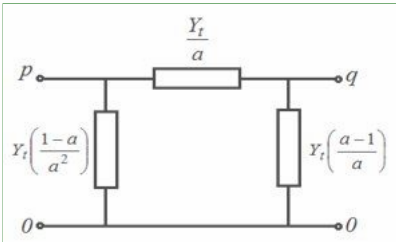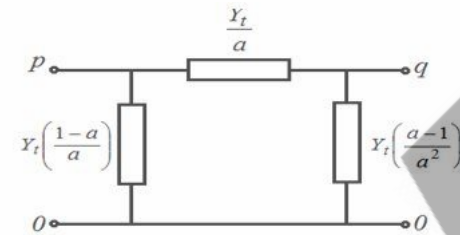   **Bookmark**

In a DC generator, the number of electrical degrees and mechanical degrees will be same when the number of poles in the generator is equal to _____.

(A) ○ 6
(B) ○ **2 (Correct Answer)**
(C) ○ 8
(D) ○ 4

Question No.58   Marks:
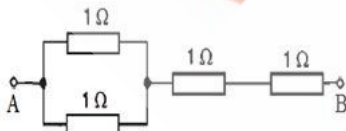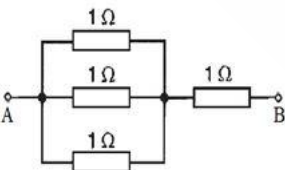   **Bookmark**

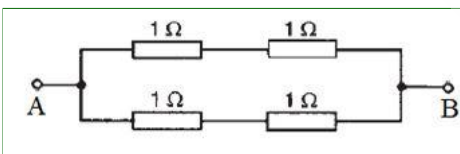Show that how four 1Ω resistors must be connected to give an overall resistance of 1Ω across the terminals A and B.
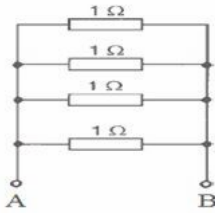
(A) ○

(B) ○

(C) ○

(Correct Answer)

(D) ○

Question No.59

Marks:
Bookmark

In a three phase semiconverter, for firing angle less than or equal to 60 degree, freewheeling diode conducts for _____.
(A) ○ 60 degree
(B) ○ **Zero degree (Correct Answer)**
(C) ○ 90 degree
(D) ○ 30 degree

Question No.60

Marks:
Bookmark

The value of $\lim_{\substack{x \to 1 \\ y \to 2}} \frac{2x^2 y}{x^2 + y^2 + 1}$ is _____.

(A) ○ 0 1/3
(B) ○ 0 1/5
(C) ○ **0 2/3 (Correct Answer)**
(D) ○ 0 1/2

COMPUTER KNOWLEDGE - COMPUTER KNOWLEDGE

Question No.1

Marks:
Bookmark

Identify whether the following statements are True or False:
Statement A: 32-bit operating systems are limited to 3.2 GB of RAM.
Statement B: 64-bit operating systems allow a maximum 17 Billion GB of RAM.
(A) ○ Statement A is True and Statement B is False
(B) ○ Both Statement A & Statement B are False
(C) ○ Statement A is False and Statement B is True
(D) ○ **Both Statement A & Statement B are True (Correct Answer)**

Question No.2

Marks:
Bookmark

_____ replaces the boot sector program with its own malicious version. Usually it enters into our system through corrupt media files, infected storage devices and insecure computer networks.
(A) ○ Macro virus
(B) ○ Resident virus
(C) ○ File infector virus
(D) ○ **Boot virus (Correct Answer)**

Question No.3

Marks:
Bookmark

Identify which is not an advantage of Client/Server network?
(A) ○ **It is less costly as it does not contain any dedicated server (Correct Answer)**
(B) ○ Security is better in Client/Server network as a single server administers the shared resources.
(C) ○ A Client/Server network contains the centralized system. Therefore we can back up the data easily.
(D) ○ A Client/Server network has a dedicated server that improves the overall performance of the whole system.

Question No.4

Marks:
Bookmark

What will the shortcut key Ctrl + D will do in Ms Excel?
(A) ○ **It enables you to fill down the cells with the content of the selected cell. (Correct Answer)**
(B) ○ It offers users the option to display the create table dialog box.
(C) ○ It provides the option to insert a hyperlink in a file.
(D) ○ It is used to copy the selected content of a worksheet.

Question No.5

Marks:
Bookmark

_____ is set up by connecting the local area networks of the city or town. It is ideal for the people of a particular region to share data or information.
(A) ○ LAN
(B) ○ WAN

(C) ○ SAN

(D) ○ **MAN (Correct Answer)**

Question No.6

Marks:
Bookmark

_____ is an activity of sending emails to a user claiming to be a legitimate enterprise. Its main purpose is to steal sensitive information such as usernames, passwords, and credit card details.

(A) ○ **Email phishing (Correct Answer)**

(B) ○ Malware

(C) ○ Spam

(D) ○ Mobile worms

Question No.7

Marks:
Bookmark

Identify the shortcut key in MsWord to insert the current date.

(A) ○ **Shift+Alt+D (Correct Answer)**

(B) ○ Shift+Alt+T

(C) ○ Shift+D

(D) ○ Alt+D

Question No.8

Marks:
Bookmark

Which function of OS provides mechanisms for synchronization and communication among processes?

(A) ○ **Process management (Correct Answer)**

(B) ○ Memory management

(C) ○ File management

(D) ○ Device management

Question No.9

Marks:
Bookmark

In which generation, magnetic cores were used as the primary memory and magnetic disc and tapes were used as the secondary storage?

(A) ○ Third

(B) ○ **Second (Correct Answer)**

(C) ○ Fourth

(D) ○ First

Question No.10

Marks:
Bookmark

_____ is computer hardware that can retrieve data based on only a small, indicative sample.

(A) ○ asynchronous DRAM

(B) ○ **associative memory (Correct Answer)**

(C) ○ cache

(D) ○ ROM

GUJARATI LANGUAGE AND GRAMMAR - GUJARATI LANGUAGE AND GRAMMAR

Question No.1

Marks:
Bookmark

પળવારમાં નાશ પામે એવું' - આ શબ્દસમૂહ માટે એક શબ્દ જણાવો.

(A) ○ અવિનાશી

(B) ○ તકલાદી

(C) ○ વિનાશી

(D) ○ **ક્ષણભંગુર (Correct Answer)**

Question No.2

Marks:
Bookmark

અહીં આપેલા વિરુદ્ધાર્થી જોડીઓમાંથી કઇ જોડી યોગ્ય નથી?

(A) ○ આઘ X અંત

(B) ○ **પ્રાચીન X પૌરાણિક (Correct Answer)**

(C) ○ યાચક X દાતા

(D) ○ નિર્ગુણ X સગુણ

Question No.3

Marks:
Bookmark

સંચય' શબ્દનો વિપરીત અર્થ આપતો શબ્દ શોધો.

(A) ○ સાયવણી

(B) ○ વિનય

(C) ○ વિઘેય

(D) ○ **વ્યય (Correct Answer)**

Question No.4

Marks:
Bookmark

નીચેના શબ્દોને શબ્દકોશ પ્રમાણે ગોઠવીએ તો સાચો વિકલ્પ શોધો. કાદવ, કંચન, કંકુ, કમળ, ક્રમ

(A) ○ **કમળ, કંકુ, કંચન. કાદવ, ક્રમ (Correct Answer)**

(B) ○ કંચન, કંકુ, કમળ, કાદવ, ક્રમ

(C) ○ ક્રમ, કમળ, કાદવ, કંકુ, કંચન

(D) ○ કમળ, કાદવ, કંચન, કંકુ,ક્રમ

Question No.5

Marks:
Bookmark

આમનેસામને : સામસામે :: _____ : આજુબાજુ. બીજો શબ્દ સાર્થક હોય તે શોધો.

(A) ○ મારોકાપો

(B) ○ ખભેખભા

(C) ○ કામબામ

(D) ○ **આસપાસ (Correct Answer)**

Question No.6

Marks:
Bookmark

ભારોભાર : બારોબાર : : ઊપરાઊપરી : _____. યોગ્ય દ્વિરુક્તિ આપો.

(A) ○ માંડમાંડ

(B) ○ **ઝપાઝપી (Correct Answer)**

(C) ○ તાતાથૈયા

(D) ○ તમતમારે

Question No.7

Marks:
Bookmark

પ્રદીપથી બાળાને ઊંચકી લેવાઇ. ' આ વાક્યનું યોગ્ય કર્તરિ વાક્ય જણાવો.

(A) ○ પ્રદીપ બાળાને ઊંચકે છે.

(B) ○ તેણે પ્રદીપ પાસે બાળાને ઊંચકાવડાવી.

(C) ○ પ્રદીપ બાળાને ઊંચકી લેશે.

(D) ○ **પ્રદીપે બાળાને ઊંચકી લીધી. (Correct Answer)**

Question No.8

Marks:
Bookmark

અહીં આપેલી શબ્દોની જોડમાં એક ચોક્કસ સંબંધ છે. કઇ જોડ અયોગ્ય છે તે શોધો.

(A) ○ વાદળ-વરસાદ

(B) ○ ખેતર-ખેડૂત

(C) ○ ગુરુ-શિષ્ય

(D) ○ **સોય-ટાંકણી (Correct Answer)**

Question No.9

Marks:
Bookmark

દિનેશે તેની ભૂલ કબૂલ કરી. આ વાક્યનું પુન:પ્રેરક વાક્ય જણાવો.

(A) ○ દિનેશને તેની ભૂલ કબૂલ કરાવી.

(B) ○ **શિક્ષકે દિનેશ પાસે તેની ભૂલ કબૂલ કરાવડાવી. (Correct Answer)**

(C) ○ દિનેશ વડે તેની ભૂલ કબૂલ કરાવડાવાઇ.

(D) ○ દિનેશથી તેની ભૂલ કબૂલ કરાઇ.

Question No.10

Marks:
Bookmark

જ્યારે આગ લાગે છે ત્યારે ધુમાડો નીકળે છે. નીચે લીટી દોરેલા પદો શું છે?

(A) ○ વિશેષણ

(B) ○ નિપાત

(C) ○ સર્વનામ

(D) ○ સંયોજકો

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