हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
रजिस्टर्ड ऑफिस : 17, जमशेदजी टाटा रोड, मुंबई - 400 020.
HINDUSTAN PETROLEUM CORPORATION LIMITED
REGISTERED OFFICE : 17, JAMSHEDJI TATA ROAD, MUMBAI - 400 020.

ne	
me	
	23/12/2023
	2:00 PM - 4:30 PM
	Instrumentation Engineer

anguage

the most appropriate antonym of the underlined word.

e was recovered in the immediate **vicinity** of the attack.

irons

ality

away

ty

Question ID : **630680504738**
Option 1 ID : **6306801972502**
Option 2 ID : **6306801972503**
Option 3 ID : **6306801972501**
Option 4 ID : **6306801972504**
Status : **Answered**
Chosen Option : **3**

e most appropriate idiom for the underlined phrase.

am aware that this was your last try, you won't **lose your mind**.

ke ends meet

t the sack

se your marbles

in cats and dogs

Question ID : **630680504736**
Option 1 ID : **6306801972493**
Option 2 ID : **6306801972495**
Option 3 ID : **6306801972496**

the most appropriate synonym of the underlined word.

oung, but she has an **astute** business acumen.

pt

use

rewd

ve

e most appropriate word to fill in the blank.

ely _____ false information when it comes to my business.

w consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences
t paragraph.

idest underwater noise comes from naval sonar devices.

:an be as loud as 235 decibels and travel hundreds of miles under water, interfering with whales' ability to use

olocation, works by sending pulses of sound down into the depths of the ocean to bounce off an object and return an
vhich indicates a location for object.

hown that sonar can cause mass stranding of whales on beaches and alter the feeding behaviour of endangered blue

RQS

SR

RS

PR

he word that can substitute the given group of words.

f writing that says bad, false, and harmful things about a person

bel

e

mbit

:rilege

e most appropriate idiom for the underlined phrase.

na fired his servant because he **was a thief.**

find your feet

go cold turkey

have sticky fingers

let the guards down

w consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences
t paragraph.

ia's better preparedness to deal with the green-house gas which is responsible for global warming.
ck refers to the amount of carbon stored in forests in the form of biomass, soil, deadwood and litter.
green cover and carbon stock both indicates a healthy trend.
n stock, higher would be the forest's capacity to absorb and sequester carbon dioxide (CO_2), the main greenhouse
here, through photosynthesis.

QR

SRP

QS

QP

e most appropriate word to fill in the blank.

_____ your unnecessary demands all the time.

from

with

with

oy

the word that can substitute the given group of words.

f dogs.

agophobia

mophobia

nophobia

oraphobia

...sion:

...ssage carefully and select the correct answer for the given blanks out of the ...ives.

...s stayed in Britain (1) _____ almost four centuries. In some parts of the ...y were met with rebellion and resistance, but in more peaceful areas cities ..., villas constructed and a network of roads developed that can still be (3) ... And in AD 122, the emperor Hadrian, visiting Britain, ordered the building of ...wall.

...n No : 11

...nost appropriate option for blank _____ (3)

...ted

...ced

...cked

...bed

Question ID : **630680509616**
Option 1 ID : **6306801991682**
Option 2 ID : **6306801991683**
Option 3 ID : **6306801991684**
Option 4 ID : **6306801991681**
Status : **Answered**
Chosen Option : **2**

...sion:

...ssage carefully and select the correct answer for the given blanks out of the ...ives.

...s stayed in Britain (1) _____ almost four centuries. In some parts of the ...y were met with rebellion and resistance, but in more peaceful areas cities ..., villas constructed and a network of roads developed that can still be (3) ... And in AD 122, the emperor Hadrian, visiting Britain, ordered the building of ...wall.

...n No : 12

...nost appropriate option for blank _____ (2)

...nded

...ncated

...ented

...ted

Question ID : **630680509615**
Option 1 ID : **6306801991677**
Option 2 ID : **6306801991680**
Option 3 ID : **6306801991678**
Option 4 ID : **6306801991679**
Status : **Answered**
Chosen Option : **1**

ssage carefully and select the correct answer for the given blanks out of the
ives.

stayed in Britain (1) _____ almost four centuries. In some parts of the
y were met with rebellion and resistance, but in more peaceful areas cities
__, villas constructed and a network of roads developed that can still be (3)
And in AD 122, the emperor Hadrian, visiting Britain, ordered the building of
wall.

n No : 13

nost appropriate option for blank _____ (1)

:

ce

m

lowing passage and answer the questions given below.

ige problems that are the root cause of India's population growth.
n as mortality and fertility rates, child marriage, boy's importance, ignorance
planning, rational decisions, polygamy marriage, and the age and sex factors
nt population influence population growth.
umans have made notable and significant advancements in the field of
science, and medicine. With the invention of treatments, vaccines, and the
of various diseases, people today have a higher life expectancy than their

tions have also led to a decrease in mortality rates, boosted fertility rates,
lved reproductive and infertility problems. Hence the massive improvements
and slowing mortality rates have been the main reason behind
on problems.

n No : 14

the structure of the passage?

escriptive

mpare and contrast

oblem and solution

ocess writing

...nsion:

...lowing passage and answer the questions given below.

...ige problems that are the root cause of India's population growth.
...n as mortality and fertility rates, child marriage, boy's importance, ignorance
... planning, rational decisions, polygamy marriage, and the age and sex factors
...nt population influence population growth.
...umans have made notable and significant advancements in the field of
...science, and medicine. With the invention of treatments, vaccines, and the
...of various diseases, people today have a higher life expectancy than their

...tions have also led to a decrease in mortality rates, boosted fertility rates,
...lved reproductive and infertility problems. Hence the massive improvements
... and slowing mortality rates have been the main reason behind
...on problems.

...n No : 15

...the most appropriate tone of the passage?

...gmatic

...elancholy

...ncerning

...phemistic

sion:

lowing passage and answer the questions given below.

ige problems that are the root cause of India's population growth.
n as mortality and fertility rates, child marriage, boy's importance, ignorance
planning, rational decisions, polygamy marriage, and the age and sex factors
nt population influence population growth.
umans have made notable and significant advancements in the field of
science, and medicine. With the invention of treatments, vaccines, and the
of various diseases, people today have a higher life expectancy than their

tions have also led to a decrease in mortality rates, boosted fertility rates,
lved reproductive and infertility problems. Hence the massive improvements
and slowing mortality rates have been the main reason behind
on problems.

n No : 16

g to the given passage, which of the following statements is correct?

today have a higher life expectancy than their forefathers.

narriage affects population.

ly I

ither I nor II

ly II

oth I and II

lowing passage and answer the questions given below.

ige problems that are the root cause of India's population growth.
n as mortality and fertility rates, child marriage, boy's importance, ignorance
planning, rational decisions, polygamy marriage, and the age and sex factors
nt population influence population growth.
umans have made notable and significant advancements in the field of
science, and medicine. With the invention of treatments, vaccines, and the
of various diseases, people today have a higher life expectancy than their

tions have also led to a decrease in mortality rates, boosted fertility rates,
lved reproductive and infertility problems. Hence the massive improvements
and slowing mortality rates have been the main reason behind
on problems.

n No : 17

rd in the passage means 'marriage to more than one spouse at a time'?

lygamy

pectancy

adication

ortality

Question ID : **630680504734**
Option 1 ID : **6306801972486**
Option 2 ID : **6306801972487**
Option 3 ID : **6306801972488**
Option 4 ID : **6306801972485**
Status : **Answered**
Chosen Option : **1**

ive Aptitude

les are 2 cm and 7 cm. Length of direct common tangent is 12 cm. What is the distance between their centres?

cm

cm

cm

cm

Question ID : **630680505060**
Option 1 ID : **6306801973771**
Option 2 ID : **6306801973772**
Option 3 ID : **6306801973770**
Option 4 ID : **6306801973769**
Status : **Answered**
Chosen Option : **3**

are thrown simultaneously, then what is the probability of getting a sum of 3?

$= 6$, then what is the value of $K^4 + \frac{1}{K^4}$?

36

12

42

18

es as efficient as Punit. Vishal can complete a work in 63 days less than Punit. If both of them work together, then in
ill the same work be completed?

days

days

days

days

3S, then what is the value of (R + S)/R?

the value of $4 \times 5 - 44 \div 11 \times 3 + 28$?

times more than M, then M is what percentage less than L?

percent

 percent

percent

percent

numbers is 23. If every number is doubled, then what will be the new average of the numbers?

6Q and 9Q = 5R, then what is the value of P : Q : R?

: 65 : 88

: 75 : 78

: 55 : 99

: 45 : 38

cumference of a circle is 352 cm, then what is its radius?

cm

cm

cm

cm

e price of his table 60 percent above the cost price. He gives some discount on it and earns profit of 40 percent.
ount percentage?

percent

.5 percent

5 percent

33 percent

hart given below shows the income and expenditure of five companies.
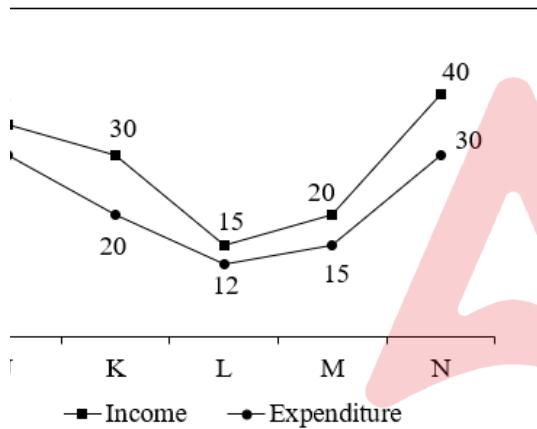
ncome – Expenditure

e ratio of average saving of J and K to the average income of M and N?

1

4

5

2

a cube is increased by 6 percent, then what will be the percentage change in the volume of the cube?

.50 percent

.10 percent

56 percent

42 percent

$= \dfrac{5}{13}$, then what is the value of $\cos\theta + 2\tan\theta$?

7

oves at a speed of 10 m/s for 32 hours. What is the distance travelled by the scooter?

52 km

14 km

3 km

46 km

re has an outer radius of 10 cm and inner radius of 4 cm. What is the volume of this hollow sphere?

50π cm^3

5π cm^3

5π cm^3

48π cm^3

nt more than K and K is 20 percent less than L. If J is 930, then what is the value of L?

)

0

)

)

0 becomes Rs. 2200 at some rate of simple interest in 2 years. In how many years will the sum of Rs. 1600 amounts
same rate of simple interest?

ears

ears

ears

years

of a chair is Rs. 1600. If loss percentage is 36 percent, then what is the cost price of chair?

. 2000

. 3400

. 2700

. 2500

iven below shows the production of television and fridge by different companies.
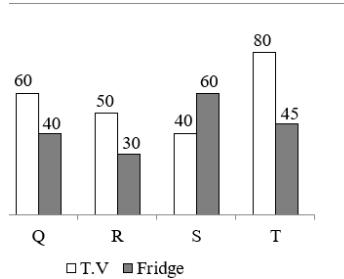
llowing statement is correct?

roduction of television and fridge by P is 140 percent of the average production television and fridge by S.

otal production of television by Q and R to the total production of fridge by S and T are 22 : 21.

ly I

ither I nor II

th I and II

ly II

000 for 2 years at compound interest (compounded annually) in a company which paid him interest of Rs. 6681.6.
annual rate of interest at which R invested his money?

percent

percent

percent

percent

Question ID : **630680505033**
Option 1 ID : **6306801973662**
Option 2 ID : **6306801973663**
Option 3 ID : **6306801973664**
Option 4 ID : **6306801973661**
Status : **Not Answered**
Chosen Option : **--**

laptop for Rs. 3400 and spends Rs. 600 on its repairs. If he sells the laptop for Rs. 4500, then what is his profit

28 percent

.5 percent

5 percent

66 percent

Question ID : **630680505042**
Option 1 ID : **6306801973698**
Option 2 ID : **6306801973700**
Option 3 ID : **6306801973697**
Option 4 ID : **6306801973699**
Status : **Answered**
Chosen Option : **2**

the value of $1.75 \times 1.75 + 0.05 \times 0.05 - 0.1 \times 1.75$?

5

39

6

4

Question ID : **630680505036**
Option 1 ID : **6306801973673**
Option 2 ID : **6306801973676**
Option 3 ID : **6306801973674**
Option 4 ID : **6306801973675**
Status : **Answered**
Chosen Option : **2**

by a chord AB on the circumference is 45 degree. If radius of this circle is 8 cm, then what is the length of AB?

$\sqrt{2}$ cm

$\sqrt{2}$ cm

$\sqrt{2}$ cm

$\overline{2}$ cm

speaks truth is 4/5 and probability that B speaks truth is 2/5. What will be the probability that both are lying while news?

5 results was calculated as 92 but later it was found that while calculating, 182 was taken as 82 by mistake. What t average?

55

65

25

.33

lue of P the two equations 2x + 5y = 7 and Px + 10y = 15 will have no solution?

= 4

= −4

= 2

= 8

at the rate of 33 percent per annum on compound interest (compounded in every four months). What will be the
st of 8 months?

. 2340

. 2360

. 2321

. 2550

re the roots of the cubic equation $x^3 + 3x^2 - 2x + 5 = 0$, then what is the value of $\frac{1}{a} + \frac{1}{b} + \frac{1}{c}$?

...een X and Z is 1782 km. An express train leaves X at 9:50 a.m. and travels at a speed of 198 km/hr. The train stops ...hour 15 minutes. At what time the train will reach at Z?

5 pm

20 pm

5 pm

05 pm

...plete a work in 80 days and Y alone can do the same work in half time of the time taken by A. Working together ...same work they can complete in a day?

...of the three consecutive odd numbers is 2145. What is the average of the three numbers?

) degree, then what is the value of $\dfrac{\sin\theta + \cos 2\theta}{\tan 2\theta + \operatorname{cosec} 2\theta}$?

e the roots of the quadratic equation $x^2 + 5x + 5 = 0$, then what is the value of $\alpha^2 + \beta^2$?

ual Potential Test

lowing question, select the missing number from the given series.

.06, 65, 108, ?

ng given below made up of symbols and numbers. How many numbers are immediately followed by a symbol?

& * % % 3 7 3 3 7 & & &

question below are given some statements followed by some conclusions based on those statements. Taking the
to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide
n conclusion logically follows the given statements.

ter.

re water.

yellow.

non.

s not water.

l conclusion follows

th conclusions II and III follows

ither conclusion follows

ly conclusion II follows

three digit numbers given below and the answer the questions based on it.

96 314 445 (Right)

ers are arranged in descending order from left to right. What is the sum of the left most and right most numbers?

0

1

9

1

B 30 C 6 = 125 and 65 A 50 B 15 C 5 = 215, then 4 A 7 B 8 C 4 = ?

language, 'THOSE' is written as '268', 'RATES' is written as '252'. What is the code for 'YEAR' in that code

2

4

8

6

wing question, select the related letter pair from the given alternatives.

?

T : JS

: GL

: QP

N : ZM

in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE:
d be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 –
such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then
ematical operations on 1 and 3 is not allowed)

, 20, 29)

, 49, 77)

3, 51, 59)

, 40, 56)

re three letter words given below and the answer the questions based on it.

)S AND POT KIL (Right)

ls are arranged in alphabetical order from left to right. Which word will come at fourth place form left?

)T

)I

)S

L

ring given below made up of letters. How many vowels are immediately followed by another vowel?

L X P I A X J Q D S Y P J

owing question, select the odd letter/letters from the given alternatives.

'J

T

JY

/Y

in which the numbers shares the same relationship in set as that shared by the numbers in the given set. (NOTE: d be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 – such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then ematical operations on 1 and 3 is not allowed)

56, 63)

42, 54)

30, 35)

15, 24)

B, C, D, E, F, G and H are sitting around a circular table facing opposite to the centre (not necessarily in the same d to the left of H. A is third to the left of B. D is to immediate right of H. F is fourth to the left of D. C is the bour of H and B. G is second to the right of H. Who is sitting second to the right of G?

owing question, select the related letters from the given alternatives.

:: AE : ?

J

q 9 = 27 and 14 p 2 q 3 = 21, then 15 p 5 q 4 = ?

mely - P, Q, R, S, T, U, V and W live on separate floors of an eight-floor building in Gokuldham apartment. Ground
l 1; first floor is numbered 2 and so on until the topmost floor which is numbered 8.

live between P and Q. V lives immediately above S. T lives immediately above R. T lives above W. U lives on an
oor. Only one person lives between T and W. P lives on the floor numbered five. Q lives above P. Then find, who
.

e following problems has a question and two statements (I) and (II).

he value of a and b?

= 36

in be answered by using one of the statement alone but cannot be answered by using the other statement alone.

n can be answered by using both the statements together but not by either statement alone.

tion can be answered by using either of the statement (I) or (II) alone.

stion cannot be answered even by using both the statements together.

ven below, relationships between different elements are shown in the statements. These statements are followed by
Give answer:

4 ≥ T5 > T6 = T7

neither conclusion I nor conclusion II is true

only conclusion I is true

only conclusion II is true

both conclusions I and II are true

g pair (Fifth number : Sixth number) which is related in the same way as the first number is related to the second number is related to fourth number. (NOTE: Operations should be performed on the whole numbers, without e numbers into its constituent digits. E.g.13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 l. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

l :: ?

63

24

8

: 98

'×', '×' means '–', '–' means '÷' and '÷' means '–', then $6 + 8 \times 10 \div 40 - 2 = ?$

is the brother of Q', 'P × Q' means 'P is the mother of Q', 'P ÷ Q' means 'P is the father of Q' and 'P – Q' means 'P . If M – K × F + D + N × R, then how is N related to K?

ughter

n's daughter

ughter's daughter

n's son

ven below, relationships between different elements are shown in the statements. These statements are followed by
Give answer:

4 ≥ S5 > T6 = S7

only conclusion I is true

only conclusion II is true

both conclusions I and II are true

neither conclusion I nor conclusion II is true

n with one term missing. Select the correct alternative from the given ones that will complete the series.

, ?

[

M

K

R

g given below made up of numbers from 0 to 9. How many even digits are immediately followed by odd digit?

7 1 5 7 6 3 5 8 3 5 8

lowed by a set of conclusions in the given question. Identify which conclusion follows logically from the following

:ract greater work prospects, the government is encouraging today's youth to learn more than one skill.

ent is necessary to attract better job opportunities.
lack focus.

th I and II follow

ither I nor II follows

lly I follow

ly II follows

Question ID : **630680504851**
Option 1 ID : **6306801972935**
Option 2 ID : **6306801972936**
Option 3 ID : **6306801972933**
Option 4 ID : **6306801972934**
Status : **Not Answered**
Chosen Option : --

tion, a statement is followed by two courses of action. Based on the information given in the statement, you have to
g in the statement to be true. Identify which course(s) of action logically follows.

)ol bus carrying students home from school was hijacked in broad daylight.

le students must be immediately informed.

'erage, all media workers must be summoned.

lly I follow

th I and II follow

ither I nor II follows

ly II follows

Question ID : **630680504852**
Option 1 ID : **6306801972937**
Option 2 ID : **6306801972939**
Option 3 ID : **6306801972940**
Option 4 ID : **6306801972938**
Status : **Not Answered**
Chosen Option : --

lowed by a set of conclusions in the given question. Identify which conclusion follows logically from the following

:ract greater work prospects, the government is encouraging today's youth to learn more than one skill.

, M and N takes lecture on one day of a week starting from Monday to Friday. No two teacher takes lecture on same
achers take lecture between J and K. M takes lecture after L and before N. K does not take lecture on Monday. Who
Wednesday?

B, C, D, E, F, G and H are sitting around a circular table facing opposite to the centre (not necessarily in the same
nd to the left of H. A is third to the left of B. D is to immediate right of H. F is fourth to the left of D. C is the
bour of H and B. G is second to the right of H. Who is sitting on the immediate right of B?

question below are given some statements followed by some conclusions based on those statements. Taking the
to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide
n conclusion logically follows the given statements.

ero.

ter.

heroin.

e hero.

are writer.

th conclusions I and III follows

ly conclusion I follows

ly conclusion II follows

th conclusions II and III follows

lowing question, select the missing number from the given series.

l, 120, ?

)

)

)

0

teenth from the right end in a row of 40 boys. What is his position from the left end?

owing question, select the odd letter/letters from the given alternatives.

BYUP

FBW

PLG

)NHC

le language, 'EMPTY' is written as 'CXTQI'. What is the code for 'FOODS' in that code language?

HTTJ

HSSJ

HSSK

HRRJ

km towards North. He turns right and walks 42 km. He turns right and walks 52 km. How far is he now from the

km

km

km

km

Knowledge

ressure transmitter of a flow meter using a venture tube reads $1.6*10^5$ Pa for a flow rate of $0.4 \text{m}^3/\text{s}$. The approximate

for a differential pressure $0.4*10^5$ Pa is:

m^3/s

m^3/s

m^3/s

m^3/s

he purpose of the snubber capacitor in a Flyback Converter?

itching frequency control

ltage regulation

pple reduction

ergy storage

the purpose of the TTL (Time-to-Live) field in the IP header?

indicate the version of IP

prevent routing loops

define the length of the packet

specify the type of service

nication protocol is commonly used in SCADA systems for data exchange between components?

TP

ITP

odbus

P

tting, an open-loop control system is used for the operation of a conveyor belt to transport materials. What would be
e in maintaining the speed of the conveyor belt using this type of control system?

dicting the time to reach the desired speed

ljusting the speed in response to load variations

suring consistent power supply to the motor

cision in setting the initial speed

the purpose of a redline on a tachometer?

nimum speed limit

aximum allowable speed

al cruising speed

commended speed range

he purpose of the Modbus CRC (Cyclic Redundancy Check)?

ensure data integrity in Modbus messages

fy the destination, address in Modbus communication

encrypt Modbus messages

compress Modbus messages

tor is commonly used for controlling the movement of a door lock in IoT applications?

lenoid actuator

actuator

vo actuator

pper motor

the purpose of predictive maintenance in automation?

ximize inefficiency

inimize downtime by predicting maintenance needs

rease equipment breakdowns

iore maintenance requirements

ibe with divisions of 2 mm and a radius of 12 m has the sensitivity of about:

ie primary consideration in the design of open-loop control systems?

edback mechanism

stem stability

sturbance rejection

out-output relationship

open loop system which has G(S) = 20/S. The output y(t) for the unit step input u(t) is equal to:

u(t)

tu(t)

t^2u(t)

)

e of the Bathtub Curve is characterized by an increasing failure rate over time?

nstant failure

ant mortality

rmal life

ear-out

primary sensing mechanism of a surface plasmon resonance (SPR) sensor?

ange in electrical conductivity

ange in temperature

ange in mass

ange in refractive index

following communication technologies is commonly used in mobile phone transmitters?

lse Code Modulation (PCM)

equency Shift Keying (FSK)

de Division Multiple Access (CDMA)

ase Shift Keying (PSK)

Question ID : **630680505246**
Option 1 ID : **6306801974516**
Option 2 ID : **6306801974513**
Option 3 ID : **6306801974515**
Option 4 ID : **6306801974514**
Status : **Answered**
Chosen Option : **3**

of the Bathtub Curve is associated with random failures that occur regardless of time in service?

nstant failure

ormal life

ear-out

ant mortality

Question ID : **630680505219**
Option 1 ID : **6306801974408**
Option 2 ID : **6306801974407**
Option 3 ID : **6306801974406**
Option 4 ID : **6306801974405**
Status : **Answered**
Chosen Option : **2**

he primary function of the Data Link Layer in the OSI Model?

gical addressing

w control

or detection and correction

edia access control and framing

Question ID : **630680505230**
Option 1 ID : **6306801974450**
Option 2 ID : **6306801974451**
Option 3 ID : **6306801974449**
Option 4 ID : **6306801974452**
Status : **Answered**
Chosen Option : **4**

you create a virtual environment in Python?

ate venv myenv

nv create myenv

thon -m venv myenv

tualenv myenv

the purpose of the bias term in a neural network?

reduce overfitting

introduce non-linearity

shift the decision boundary

initialize weights

ng Bridge, what happens to the bridge current when the bridge is balanced?

becomes zero

eaches maximum

s equal to the excitation current

s independent of balance

s a Schmitt trigger help in debouncing a mechanical switch?

amplifying the switch signal

providing a noise-immune output

reducing power consumption

introducing noise to the circuit

Question ID : **630680505267**
Option 1 ID : **6306801974599**
Option 2 ID : **6306801974597**
Option 3 ID : **6306801974598**
Option 4 ID : **6306801974600**
Status : **Answered**
Chosen Option : **2**

the purpose of the guard circuit in a Schering Bridge?

mpensate for temperature changes

iminate stray capacitance

otect against over-voltage

nimize bridge sensitivity

Question ID : **630680505264**
Option 1 ID : **6306801974587**
Option 2 ID : **6306801974588**
Option 3 ID : **6306801974586**
Option 4 ID : **6306801974585**
Status : **Answered**
Chosen Option : **2**

he purpose of the STC instruction in the 8085 microprocessor?

ap Carry and Sign flags

re in the Cache

btract Carry flag

t Carry flag

Question ID : **630680505238**
Option 1 ID : **6306801974483**
Option 2 ID : **6306801974484**
Option 3 ID : **6306801974482**
Option 4 ID : **6306801974481**
Status : **Answered**
Chosen Option : **3**

structure is used to store an ordered, mutable collection of elements in Python?

st

ctionary

ple

f timer is used to delay an action for a specific amount of time after the timer is activated?

cumulating Timer

f-Delay Timer

n-Delay Timer

tentive Timer

what is the typical fan-out for standard TTL gates?

ndustry is a tachometer frequently used for monitoring equipment?

tomotive

althcare

riculture

nstruction

Bridge, how is the precision in measuring the capacitance of a high-voltage capacitor enhanced?

orating a guard ring to minimize errors due to leakage currents

the application of a variable transformer in the circuit

the use of a precision air-gap capacitor as a reference

using a high-frequency excitation source

pe of modulation is commonly used in Bluetooth transmitters?

equency Modulation (FM)

equency Shift Keying (FSK)

ase Shift Keying (PSK)

nplitude Shift Keying (ASK)

he purpose of the RLC instruction in the 8085 microprocessor?

ad and Load Content

set Logic and Control

verse L and C registers

>tate Accumulator Left through Carry

eset to 0 by the ANA instruction in the 8085 microprocessors regardless of the operation's outcome.?

ro flag

rity flag

n flag

rry flag

the purpose of the 'range()' function in Python?

generate a sequence of numbers

round a floating-point number

find the square root

calculate the factorial

...or is commonly used for controlling the movement of a robotic joint in IoT applications?

...ectric actuator

...zoelectric actuator

...lenoid actuator

...vo actuator

...the role of a controller in an open-loop system?

...just the input based on the output

...mpare the output with the reference input

...ovide a constant input

...asure the output

...best describes the ability of a Schmitt trigger to have two different threshold levels?

...steresis

...lerance

...nsitivity

...namic range

the primary function of SCADA systems in automation?

bsite development

ployee attendance tracking

entory management

al-time monitoring and control

the purpose of a pneumatic actuator in process control?

generate alarms

measure pressure

control flow by adjusting the valve opening

transmit data wirelessly

he primary function of the Presentation Layer in the OSI Model?

or detection and correction

ta compression and encryption

gical addressing

w control

is the role of the input capacitor a Schmitt trigger circuit,?

provide negative feedback

block DC components

filter high-frequency noise

store energy

of Power MOSFET is known for its high breakdown voltage and ruggedness?

nch MOSFET

MOS

MOS

MOS

ology is commonly used for implementing the fixed OR array in modern PAL devices?

sh memory

olar

MOS

tifuse

the primary function of the Session Layer in the OSI Model?

gical addressing

tablishing, maintaining, and terminating sessions

mpression and decompression

ta encryption

Question ID : **630680505232**
Option 1 ID : **6306801974460**
Option 2 ID : **6306801974458**
Option 3 ID : **6306801974457**
Option 4 ID : **6306801974459**
Status : **Answered**
Chosen Option : **2**

t computing technique is inspired by the process of natural selection?

ural Networks

t Colony Optimization

zzy Logic

netic Algorithms

Question ID : **630680505195**
Option 1 ID : **6306801974310**
Option 2 ID : **6306801974312**
Option 3 ID : **6306801974309**
Option 4 ID : **6306801974311**
Status : **Answered**
Chosen Option : **1**

the main goal of unsupervised learning?

ssification

gression

inforcement

ustering

Question ID : **630680505196**
Option 1 ID : **6306801974313**
Option 2 ID : **6306801974314**
Option 3 ID : **6306801974316**
Option 4 ID : **6306801974315**
Status : **Answered**
Chosen Option : **2**

izontal distance of a point from the instrument, if the staff intercept is 1.6 m. The micrometer reading of the drum of 4.0 and the micrometer screw has 100 threads in 1 cm. The focal length of the objective glass is 300 mm and the strument axis from the centre of the object glass is 150 mm.

54.7

55.7

00.5

7.6

he role of robotics in the automation of warehouse operations?

itomate order fulfillment and inventory management

omote inefficiency

rease manual labor

w down processes

gger, what is the relationship between the hysteresis width and the positive feedback resistor value?

ersely proportional

rectly proportional

ponential

relationship

of vehicle component is often connected to a tachometer in automobiles?

el tank

ansmission

ering wheel

ake system

pe of device is a tachometer?

nperature sensor

eedometer

essure gauge

otation measuring device

layer does the TCP protocol operate in the OSI Model?

ta Link Layer

ssion Layer

twork Layer

ansport Layer

35 microprocessor, what is the function of the SHLD instruction?

ap H and L Direct

btract H and L Direct

ift Accumulator Left Double

ore H and L Direct

ing a Schering Bridge, what is commonly used as a standard reference?

r capacitor

ndard resistor

riable transformer

ecision inductor

us, what is the function code for writing multiple coils?

nction Code 16

nction Code 15

nction Code 05

nction Code 06

the role of the internal standard in Flame Photometry?

librate the instrument

onitor instrument drift

bilize the flame

hance sensitivity

owing types of sensors used in breathalyzers operates on the principle of change in resistance of semiconductor in lcohol gases.

zoresistive Sensors

ctrochemical fuel cell sensors

rared Optical Sensors

miconductor oxide sensors

le did Henry Ford play in the history of automation?

roduced assembly line production

veloped the steam engine

oneered handcrafted manufacturing

ented the computer

ocess is used to manufacture enhancement-mode GaN transistors?

y etching

ysical Vapor Deposition (PVD)

hography

etal Organic Chemical Vapor Deposition (MOCVD)

Question ID : **630680505235**
Option 1 ID : **6306801974469**
Option 2 ID : **6306801974472**
Option 3 ID : **6306801974471**
Option 4 ID : **6306801974470**
Status : **Answered**
Chosen Option : **2**

es the term "local minimum" refer to in optimization?

solution that is only optimal in a small region

e smallest value of a function

e maximum value of a function

solution that is optimal globally

Question ID : **630680505217**
Option 1 ID : **6306801974399**
Option 2 ID : **6306801974397**
Option 3 ID : **6306801974400**
Option 4 ID : **6306801974398**
Status : **Answered**
Chosen Option : **1**

the primary purpose of the fixed OR array in PAL devices?

plements combinational logic

cilitates programming

plements sequential logic

res configuration data

Question ID : **630680505275**
Option 1 ID : **6306801974631**
Option 2 ID : **6306801974630**
Option 3 ID : **6306801974629**
Option 4 ID : **6306801974632**
Status : **Answered**
Chosen Option : **1**

common method for solving linear programming problems?

mplex method

nulated annealing

netic algorithm

rticle swarm optimization

of sensor is commonly used for detecting magnetic fields in IoT applications?

roscope

ll effect sensor

rared sensor

ermocouple

r is responsible for determining the rate of change of output voltage in response to a change in input voltage?

nsitivity

ew rate

steresis

namic range

t of the accumulator is 8-bit signed binary, what is the range of values it can represent?

ɔ 255

7 to 128

28 to 127

6 to 255

ts out a total power of 3.06 Watts of 20% AM signal. How much power is contained in each of the sidebands?

6 Watts

9 Watts

Vatts

03 Watts

cument outlines the project's scope, objectives, and constraints?

sk Management Plan

oject Charter

ality Assurance Plan

keholder Analysis

ng a stem movement at full travel of 20 mm mounted with a control valve having an equal percentage plug and with
te of 2 m³/s and maximum flow rate of 12 m³/s. When the stem movement is 10 mm, the flow rate will be:

0 m³/s

0 m³/s

0 m³/s

0 m³/s

mponent in a transmitter is responsible for shaping the signal spectrum?

lter

cillator

odulator

tenna

the following is a typical output signal of a pressure transmitter?

w rate

und

mperature

ltage

e of optimization problem is Lagrange Multiplier method most suitable for?

adratic programming

constrained optimization

quality-constrained optimization

quality-constrained optimization

the purpose of a proximity sensor in process control?

detect the presence or absence of an object

generate reports

control actuators

measure pressure

e primary function of a chart recorder in process instrumentation?

store surplus energy

control pressure fluctuations

capture and display historical process data

control actuators

es, what is the typical value of input voltage for a high logic level (V_{IH})?

) V

V

V

V

he role of a centrifugal governor in a mechanical tachometer?

nerate centrifugal force

ntrol temperature

:asure atmospheric pressure

:gulate rotational speed

:r unit is expected to run continuously. The mean time between failure (MTBF) for this unit is 3,000 hours and the
air (MTTR) is 24 hours. The availability of the air conditioning unit is (up to three decimal places).

89

76

45

)92

e primary advantage of using a quartz crystal microbalance (QCM) sensor?

w response time

w sensitivity to temperature changes

gh sensitivity to specific gases

xpensive

does EDMI play in promoting sustainability in energy management?

las no impact on sustainability

limiting data visibility

increasing energy consumption

promoting energy conservation

the purpose of a watchdog timer in a DCS system?

control the temperature of the control room

r the system's health and initiate corrective actions in case of a failure

count the number of operator actions

regulate communication between field devices

cope definition important in project management?

stablishes project timelines

elps in cutting costs

larifies project boundaries and deliverables

educes team workload

Question ID : **630680505201**
Option 1 ID : **6306801974334**
Option 2 ID : **6306801974333**
Option 3 ID : **6306801974335**
Option 4 ID : **6306801974336**
Status : **Answered**
Chosen Option : **3**

the primary characteristic of an open-loop control system?

edback is used

feedback is used

her feedback or feedforward is used

th feedback and feedforward are used

Question ID : **630680505249**
Option 1 ID : **6306801974525**
Option 2 ID : **6306801974526**
Option 3 ID : **6306801974528**
Option 4 ID : **6306801974527**
Status : **Answered**
Chosen Option : **2**

transmitters essential in the field of home automation?

receive TV signals

encrypt Wi-Fi signals

control household appliances

monitor energy consumption

Question ID : **630680505244**
Option 1 ID : **6306801974505**
Option 2 ID : **6306801974507**
Option 3 ID : **6306801974508**
Option 4 ID : **6306801974506**
Status : **Answered**
Chosen Option : **4**

ment is commonly used as an internal standard in Flame Photometry?

dium

lcium

thium

tassium

en loop DC gain if the closed loop transfer function is $(6s+2)/(6s^2+8s+8)$ with unity feedback factor.

3

3

6

the significance of the "body effect" in Power MOSFETs?

fluences the threshold voltage

termines the gate-source voltage

hances thermal stability

fects the drain-source voltage

the acronym RACI stand for in the context of project management documents?

source Allocation and Cost Integration

sponsible, Accountable, Consulted, Informed

quirements Analysis and Change Implementation

k Assessment and Control Information

Question ID : **630680505203**
Option 1 ID : **6306801974342**
Option 2 ID : **6306801974344**
Option 3 ID : **6306801974343**
Option 4 ID : **6306801974341**
Status : **Answered**
Chosen Option : **4**

what is the purpose of a pull-up resistor?

prove noise immunity

rease fan-out

duce power consumption

ovide biasing

Question ID : **630680505272**
Option 1 ID : **6306801974619**
Option 2 ID : **6306801974617**
Option 3 ID : **6306801974620**
Option 4 ID : **6306801974618**
Status : **Answered**
Chosen Option : **4**