Andhra Pradesh State Council of Higher Education

Notations :

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

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

Question Paper Name :	Electrical and Electronics Engineering 5th May 2024 Shift 1
Duration :	120
Total Marks :	140
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No

Show Progress Bar :	No
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Research Methodology

Section Id :	971036561
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	66
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 1 Question Id : 97103639481 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the primary focus of Reflective Teaching?

Options :

1. ✖ Memorization

2. ✖ Understanding

3. ✔ Critical thinking

4. ✖ Repetition

Question Number : 2 Question Id : 97103639482 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the characteristics of adult learners?

Options :

1. ✖ Dependence on the teacher

2. ✔ Students have their own motivation

3. ✖ Passive learning style

4. ✖ Fixed mindset

Question Number : 3 Question Id : 97103639483 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In teaching, what does the term "Learner centred" approach emphasize?

Options :

1. ✖ Teacher's authority

2. ✔ Student involvement and active participation

3. ✖ Memorization of facts

4. ✖ Rote learning

Question Number : 4 Question Id : 97103639484 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is an example of an online teaching platform?

Options :

1. ✖ Digital Repository

2. ✖ Virtual Symposium

3. ✔ Swayam Prabha

4. ✖ Cybernetic Laboratory

Question Number : 5 Question Id : 97103639485 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is a key characteristic of modern evaluation system?

Options :

1. ✖ Rigid structure

2. ✖ Sole reliance on exams

3. ✔ Continuous assessment

4. ✖ Limited feedback

Question Number : 6 Question Id : 97103639486 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the purpose of a VPN (Virtual Private Network) in ICT?

Options :

1. ✔ To provide a secure connection over a public network

2. ✖ To increase computer speed

3. ✖ To enhance graphics processing

4. ✖ To store large amounts of data

Question Number : 7 Question Id : 97103639487 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the main purpose of Computer-Based Testing (CBT) in education?

Options :

1. ✖ Simplify teacher workload

2.

✖ Increase paper usage

3. ✔ Enhance test security

4. ✖ Reduce access to exams

Question Number : 8 Question Id : 97103639488 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the key characteristic of a quantitative research method?

Options :

1. ✖ Emphasis on subjective experiences

2. ✔ Focus on numbers and statistical analysis

3. ✖ Narrative storytelling

4. ✖ Historical analysis

Question Number : 9 Question Id : 97103639489 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the primary goal of descriptive research?

Options :

1.

✖ Establishing cause and effect relationships

2. ✖ Exploring new theories

3. ✔ Describing and summarizing data

4. ✖ Analysing historical events

Question Number : 10 Question Id : 97103639490 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which approach to research emphasizes the objective measurement of observable phenomena?

Options :

1. ✖ Qualitative approach

2. ✖ Historical approach

3. ✔ Positivistic approach

4. ✖ Post-positivistic approach

Question Number : 11 Question Id : 97103639491 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

What is common characteristic of qualitative research methods?

Options :

1. ✖ Large sample sizes

2. ✖ Emphasis on statistical analysis

3. ✔ In-depth exploration of phenomena

4. ✖ Experimental manipulations

Question Number : 12 Question Id : 97103639492 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the first step in the research process?

Options :

1. ✖ Analysis of findings

2. ✔ Formulation of research questions

3. ✖ Data Collection

4. ✖ Conducting literature review

Question Number : 13 Question Id : 97103639493 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In research writing, what is the purpose of referencing?

Options :

1. ✖ To confuse the reader

2. ✖ To demonstrate the author's intelligence

3. ✔ To enable verification

4. ✖ To save space in the document

Question Number : 14 Question Id : 97103639494 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How does ICT (Information and Communication Technology) contribute to research?

Options :

1. ✖ By discouraging collaboration

2. ✖ By limiting access to information

3. ✔ By facilitating data collection, analysis, and dissemination

4. ✖ By promoting unethical practices

Question Number : 15 Question Id : 97103639495 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the key characteristic of effective communication?

Options :

1. ✖ Confusion

2. ✖ Misunderstanding

3. ✔ Clarity

4. ✖ Ambiguity

Question Number : 16 Question Id : 97103639496 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is an example of non-verbal communication?

Options :

1. ✖ Written letter

2. ✖ Text message

3. ✔ Facial expressions

4. ✖ Phone call

Question Number : 17 Question Id : 97103639497 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which ICT tool is used for storing, organizing, and manipulating data?

Options :

1. ✖ Browser

2. ✔ Spreadsheet

3. ✖ Presentation software

4. ✖ Email client

Question Number : 18 Question Id : 97103639498 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a classroom setting, what is an essential aspect of effective communication?

Options :

1. ✖ One-way communication

2. ✖ Lack of feedback

3. ✔ Clear instructions and feedback

4. ✖ Ambiguous messages

Question Number : 19 Question Id : 97103639499 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is a common barrier to effective communication?

Options :

1. ✖ Active listening

2. ✖ Clarity in expression

3. ✔ Language differences

4. ✖ Open communication channels

Question Number : 20 Question Id : 97103639500 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which form of communication reaches a large and diverse audience simultaneously?

Options :

1. ✖ Interpersonal communication

2. ✖ Group communication

3. ✔ Mass-Media communication

4. ✖ Intra-cultural communication

Is Section Default? : null

Question Id : 97103639501 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (21 to 25)

Read the Passage and answer the following questions:

In terms of labour, for decades the relatively low cost and high quality of Japanese workers conferred considerable competitive advantage across numerous durable goods and consumer electronics industries (eg. Machinery, automobiles, televisions, radios). Then labour-based advantages shifted to South Korea, then to Malaysia, Mexico and other nations. Today, China appears to be capitalizing best on the basis of labour. Japanese firms still remain competitive in markets for such durable goods, electronics and other products, but the labour force is no longer sufficient for competitive advantage over manufacturers in other industrializing nations. Such shifting of labour-based advantage is clearly not limited to manufacturing industries. Today, a huge number of IT and service jobs are moving from Europe and North America to India, Singapore, and like countries with relatively well-educated, low-cost workforces possessing technical skills. However, as educational levels and technical skills continue to rise in other countries, India, Singapore, and like nations enjoying labour-based competitive advantage today are likely to find such advantage cannot be sustained through emergence of new competitors. In terms of capital, for centuries the days of gold coins and later even paper money restricted financial flows. Subsequently regional concentrations were formed where large banks, industries and markets coalesced. But today capital flows internationally at rapid speed. Global commerce no longer requires regional interactions among business players. Regional capital concentrations in places such as New York, London and Tokyo still persist, of course, but the capital concentrated there is no longer sufficient for competitive advantage over other capitalists distributed worldwide. Only if an organization is able to combine, integrate and apply its resources (eg. Land, labour, capital, IT) in an effective manner that is not readily imitable by competitors can such an organization enjoy competitive advantage sustainable overtime. In a knowledge-based theory of the firm, this idea is extended to view organizational knowledge as a resource with atleast the same level of power and importance as the traditional economic inputs.

Sub questions

Question Number : 21 Question Id : 97103639502 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which country enjoyed competitive advantages in automobile industry for decades?

Options :

1. ✖ South Korea

2. ✔ Japan

3. ✖ Mexico

4. ✖ Malaysia

Question Number : 22 Question Id : 97103639503 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Why labour-based competitive advantages of India and Singapore cannot be sustained in IT and service sectors?

Options :

1. ✖ Due to diminishing levels of skill

2. ✖ Due to capital-intensive technology making inroads

3. ✔ Because of new competitors

4. ✖ Because of shifting of labour-based advantage in manufacturing industries.

Question Number : 23 Question Id : 97103639504 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How can an organisation enjoy competitive advantage sustainable overtime?

Options :

1. ✖ Through regional capital flows

2. ✖ Through regional interactions among business players.

3. ✖ By making large banks, industries and markets coalesced.

4. ✔ By effective use of various instrumentalities

Question Number : 24 Question Id : 97103639505 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is required to ensure competitive advantages in specific markets?

Options :

1. ✖ Access to capital

2. ✖ Common office buildings

3. ✔ Superior knowledge

4. ✖ Common metals

Question Number : 25 Question Id : 97103639506 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The passage also mentions about the trend of

Options :

1. ✔ Global financial flow

2. ✖ Absence of competition in manufacturing industry

3. ✖ Regionalisation of capitalists

4. ✖ Organizational incompatibility

Is Section Default? : null

Question Number : 26 Question Id : 97103639507 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the main purpose of mass-media in society?

Options :

1. ✖ To confuse people

2. ✖ To entertain only

3. ✔ To inform, educate, and entertain

4. ✖ To restrict information flow

Question Number : 27 Question Id : 97103639508 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What can enhance group communication?

Options :

1. ✖ Lack of diversity in the group

2. ✖ Conflict avoidance

3. ✔ Open and honest communication

4. ✖ Minimal interaction

Question Number : 28 Question Id : 97103639509 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What letter comes next in the series: A, C, E, G, ___?

Options :

1. ✖ H

2. ✔ I

3. ✖ F

4. ✖ J

Question Number : 29 Question Id : 97103639510 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

What is the next number in the series: 2, 5, 10, 17, ___?

Options :

1. ✖ 22

2. ✖ 24

3. ✔ 26

4. ✖ 28

Question Number : 30 Question Id : 97103639511 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the missing number in the series: 8, 12, 18, __, 36?

Options :

1. ✖ 22

2. ✖ 24

3. ✖ 25

4. ✔ 26

Question Number : 31 Question Id : 97103639512 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the price of a product increases from Rs.50 to Rs.60, what is the percentage increase?

Options :

1. ✖ 10%

2. ✖ 15%

3. ✔ 20%

4. ✖ 25%

Question Number : 32 Question Id : 97103639513 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the cost price of an item is $40 and it is sold for $60, what is the profit percentage?

Options :

1. ✖ 20%

2. ✖ 30%

3. ✖ 40%

4. ✔ 50%

Question Number : 33 Question Id : 97103639514 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a shirt is purchased for Rs.30 and sold for Rs.25, what is the loss incurred?

Options :

1. ✔ Rs.5

2. ✖ Rs.10

3. ✖ Rs.15

4. ✖ Rs.20

Question Number : 34 Question Id : 97103639515 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the interest is calculated on both the principal and accumulated interest,
it is known as

Options :

1. ✖ Simple Interest

2. ✔ Compound Interest

3. ✖ Discounting

4. ✖ Percentage

Question Number : 35 Question Id : 97103639516 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a car travels at a speed of 60 km/h, how far will it travel in 2 hours?

Options :

1. ✖ 150 km

2. ✔ 120 km

3. ✖ 180 km

4. ✖ 90 km

Question Number : 36 Question Id : 97103639517 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the classical square of opposition used for in logic?

Options :

1. ✖ Evaluating analogies

2. ✔ Establishing the validity of arguments

3. ✖ Distinguishing deductive and inductive reasoning

4. ✖ Analysing fallacies

Question Number : 37 Question Id : 97103639518 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The structure of categorical propositions in logic are typically represented by

Options :

1. ✔ Venn diagrams

2. ✖ Analogies

3. ✖ Indian Logic

4. ✖ Deductive reasoning

Question Number : 38 Question Id : 97103639519 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which type of reasoning involves drawing specific conclusions from general principles?

Options :

1. ✖ Deductive reasoning

2. ✔ Inductive reasoning

3. ✖ Analogical reasoning

4. ✖ Fallacious reasoning

Question Number : 39 Question Id : 97103639520 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the purpose of a QR code in ICT?

Options :

1. ✖ To send emails

2. ✖ To scan documents

3. ✔ To store and retrieve information quickly

4. ✖ To create animations

Question Number : 40 Question Id : 97103639521 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which Indian Pramana deals with verbal testimony as a means of knowledge?

Options :

1. ✖ Pratyaksha

2. ✖ Anumana

3. ✔ Shabda

4. ✖ Upamana

Question Number : 41 Question Id : 97103639522 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is an example of cloud computing service in ICT?

Options :

1. ✖ Microsoft Excel

2. ✔ Google Drive

3. ✖ Adobe Photoshop

4. ✖ Windows Media Player

Question Number : 42 Question Id : 97103639523 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is causation in research?

Options :

1. ✖ The process of proving a hypothesis

2. ✖ The final conclusion of a research study

3. ✖ The outcome of hypothesis testing

4. ✔ The relationship between variables where one influences the other

Question Number : 43 Question Id : 97103639524 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the type of argument presented: ' just as a sword is the weapon of a warrior, a pen is the weapon of a writer'.

Options :

1. ✔ Analogical

2. ✖ Deductive

3. ✖ Inductive

4. ✖ Hypothetical

Question Number : 44 Question Id : 97103639525 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Study the following table and answer the questions given below it.
Production of sugar by six major production units of India in Million Tonnes

PRODUCTION UNITS						
MONTH	A	B	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In which month the unit B has a contribution of approximately 15% in the total sugar production?

Options :

1. ✖ August

2. ✖ June

3. ✔ July

4. ✖ April

Question Number : 45 Question Id : 97103639526 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Study the following table and answer the questions given below it.
Production of sugar by six major production units of India in Million Tonnes

PRODUCTION UNITS						
MONTH	A	B	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

Which of the following units shows continuous increase in the production of sugar over months?

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 46 Question Id : 97103639527 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Study the following table and answer the questions given below it.
Production of sugar by six major production units of India in Million Tonnes

PRODUCTION UNITS						
MONTH	A	B	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In the case of Unit E, in which of the following pairs of months the production of sugar was equal?

Options :

1. ✖ April & June

2. ✖ June & July

3. ✖ July & August

4. ✔ April & May

Question Number : 47 Question Id : 97103639528 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Study the following table and answer the questions given below it.
Production of sugar by six major production units of India in Million Tonnes

PRODUCTION UNITS						
MONTH	A	B	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

In the month of June, how many units have a share of more than 25% of the total production of sugar?

Options :

1. ✔ One

2. ✖ Three

3. ✖ Two

4. ✖ Four

Question Number : 48 Question Id : 97103639529 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Study the following table and answer the questions given below it.
Production of sugar by six major production units of India in Million Tonnes

PRODUCTION UNITS						
MONTH	A	B	C	D	E	F
APRIL	310	180	169	137	140	120
MAY	318	179	177	162	140	122
JUNE	320	160	188	173	135	130
JULY	326	167	187	180	146	130
AUGUST	327	150	185	178	145	120

What was approximate percentage decrease in sugar production of unit B in June as compared to April?

Options :

1. ✖ 8 %

2. ✔ 10 %

3. ✖ 15 %

4. ✖ 18 %

Question Number : 49 Question Id : 97103639530 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is considered as scientific misconduct?

Options :

1. ✔ Redundant publications

2. ✖ Transparent reporting of research methods

3. ✖ Acknowledging sources properly

4. ✖ Conducting research with integrity

Question Number : 50 Question Id : 97103639531 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which term refers to communication within an organization's internal network?

Options :

1. ✖ Internet

2. ✔ Intranet

3. ✖ E-mail

4. ✖ Extranet

Question Number : 51 Question Id : 97103639532 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the primary purpose of a web browser?

Options :

1. ✖ Sending emails

2. ✔ Accessing websites

3. ✖ Creating documents

4. ✖ Playing videos

Question Number : 52 Question Id : 97103639533 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is a digital initiative in higher education?

Options :

1. ✖ Sending traditional mail

2. ✔ Conducting online courses

3. ✖ Using landline phones

4. ✖ Reading printed textbooks

Question Number : 53 Question Id : 97103639534 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does "CC" stand for in an email?

Options :

1. ✔ Carbon Copy

2. ✖ Courtesy Copy

3. ✖ Computer Copy

4. ✖ Central Copy

Question Number : 54 Question Id : 97103639535 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the main advantage of audio-conferencing?

Options :

1. ✖ Real-time visual interaction

2. ✔ Cost-effectiveness

3. ✖ Faster data transmission

4. ✖ Physical presence required

Question Number : 55 Question Id : 97103639536 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How does ICT contribute to governance?

Options :

1. ✖ By slowing down bureaucratic processes

2. ✖ By reducing transparency

3. ✔ By improving communication and decision-making

4. ✖ By increasing paperwork

Question Number : 56 Question Id : 97103639537 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a research study investigating the relationship between sleep duration and academic performance, "sleep duration" is an example of a

Options :

1. ✖ Hypothesis

2. ✖ Concept

3. ✔ Variable

4. ✖ Causation

Question Number : 57 Question Id : 97103639538 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the context of ICT, what does the term "Extranet" refer to?

Options :

1. ✖ Communication within an organization

2. ✖ Publicly accessible network

3. ✔ Restricted network for specific users

4. ✖ Email communication

Question Number : 58 Question Id : 97103639539 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which set of goals focuses on ending poverty, ensuring health, education, and environmental sustainability worldwide?

Options :

1. ✖ Kyoto Protocol

2. ✖ Rio Summit Goals

3. ✔ Sustainable Development Goals

4. ✖ Montreal Protocol

Question Number : 59 Question Id : 97103639540 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the term for human-induced activities that have a significant impact on the environment?

Options :

1. ✖ Natural activities

2. ✔ Anthropogenic activities

3. ✖ Environmental activities

4. ✖ Sustainable activities

Question Number : 60 Question Id : 97103639541 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which software tool is commonly used for statistical analysis in research?

Options :

1. ✖ Microsoft Excel

2. ✖ Adobe Photoshop

3. ✔ SPSS (Statistical Package for the Social Sciences)

4. ✖ Microsoft Word

Question Number : 61 Question Id : 97103639542 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the significance of using graphics in data presentation?

Options :

1. ✖ To confuse readers

2. ✖ To hide important findings

3. ✔ To simplify complex data

4. ✖ To increase word count

Question Number : 62 Question Id : 97103639543 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which resource is classified as a renewable energy source?

Options :

1. ✖ Nuclear energy

2.

✖ Fossil fuels

3. ✔ Solar energy

4. ✖ Geothermal energy

Question Number : 63 Question Id : 97103639544 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What international agreement aims to phase out substances responsible for ozone depletion?

Options :

1. ✖ Rio Summit

2. ✔ Montreal Protocol

3. ✖ Kyoto Protocol

4. ✖ Paris Agreement

Question Number : 64 Question Id : 97103639545 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What type of learning was emphasized in ancient India, focusing on traditional subjects like philosophy and literature?

Options :

1. ✖ Non-conventional learning

2. ✔ Conventional learning

3. ✖ Technical education

4. ✖ Skill-based education

Question Number : 65 Question Id : 97103639546 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

National Sample Survey Organization conducts survey on education and employment every _____.

Options :

1. ✖ One year

2. ✔ Five years

3. ✖ Six years

4. ✖ Ten years

Question Number : 66 Question Id : 97103639547 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

What marked the evolution of higher learning and research in Post Independence India?

Options :

1. ✖ Shift towards skill-based education

2. ✖ Emphasis on non-conventional learning

3. ✔ Establishment of new institutions and universities

4. ✖ Decline in professional education

Question Number : 67 Question Id : 97103639548 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does plagiarism refer to in research ethics?

Options :

1. ✖ Collaborating with other researchers

2. ✖ Citing sources properly

3. ✔ Using someone else's ideas without credit

4. ✖ Sharing research findings openly

Question Number : 68 Question Id : 97103639549 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

ICSSR is promoting research in the field of ----------.

Options :

1. ✖ Sciences

2. ✖ Technical education

3. ✔ Social sciences

4. ✖ Medicine

Question Number : 69 Question Id : 97103639550 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What aspect of education is concerned with the moral and ethical development of students?

Options :

1. ✖ Skill-based education

2. ✔ Value education

3. ✖ Technical education

4. ✖ Non-conventional learning

Question Number : 70 Question Id : 97103639551 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which Indian city hosted the 2023 International Film Festival of India (IFFI)?

Options :

1. ✖ Mumbai

2. ✖ Hyderabad

3. ✔ Goa

4. ✖ Kolkata

Electrical and Electronics Engineering

Section Id :	971036562
Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	70
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 71 Question Id : 97103639552 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let A be a 2×2 real matrix with det A = 1 and trace A = 3. What is the value of trace A^2?

Options :

1. ✖ 2

2. ✖ 10

3. ✖ 9

4. ✔ 7

Question Number : 72 Question Id : 97103639553 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find an Eigen value and a corresponding Eigen vector for the given matrix $A = \begin{bmatrix} 3 & 4 & 2 \\ 1 & 6 & 2 \\ 1 & 4 & 4 \end{bmatrix}$

Options :

1. ✔ $3, \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$

2. ✖

9, $\begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$

3. ✖ 9, $\begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}$

4. ✖ 2, $\begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}$

Question Number : 73 Question Id : 97103639554 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The differential equation $\frac{d^2y}{dx^2} - y = \frac{2}{1+e^x}$ is solved by the method of variation of parameters, then the Wronskian =

Options :

1. ✔ -2

2. ✖ -4

3. ✖ 4

4. ✖ -8

Question Number : 74 Question Id : 97103639555 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Solve $\left(x^2-y^2\right)dx - xydy = 0$

Options :

1. ✖ $x^2\left(x^2+2y^2\right)=\text{constant}$

2. ✖ $x^2\left(x^2+3y^2\right)=\text{constant}$

3. ✔ $x^2\left(x^2-2y^2\right)=\text{constant}$

4. ✖ $x^2\left(2x^2-2y^2\right)=\text{constant}$

Question Number : 75 Question Id : 97103639556 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let X be a Normal random variable with mean zero and variance 9. If $a = P(x \geq 3)$, then

$p(-3 \leq x \leq 3) =$

Options :

1. ✖ a

2. ✖ $2a$

3. ✔ $1-2a$

4. ✖ $1-a$

Question Number : 76 Question Id : 97103639557 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the Laplace Transforms of a function $f(t)$ is given by $\frac{(s+3)}{(s+1)(s+2)}$ then $f(0)$ is

Options :

1. ✔ $\frac{3}{2}$

2. ✖ $\frac{1}{2}$

3. ✖ 0

4. ✖ 1

Question Number : 77 Question Id : 97103639558 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The value of the integral $\oint_c \frac{e^z}{z^2-1} dz$ where $c : |1-z| = 1$ is

Options :

1. ✖ 0

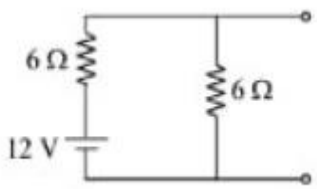
2. ✔ $(\pi i)\, e$

3. ✖ $(\pi i)\, e - (\pi i)\, e^{-1}$

4. ✖ $e + e^{-1}$

Question Number : 78 Question Id : 97103639559 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Thevenin's voltage and resistance of the circuit shown in figure is



Options :

1. ✖ V_{th}= 6 V and R_{th}=12 Ω

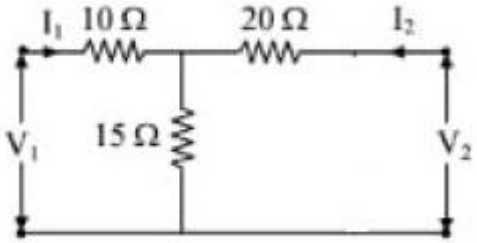
2. ✖ V_{th}= 3 V and R_{th}=3 Ω

3. ✖ V_{th}= 3 V and R_{th}=12 Ω

4. ✔ V_{th}= 6 V and R_{th}=3 Ω

Question Number : 79 Question Id : 97103639560 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The parameter Z_{11} of the below circuit is



Options :

1. ✖ 15 Ω

2. ✖ 10 Ω

3. ✔ 25 Ω

4. ✖ 35 Ω

Question Number : 80 Question Id : 97103639561 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following theorem can be applied to the circuit without considering whether it is linear or non-linear, active or passive and time variant or time invariant?

Options :

1. ✔ Tellegen's theorem

2. ✖ Thevenin's theorem

3. ✖ Norton's theorem

4. ✖ Dimension theorem

Question Number : 81 Question Id : 97103639562 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Change in the voltage of the circuit will affect _____

Options :

1. ✖ Bandwidth

2. ✖ Resonant frequency

3. ✖ Quality factor

4. ✔ Current

Question Number : 82 Question Id : 97103639563 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the power factor of a series RLC circuit under resonance condition?

Options :

1. ✖ 0.707 lagging

2. ✖ 0.707 leading

3. ✔ Unity

4. ✖ Can't find

Question Number : 83 Question Id : 97103639564 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The number of independent loops in a network with number of N nodes and B branches will be

Options :

1. ✖ N

2. ✖ N–1

3. ✖ B–N

4. ✔ B–N+1

Question Number : 84 Question Id : 97103639565 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A DC voltage is applied to a series RLC circuit, under steady state condition the entire DC voltage will appear across

Options :

1. ✖ R

2. ✖ L

3. ✔ C

4. ✖ LC combination

Question Number : 85 Question Id : 97103639566 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A long straight wire of circular cross section, radius 'a' has uniform current distribution. What is the expression of its internal inductance?

Options :

1. ✖ $\frac{\mu}{4\pi}$

2. ✔ $\frac{\mu}{8\pi}$

3. ✖ $\frac{\mu}{4\pi}\cos^{-1} d$

4. ✖ $\frac{\mu}{2\pi}\ln\frac{a}{(i)}$

Question Number : 86 Question Id : 97103639567 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Amperes circuital state that ____

Options :

1. ✖ The line integral of H along any closed path is exactly equal to the indirect current enclosed by the path

2. ✖ The line integral of H along any closed path is exactly opposite to the indirect current enclosed by the path

3. ✔ The line integral of H along any closed path is exactly equal to the direct current enclosed by the path

4. ✖ The line integral of H along any closed path is exactly opposite to the direct current enclosed by the path

Question Number : 87 Question Id : 97103639568 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a dielectric placed in an electric field, the field strength

Options :

1. ✖ Increase

2. ✔ Decrease

3. ✖ Remain unchanged

4. ✖ Reduce to zero

Question Number : 88 Question Id : 97103639569 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Calculate the amount of point charge at the origin given that the potential at (-2,3,1) is 36V and reference is taken to be at infinity.

Options :

1. ✖ Q = 7.5 nC

2. ✖ $Q = 30$ nC

3. ✖ $Q = 1.5$ nC

4. ✔ $Q = 15$ nC

Question Number : 89 Question Id : 97103639570 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Match the following equations to their respective theorems.

Theorem	Equation
I. Maxwell second equation	1. $\nabla . D = \rho_v$
II. Maxwell first equation	2. $\nabla \times E = -\frac{\partial B}{\partial t}$
III. Maxwell third equation	3. $\nabla \times H = J + \frac{\partial D}{\partial t}$

Options :

1. ✖ I-1, II-2, III-3

2. ✔ I-2, II-1, III-3

3. ✖ I-1, II-3, III-2

4. ✖ I-2, II-3, III-1

Question Number : 90 Question Id : 97103639571 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statement is correct regarding 'Divergence theorem'

I. The divergence theorem applies to any volume 'V' that is bounded by surface 'S'

II. The direction of 'ds' is always that of the out ward normal, perpendicular to the surface 'ds' and directed away from the volume.

Options :

1. ✔ Both I and II

2. ✖ Only I

3. ✖ Only II

4. ✖ None of the above

Question Number : 91 Question Id : 97103639572 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find H =_____A/m at the center of a circular coil of diameter 1m and carrying a current of 2A.

Options :

1. ✖ 6.366

2. ✖ 0.6366

3. ✖ 1

4. ✔ 2

Question Number : 92 Question Id : 97103639573 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The system y(n) = Ax(n)+B is

Options :

1. ✔ Non-linear & time invariant.

2. ✖ Linear & time invariant

3. ✖ Non-linear & time variant

4. ✖ Linear & time variant

Question Number : 93 Question Id : 97103639574 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The relation between S-plane and Z-plane is

Options :

1. ✖ $S = e^{ZT}$

2. ✔ $Z = e^{ST}$

3. ✖ $Z = \log (ST)$

4. ✖ $S = \log (ZT)$

Question Number : 94 Question Id : 97103639575 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the simplified value of y(n), if $y(n) = \Sigma_{n=-8}^{8} \sin(2n)\,\delta(n+9)$?

Options :

1. ✖ Sin 16

2. ✖ ∞

3. ✖ 1

4. ✔ 0

Question Number : 95 Question Id : 97103639576 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a signal x(t) is imaginary, its Fourier spectrum X(f) satisfies

Options :

1. ✖ $X^*(f) = X(f)$

2. ✖ $X^*(f) = X(-f)$

3. ✔ $X^*(f) = -X(-f)$

4. ✖ $X^*(f) = -X(f)$

Question Number : 96 Question Id : 97103639577 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Laplace transform of $\delta(2t)$ and $u(2t)$ are respectively given by

Options :

1. ✖ $1, (1/s)$

2. ✔ $(1/2), (1/s)$

3. ✖ $(1/s), (1/2)$

4. ✖ $s, (1/s)$

Question Number : 97 Question Id : 97103639578 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let $x(n) = r(n) - r(n-1)$, where $r(n)$ is a unit ramp sequence. The Z- transform of $x(n)$ is

Options :

1. ✔ $\frac{1}{z-1}, |z| > 1$

2. ✖ $\frac{z}{z-1}, |z| > 1$

3. ✖ $\frac{1}{z-1}, |z| < 1$

4. ✖ $\frac{z}{z-1}, |z| < 1$

Question Number : 98 Question Id : 97103639579 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Let x (n) be a discrete time signal and let $y_1(n) = x(2n)$ and $y_2(n) = \begin{cases} x\left(\frac{n}{2}\right), & \text{'n' even} \\ 0, & \text{'n' odd} \end{cases}$

Consider the following statements:

I. If x(n) is periodic, then $y_1(n)$ is periodic.

II. If x(n) is periodic, then $y_2(n)$ is periodic.

III. If $y_2(n)$ is periodic, then x(n) is periodic.

Then

Options :

1. ✔ All the statements are true.

2. ✖ Only I and II are true.

3. ✖ Only II and III are true.

4. ✖ Only I is true.

Question Number : 99 Question Id : 97103639580 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The percentage resistance and reactance of a transformer are 3% and 6% respectively.

The approximate regulation on full load at 0.8 pf lag is

Options :

1. ✔ 6%

2. ✖ 10%

3. ✖ 8%

4. ✖ 4%

Question Number : 100 Question Id : 97103639581 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The speed of a DC shunt motor may be varied by varying

1. Field current
2. Supply voltage
3. Armature current

Select the correct answer using the code given below:

Options :

1. ✖ 1 and 2

2. ✖ 2 and 3

3. ✖ 1 and 3

4. ✔ 1, 2 and 3

Question Number : 101 Question Id : 97103639582 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the armature current is increased to double its previous value, and the time of commutation is doubled, how will the reactance voltage vary?

Options :

1. ✖ It will be halved

2. ✔ It will remain the same

3. ✖ It will be doubled

4. ✖ It will become four times

Question Number : 102 Question Id : 97103639583 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which one of the following statements is correct in respect of an induction motor?

Options :

1. ✖ The maximum torque will depend on rotor resistance

2. ✖ The slip of induction motor decreases as torque increases

3. ✔ The maximum torque will be independent on rotor resistance

4. ✖ The maximum torque will not depend on standstill rotor reactance

Question Number : 103 Question Id : 97103639584 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A 6-pole single phase induction motor is running at 940 rpm. What is its slip with respect to forward and backward fields, respectively?

Options :

1. ✖ 0.08, 2.0

2. ✖ 0.04, 1.84

3. ✖ 2.0, 0.06

4. ✔ 0.06, 1.94

Question Number : 104 Question Id : 97103639585 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The leakage reactance of a three-phase alternator determined by performing

Options :

1. ✔ Open circuit and zero power factor tests

2. ✖ Zero power factor test and slip tests

3. ✖ Open circuit and short circuit tests

4. ✖ Short circuit and slip tests

Question Number : 105 Question Id : 97103639586 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A synchronous motor is operated from a bus voltage of 1.0 p.u. and is drawing 1.0 p.u. zero power factor leading current. Its synchronous reactance is 0.7 p.u. What is the excitation emf of the motor?

Options :

1. ✖ 2.7

2. ✖ 1.0

3. ✔ 0.7

4. ✖ 1.7

Question Number : 106 Question Id : 97103639587 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The operation of a nuclear reactor is controlled by controlling the multiplication factor (K), defined as

$$K = \frac{\text{number of neutrons of any one generation}}{\text{number of neutrons of immediately preceeding generation}}$$

The power-level of the reactor can be increased by

Options :

1. ✖ Raising the value of K above 1 and, keeping it at that raised value

2. ✔ Raising the value of K above 1 and, but later bringing it back to K=1

3. ✖ Lowering the value of K below 1 and, keeping it at that lowered value

4. ✖ Lowering the value of K below 1 and, but later bringing it back to K=1

Question Number : 107 Question Id : 97103639588 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An overhead line with a surge impedance of 400 Ω is connected to a transformer by a short length of cable of surge impedance 100 Ω. If a rectangular surge wave of 40 kV travels along the line towards the cable, then the voltage of the wave travelling from the junction of the overhead line through the cable towards the transformer would be

Options :

1. ✔ 16 kV

2. ✖ 32 kV

3. ✖ 36 kV

4. ✖ 24 kV

Question Number : 108 Question Id : 97103639589 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For a long transmission line, for a particular receiving end voltage, when sending end voltage is calculated, it is more than the actual value when calculated by

Options :

1. ✖ Load end capacitance method

2. ✖ Nominal T method

3. ✔ Nominal π method

4. ✖ Both Nominal T method and Nominal π method

Question Number : 109 Question Id : 97103639590 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A negative sequence relay is commonly used to protect

Options :

1. ✔ An alternator

2. ✖ A transformer

3. ✖ A transmission line

4. ✖ A bus bar

Question Number : 110 Question Id : 97103639591 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The A, B, C, D constants of a 220 kV line are: A = D = $0.94\angle 1^0$, B = $130\angle 73^0$, C = $0.001\angle 90^0$. If the sending voltage of the line for a given load delivered at nominal voltage is 240 kV, the % voltage regulation of the line is

Options :

1. ✖ 5

2. ✖ 9

3. ✔ 16

4. ✖ 21

Question Number : 111 Question Id : 97103639592 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a 14- bus power system network, there are 5 voltage-controlled buses. The size of the Jacobian matrix useful for power flow analysis will be

Options :

1. ✖ 16×16

2. ✖ 23×23

3. ✔ 21×21

4. ✖ 8×8

Question Number : 112 Question Id : 97103639593 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The transient stability of the power system under unbalanced fault conditions can be effectively improved by

Options :

1. ✖ Excitation control

2. ✖ Phase- shifting transformer

3. ✔ Single pole switching of CB

4. ✖ Increasing the turbine input.

Question Number : 113 Question Id : 97103639594 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In translational mechanical system, the damping is generally provided by

Options :

1. ✖ Static friction

2. ✖ Coulomb friction

3. ✖ Spring friction

4. ✔ Viscous friction

Question Number : 114 Question Id : 97103639595 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Advantage of Mason's gain formula

Options :

1. ✖ Applicable to time variant systems

2. ✔ Applicable to linear and time invariant systems

3. ✖ Applicable to non linear systems

4. ✖ Applicable to large number of loops and paths

Question Number : 115 Question Id : 97103639596 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Routh-Hurwitz criteria gives

Options :

1. ✔ Absolute stability and number of roots lying on right half of S-plane

2. ✖ Relative stability

3. ✖ Number of roots lying on right half of S-plane

4. ✖ Absolute stability

Question Number : 116 Question Id : 97103639597 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Addition of a Zero makes a system

Options :

1. ✖ Instable

2. ✔ Stable

3. ✖ Oscillatory

4. ✖ Critically instable

Question Number : 117 Question Id : 97103639598 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Application of Derivative control

Options :

1. ✖ Float valves

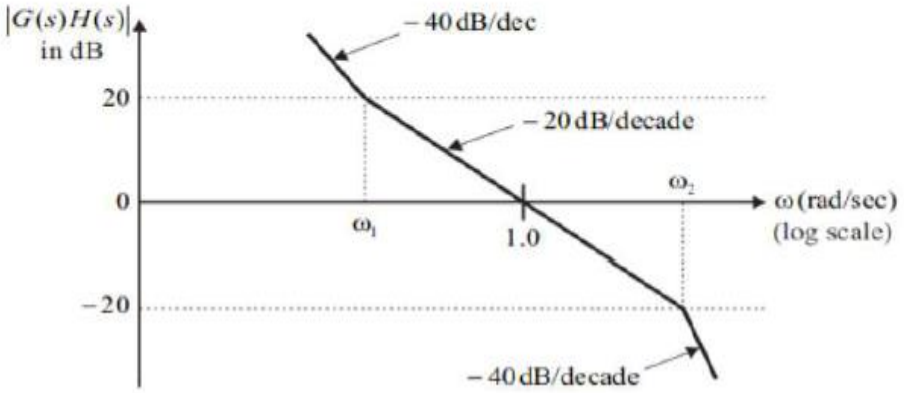
2. ✖ Thermostats

3. ✔ None

4. ✖ Noisy system

Question Number : 118 Question Id : 97103639599 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Consider the asymptotic bode magnitude plot shown in the figure below. Its transfer function is given as $G(s)H(s)=\frac{K.(s+a)}{s^2(s+b)}$. What is the value of a?



Options :

1. ✔ 0.1

2. ✖ 0.2

3. ✖ 0.25

4. ✖ 0.3

Question Number : 119 Question Id : 97103639600 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The state transition matrix for the system $X'=AX$ with initial state $X(0)$ is

Options :

1. ✖ $(sI-A)^{-1}$

2. ✖ $e^{AT}X(0)$

3. ✔ Laplace inverse of $(sI - A)^{-1}$

4. ✖ Laplace inverse of $[(sI - A)^{-1}X(0)]$

Question Number : 120 Question Id : 97103639601 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Hay's bridge is used for measurements of inductance of_____

Options :

1. ✖ Low Q coil

2. ✖ Medium Q coil

3. ✔ High Q coil

4. ✖ Low and medium Q coil

Question Number : 121 Question Id : 97103639602 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

An energy meter having meter constant of 1200 revolutions/Kwh makes 20 revolutions in 30 seconds for a constant load. The load in KW is_____

Options :

1. ✖ 20 KW

2. ✖ 0.02 KW

3. ✖ 0.2 KW

4. ✔ 2 KW

Question Number : 122 Question Id : 97103639603 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To increase the range of a Ammeter

Options :

1. ✖ A low resistance is connected in series

2. ✔ A low resistance is connected in parallel

3. ✖ A high resistance is connected in series

4. ✖ A high resistance is connected in parallel

Question Number : 123 Question Id : 97103639604 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If current through the operating coil of a moving iron instrument is doubled ,the operating force becomes____

Options :

1. ✖ 2 times

2. ✖ 3 times

3. ✔ 4 times

4. ✖ one and half times

Question Number : 124 Question Id : 97103639605 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The operating magnetic field in a permanent magnet moving coil type of instrument has flux density typically about_____

Options :

1. ✔ 0.1 to 1 Wb/m^2

2. ✖ 0.005 to 0.1 Wb/m^2

3. ✖ 0.0005 to 0.0006 Wb/m^2

4. ✖ 0.005 to 0.006 Wb/m^2

Question Number : 125 Question Id : 97103639606 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A 0 to 300 V voltmeter has a guaranteed accuracy of 1% of full-scale reading. The voltage measured by the instrument is 83 V. The percentage limiting error is_____.

Options :

1. ✖ 2.95%

2. ✖ 4.85%

3. ✔ 3.62%

4. ✖ 1.81%

Question Number : 126 Question Id : 97103639607 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The X -input and Y-input to a CRO are $5\cos(\omega t+\phi)$ and $5\sin(\omega t+\phi)$, respectively. What will be the resulting Lissajous pattern?

Options :

1. ✖ A straight line inclined to an angle ϕ

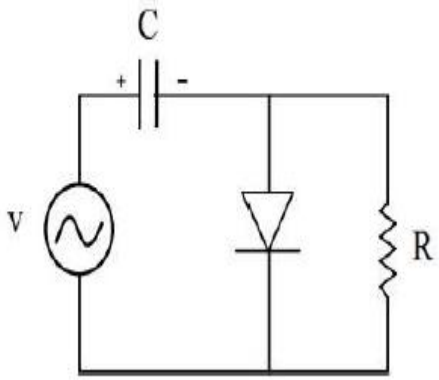
2. ✖ An ellipse with an inclined major axis

3. ✔ A circle

4. ✖ A horizontal line

Question Number : 127 Question Id : 97103639608 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the circuit shown has to function as a clamping circuit, which one of the following conditions should be satisfied for sinusoidal signal of period T?



Options :

1. ✖ RC<<T

2. ✖ RC=0.36T

3. ✖ RC=T

4. ✔ RC>>T

Question Number : 128 Question Id : 97103639609 Display Question Number : Yes Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the primary function of the base region in a BJT

Options :

1. ✖ To provide structural support

2. ✔ To control the flow of majority carriers from emitter to collector

3. ✖ To act as a majority carrier storage

4. ✖ To increase the breakdown voltage of the transistor

Question Number : 129 Question Id : 97103639610 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Current gain in CB configuration is 0.98 then current gain in CC configuration is _____.

Options :

1. ✖ 50

2. ✖ 1.98

3. ✔ 49

4. ✖ 100

Question Number : 130 Question Id : 97103639611 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

NPN transistor applications

Options :

1. ✖ High voltage applications

2. ✖ High-side switches

3. ✖ Push pull amplifiers

4. ✔ High frequency analog circuits

Question Number : 131 Question Id : 97103639612 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Minimum number of NAND gates are required to implement OR gate is____.

Options :

1. ✖ 1

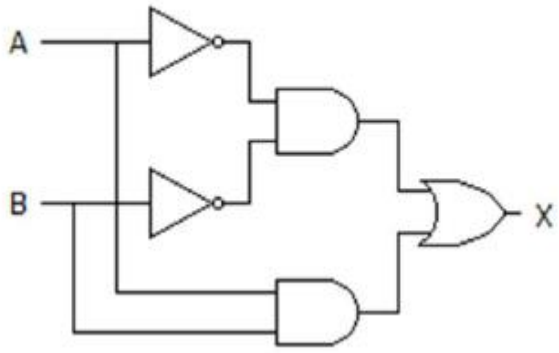
2. ✖ 2

3. ✔ 3

4. ✖ 5

Question Number : 132 Question Id : 97103639613 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What type of logic circuit is represented by the figure shown below?



Options :

1. ✖ NAND

2. ✖ NOR

3. ✔ XOR

4. ✖ XNOR

Question Number : 133 Question Id : 97103639614 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How many bit program counter is available in 8085?

Options :

1. ✖ 4-bit

2. ✖ 8-bit

3. ✔ 16-bit

4. ✖ 32-bit

Question Number : 134 Question Id : 97103639615 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which parameter is crucial for ensuring successful turn-off of a thyristor?

Options :

1. ✖ Gate voltage

2. ✖ Anode voltage

3. ✔ Holding voltage

4. ✖ Gate current

Question Number : 135 Question Id : 97103639616 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When a thyristor gets turned on, the gate drive

Options :

1. ✖ May or may not be removed

2. ✖ Should not be removed as it will turn-off the SCR

3. ✖ Should be increase the gate current

4. ✔ Should be removed to avoid increased losses and higher junction temperature

Question Number : 136 Question Id : 97103639617 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Chopper has _____ quadrant operation

Options :

1. ✔ I

2. ✖ II

3. ✖ III

4. ✖ IV

Question Number : 137 Question Id : 97103639618 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a single phase full converter, for discontinuous load current and extinction angle $\beta > \pi$, each SCR conducts for

Options :

1. ✖ α

2. ✔ $\beta-\alpha$

3. ✖ β

4. ✖ $\beta+\alpha$

Question Number : 138 Question Id : 97103639619 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A single-phase full-wave mid-point thyristor converter uses a 230/200 V transformer with center tap on the secondary side. P.I.V. per thyristor is

Options :

1. ✔ 282.8 V

2. ✖ 100 V

3. ✖ 141.4 V

4. ✖ 200 V

Question Number : 139 Question Id : 97103639620 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In which quadrant of operation does a quadrant dual converter operate when both the input and output voltages are positive.

Options :

1. ✖ Second quadrant

2. ✔ First quadrant

3. ✖ Third quadrant

4. ✖ Fourth quadrant

Question Number : 140 Question Id : 97103639621 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In dc choppers, per unit ripple is maximum when duty cycle δ is

Options :

1. ✔ 0.5

2. ✖ 0.2

3. ✖ 0.9

4. ✖ 1