Entrance Exam

2024



QUESTION PAPER

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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 :	Chemical Engineering 4th 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 :	971036507
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 : 97103635674 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 characteristic of reflective teaching?

Options :

1. ✖ Memorization of facts

2. ✖ Understanding complex concepts

3. ✔ Critical analysis of teaching methods

4. ✖ Repetition of instructional materials

Question Number : 2 Question Id : 97103635675 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 objective of teaching?

Options :

1. ✖ Fostering confusion

2. ✖ Encouraging passive learning

3. ✔ Promoting critical thinking

4. ✖ Discouraging creativity

Question Number : 3 Question Id : 97103635676 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 challenge associated with MOOCs?

Options :

1. ✖ Lack of course variety

2. ✔ Low completion rate

3. ✖ Limited scalability

4.

✖ High cost for learners

Question Number : 4 Question Id : 97103635677 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 basic requirement for effective teaching?

Options :

1. ✖ Rigid adherence to lesson plans

2. ✖ Lack of flexibility

3. ✔ Adequate preparation

4. ✖ Limited student engagement

Question Number : 5 Question Id : 97103635678 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 characteristic of adolescents?

Options :

1. ✖ Highly stable emotional states

2. ✖ Well-developed cognitive abilities

3. ✖ Strong sense of identity

4. ✔ Rapid physical growth and change

Question Number : 6 Question Id : 97103635679 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of these statements best describes the enrolment process for MOOCs?

Options :

1. ✖ Strict eligibility criteria apply

2. ✖ Limited enrolment slots available

3. ✔ Open to anyone with internet access

4. ✖ Requires payment before enrolment

Question Number : 7 Question Id : 97103635680 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method of teaching places more emphasis on the active involvement of learners?

Options :

1. ✖ Teacher-centered

2. ✖ Lecture-based

3. ✔ Learner-centered

4. ✖ Rote memorization

Question Number : 8 Question Id : 97103635681 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 characteristic of qualitative research?

Options :

1. ✖ Focuses on numerical data

2. ✖ Emphasizes statistical analysis

3. ✔ Seeks to understand phenomena in depth

4. ✖ Utilizes controlled experiments

Question Number : 9 Question Id : 97103635682 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 importance of observable facts and data?

Options :

1. ✖ Post-positivistic

2. ✖ Constructivist

3. ✖ Phenomenological

4. ✔ Positivist

Question Number : 10 Question Id : 97103635683 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 research focuses on examining cause-and-effect relationships?

Options :

1. ✔ Experimental

2. ✖ Descriptive

3. ✖ Historical

4. ✖ Qualitative

Question Number : 11 Question Id : 97103635684 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 basic steps of research in sequential order?

Options :

1. ✖ Analysis, Conclusion, Data Collection, Hypothesis

2. ✖ Data Collection, Hypothesis, Analysis, Conclusion

3. ✔ Hypothesis, Data Collection, Analysis, Conclusion

4. ✖ Conclusion, Data Collection, Hypothesis, Analysis

Question Number : 12 Question Id : 97103635685 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Where are the references typically included in a thesis?

Options :

1. ✖ In-text citations only

2. ✖ Footnotes exclusively

3. ✖ Endnotes solely

4. ✔ Bibliography

Question Number : 13 Question Id : 97103635686 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 reducing transparency

2. ✖ Decreasing efficiency in data analysis

3. ✔ By improving efficiency and transparency

4. ✖ By limiting access to information

Question Number : 14 Question Id : 97103635687 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which aspect is addressed by research ethics?

Options :

1. ✖ Maximizing researcher's benefits

2. ✔ Ensuring confidentiality of participants

3. ✖ Minimizing data validity

4. ✖ Ignoring informed consent

Question Number : 15 Question Id : 97103635688 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

How does mass media influence society?

Options :

1. ✖ Limits access to information

2. ✖ Reduces cultural diversity

3. ✔ Shapes public opinion

4. ✖ Decreases social interaction

Question Number : 16 Question Id : 97103635689 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method of research aims to provide a detailed description of a phenomenon or situation?

Options :

1. ✖ Experimental

2. ✔ Descriptive

3. ✖ Historical

4. ✖ Qualitative

Question Number : 17 Question Id : 97103635690 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 communication involves the exchange of information through spoken or written words?

Options :

1. ✖ Non-verbal communication

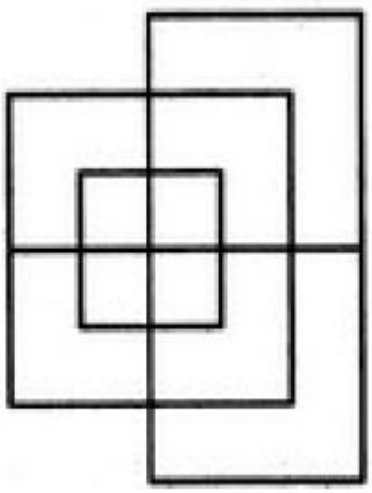
2. ✖ Inter-cultural communication

3. ✖ Group communication

4. ✔ Verbal communication

Question Number : 18 Question Id : 97103635691 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct Time : 0

Find the minimum number of straight lines required to make the given figure.



Options :

1. ✔ 13

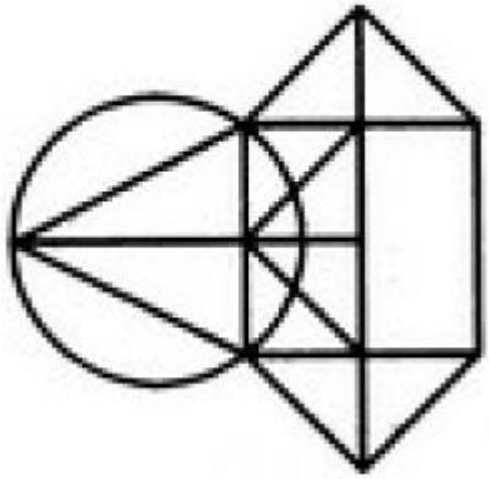
2. ✖ 15

3. ✖ 17

4. ✖ 19

Question Number : 19 Question Id : 97103635692 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Find the number of triangles in the given figure.



Options :

1. ✖ 10

2. ✖ 12

3. ✔ 14

4. ✖ 16

Question Number : 20 Question Id : 97103635693 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Suppose NOIDA is written as OPJEB then what will be the code for DELHI

Options :

1. ✔ EMMIJ

2. ✖ EFMAK

3. ✖ EFAMK

4. ✖ EFMIK

Is Section Default? : null

Question Id : 97103635694 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:

The primary concern with the longevity of digital documents is the "viewing problem". Unlike analog or physical information, which tends to exist independent of human involvement, digital information needs constant intervention to survive. History has shown that digital documents are problematic by default. Whereas we can actually look at the Sistine Chapel ceiling, painted 500 years ago, it is difficult if not impossible to simply view documents on 8-in. Floppy disks created in the last 20 years have even if there has been an immediate, proactive role in preserving them. Without concerted effort on the part of archivists and preservationists, digital objects quickly become obsolete or inaccessible due to unforeseen, although anticipated, advances in information technology. The variable media art community currently utilizes four digital preservation strategies, all focused on the end product. The first three methods have technical origins and are based on general digital preservation practices. Related to "the viewing problem", they are: refreshing, the upgrade of storage mechanisms; migration, the premeditated upgrade of file formats; and emulation, which focuses on development of operating systems able to run obsolete media. The fourth option, developed by and for the new media art community, is reinterpretation (Depocas et al., 2003), where the curators attempt to recreate a work given comprehensive documentation of the original artefact. Migration and emulation are the two primary methods in managing the problem of obsolete file formats (Waters & Garrett, 1996). Migration focuses on the files themselves, periodically updating files in new software formats. The second method of preservation is emulation, which can be either at the system or the software level. System emulation focuses on developing systems that mimic the hardware used to create or run the original artefact.

Sub questions

Question Number : 21 Question Id : 97103635695 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 concern with the longevity of digital documents according to the passage?

Options :

1. ✖ Lack of archivist involvement

2. ✔ Unforeseen advances in technology

3. ✖ Dependence on human intervention

4. ✖ Rapid deterioration of physical form

Question Number : 22 Question Id : 97103635696 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 methods is NOT mentioned as a digital preservation strategy in the passage?

Options :

1. ✖ Refreshing

2. ✔ Reinterpretation

3. ✖ Migration

4. ✖ Emulation

Question Number : 23 Question Id : 97103635697 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does the term "migration" refer to in the context of digital preservation?

Options :

1. ✖ Recreating original artefacts

2. ✔ Upgrading storage mechanisms

3. ✖ Developing new software formats

4. ✖ Mimicking hardware systems

Question Number : 24 Question Id : 97103635698 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 focus of the fourth preservation option mentioned in the passage, "reinterpretation"?

Options :

1. ✖ Refreshing digital documents

2. ✖ Upgrading file formats

3. ✖ Emulating obsolete media

4. ✔ Recreating original works with comprehensive documentation

Question Number : 25 Question Id : 97103635699 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

According to the passage, what are the two primary methods in managing the problem of obsolete file formats?

Options :

1. ✖ Refreshing and migration

2. ✖ Migration and emulation

3. ✖ Emulation and reinterpretation

4. ✔ Reinterpretation and refreshing

Is Section Default? : null

Question Number : 26 Question Id : 97103635700 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which aspect of communication deals with the exchange of messages between people from different cultural backgrounds?

Options :

1. ✖ Classroom communication

2. ✖ Interpersonal communication

3. ✖ Group communication

4. ✔ Inter-cultural communication

Question Number : 27 Question Id : 97103635701 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. ✖ Clear message delivery

2. ✖ Active listening

3. ✔ Language barriers

4. ✖ Mutual understanding

Question Number : 28 Question Id : 97103635702 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct

Time : 0

How does mass media influence society?

Options :

1. ✖ By reducing communication channels

2. ✖ By encouraging isolation

3. ✔ By shaping public opinion and behavior

4. ✖ By promoting individualism

Question Number : 29 Question Id : 97103635703 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 communication is characterized by gestures, facial expressions, and body language?

Options :

1. ✖ Verbal communication

2. ✖ Written communication

3. ✔ Non-verbal communication

4. ✖ Inter-cultural communication

Question Number : 30 Question Id : 97103635704 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The apex body responsible for formulating policies and coordinating higher education in India is:

Options :

1. ✔ Ministry of Education (MoE)

2. ✖ All India Council for Technical Education (AICTE)

3. ✖ National Assessment and Accreditation Council (NAAC)

4. ✖ University Grants Commission (UGC)

Question Number : 31 Question Id : 97103635705 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is key feature of technical education programs in India?

Options :

1. ✖ Emphasis on theoretical knowledge

2. ✖ Short duration of courses

3. ✔ Focus on practical skills and industry relevance

4. ✖ Limited job prospects

Question Number : 32 Question Id : 97103635706 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 constant speed of 60 miles per hour, how far will it travel in 3 hours?

Options :

1. ✖ 120 miles

2. ✖ 160 miles

3. ✔ 180 miles

4. ✖ 200 miles

Question Number : 33 Question Id : 97103635707 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 concept in profit and loss calculations?

Options :

1. ✖ Maintaining interest rates

2. ✖ Analyzing letter sequences

3. ✔ Calculating percentage changes

4. ✖ Identifying patterns in codes

Question Number : 34 Question Id : 97103635708 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the original price of an item is Rs.50 and it is sold for Rs.40, what is the loss percentage?

Options :

1. ✔ 20%

2. ✖ 25%

3. ✖ 30%

4. ✖ 35%

Question Number : 35 Question Id : 97103635709 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What mathematical concept involves determining the amount of money earned or paid on an investment or loan?

Options :

1. ✖ Time & Distance

2. ✖ Ratio

3. ✔ Interest

4. ✖ Averages

Question Number : 36 Question Id : 97103635710 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the simple interest on a principal amount of Rs.1000 for one year at 5% per annum is Rs.50, what is the interest rate for two years?

Options :

1. ✖ 5%

2. ✔ 10%

3. ✖ 15%

4. ✖ 20%

Question Number : 37 Question Id : 97103635711 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The famous ancient Indian university, Nalanda, was primarily known for its focus on:

Options :

1. ✖ Science and technology

2. ✖ Literature and arts

3. ✖ Medicine and healthcare

4. ✔ Buddhist studies and philosophy

Question Number : 38 Question Id : 97103635712 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Montreal Protocol is related to the protection of the:

Options :

1. ✔ Ozone layer

2. ✖ Rainforests

3. ✖ Coral reefs

4. ✖ Polar ice caps

Question Number : 39 Question Id : 97103635713 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 using Venn diagrams in logic?

Options :

1. ✔ To establish validity of arguments

2. ✖ To identify formal fallacies

3. ✖ To understand linguistic nuances

4. ✖ To evaluate deductive reasoning

Question Number : 40 Question Id : 97103635714 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which Indian logic concept refers to verbal testimony as a means of knowledge?

Options :

1. ✖ Pratyaksha

2. ✖ Anumana

3. ✔ Shabda

4. ✖ Arthapatti

Question Number : 41 Question Id : 97103635715 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does Anumana primarily involve in Indian logic?

Options :

1. ✖ Perception

2. ✔ Inference

3. ✖ Comparison

4. ✖ Non-apprehension

Question Number : 42 Question Id : 97103635716 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 used for the invariable relation between a property and a subject in Indian logic?

Options :

1. ✖ Pratyaksha

2. ✖ Upamana

3. ✔ Vyapti

4. ✖ Anupalabddhi

Question Number : 43 Question Id : 97103635717 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 primarily relies on specific examples to draw conclusions?

Options :

1. ✖ Deductive reasoning

2. ✔ Inductive reasoning

3. ✖ Analogies

4. ✖ *Pramanas*

Question Number : 44 Question Id : 97103635718 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 evaluating deductive reasoning?

Options :

1. ✖ To establish linguistic connotations

2. ✖ To identify fallacies in arguments

3. ✔ To establish validity of conclusions

4. ✖ To determine invariable relations

Question Number : 45 Question Id : 97103635719 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In Indian logic, which means of knowledge refers to perception?

Options :

1. ✔ Pratyaksha

2. ✖ Anumana

3. ✖ Upamana

4. ✖ Shabda

Question Number : 46 Question Id : 97103635720 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The International Kabbadi League (IKL) was formed last month to give a boost to the game at international standards. It had a tournament, where 2 teams played some matches. Each team comprised of 7 players each. The listings of the 2 teams X and Y were lost, but certain details regarding the players were available. A, B, C, D, E, F, G, H, I, J, K, L, M and N are the players.

I. D and E were in Team X, K and G were in team Y.

II. H and B were in the same team, but not in the team in which F was.

III. The sum of the scores of members of Team Y was not greater than 115.

The table containing the details of the players and their scores is below

A	B	C	D	E	F	G	H	I	J	K	L	M	N
28	12	29	10	9	11	13	14	22	28	16	20	18	15

Which of these players was definitely in Team Y?

Options :

1. ✖ L

2. ✔ M

3. ✖ N

4. ✖ K

Question Number : 47 Question Id : 97103635721 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The International Kabbadi League (IKL) was formed last month to give a boost to the game at international standards. It had a tournament, where 2 teams played some matches. Each team comprised of 7 players each. The listings of the 2 teams X and Y were lost, but certain details regarding the players were available. A, B, C, D, E, F, G, H, I, J, K, L, M and N are the players.

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The table containing the details of the players and their scores is below

A	B	C	D	E	F	G	H	I	J	K	L	M	N
28	12	29	10	9	11	13	14	22	28	16	20	18	15

If the score for team Y was less than 110, what could be the score of team X?

Options :

1. ✖ 135

2. ✖ 137

3. ✖ 139

4. ✔ Cannot be determined

Question Number : 48 Question Id : 97103635722 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The International Kabbadi League (IKL) was formed last month to give a boost to the game at international standards. It had a tournament, where 2 teams played some matches. Each team comprised of 7 players each. The listings of the 2 teams X and Y were lost, but certain details regarding the players were available. A, B, C, D, E, F, G, H, I, J, K, L, M and N are the players.

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The table containing the details of the players and their scores is below

A	B	C	D	E	F	G	H	I	J	K	L	M	N
28	12	29	10	9	11	13	14	22	28	16	20	18	15

Which of these players could not be in team Y, if the score of Y was 115?

Options :

1. ✖ A

2. ✔ L

3. ✖ M

4. ✖ N

Question Number : 49 Question Id : 97103635723 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The International Kabbadi League (IKL) was formed last month to give a boost to the game at international standards. It had a tournament, where 2 teams played some matches. Each team comprised of 7 players each. The listings of the 2 teams X and Y were lost, but certain details regarding the players were available. A, B, C, D, E, F, G, H, I, J, K, L, M and N are the players.

I. D and E were in Team X, K and G were in team Y.

II. H and B were in the same team, but not in the team in which F was.

III. The sum of the scores of members of Team Y was not greater than 115.

The table containing the details of the players and their scores is below

A	B	C	D	E	F	G	H	I	J	K	L	M	N
28	12	29	10	9	11	13	14	22	28	16	20	18	15

Which of these players was definitely in team X, if the score of Y was 112?

Options :

1. ✖ I

2. ✔ L

3. ✖ M

4. ✖ N

Question Number : 50 Question Id : 97103635724 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The International Kabbadi League (IKL) was formed last month to give a boost to the game at international standards. It had a tournament, where 2 teams played some matches. Each team comprised of 7 players each. The listings of the 2 teams X and Y were lost, but certain details regarding the players were available. A, B, C, D, E, F, G, H, I, J, K, L, M and N are the players.

I. D and E were in Team X, K and G were in team Y.

II. H and B were in the same team, but not in the team in which F was.

III. The sum of the scores of members of Team Y was not greater than 115.

The table containing the details of the players and their scores is below

A	B	C	D	E	F	G	H	I	J	K	L	M	N
28	12	29	10	9	11	13	14	22	28	16	20	18	15

Which of these players are definitely in Team X?

Options :

1. ✖ F

2. ✖ H

3. ✖ B

4. ✔ K

Question Number : 51 Question Id : 97103635725 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 a network of private computers within an organization or institution?

Options :

1. ✖ Internet

2. ✔ Intranet

3. ✖ Extranet

4. ✖ Ethernet

Question Number : 52 Question Id : 97103635726 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 email communication?

Options :

1. ✖ Audio conferencing

2. ✖ Video conferencing

3. ✔ Text-based messaging

4. ✖ File sharing

Question Number : 53 Question Id : 97103635727 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 cache in computer system.

Options :

1. ✖ To connect to wireless networks

2. ✖ To store long – term data back ups

3. ✔ To store temporary data for faster access

4. ✖ To process mathematical calculations

Question Number : 54 Question Id : 97103635728 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 digital initiative in higher education that provides access to educational resources over the internet?

Options :

1. ✖ Digital literacy programs

2. ✔ Massive Open Online Courses (MOOCs)

3. ✖ Audio conferencing

4. ✖ Video conferencing

Question Number : 55 Question Id : 97103635729 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 the process of holding meetings over the internet where participants can see and hear each other in real-time?

Options :

1. ✔ Video conferencing

2. ✖ Audio conferencing

3. ✖ Emailing

4. ✖ Telecommuting

Question Number : 56 Question Id : 97103635730 Display Question Number : Yes Is Questi

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

Which term refers to the basic unit of data in computing and telecommunications?

Options :

1. ✔ Byte

2. ✖ Kilobyte

3. ✖ Megabyte

4. ✖ Gigabyte

Question Number : 57 Question Id : 97103635731 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 and governance, what does ICT primarily facilitate?

Options :

1. ✖ Increases bureaucracy

2. ✖ Decreases transparency

3. ✔ Improves communication and efficiency

4. ✖ Enhances corruption

Question Number : 58 Question Id : 97103635732 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What does the term "Internet" refer to?

Options :

1. ✖ A network of private computers within an organization

2. ✔ A global network connecting millions of computers

3. ✖ An internal network for file sharing within an organization

4. ✖ A platform for video conferencing

Question Number : 59 Question Id : 97103635733 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which technology allows users to interact with computers using voice commands?

Options :

1. ✖ Artificial Intelligence

2. ✖ Augmented reality

3. ✖ Virtual reality

4. ✔ Speech recognition

Question Number : 60 Question Id : 97103635734 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which international agreement aims to address climate change by reducing greenhouse gas emissions?

Options :

1. ✖ Montreal Protocol

2. ✖ Rio Summit

3. ✖ Convention on Biodiversity

4. ✔ Paris Agreement

Question Number : 61 Question Id : 97103635735 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 the National Action Plan on Climate Change?

Options :

1. ✖ Mitigating air pollution

2. ✖ Addressing water pollution

3. ✔ Reducing greenhouse gas emissions

4. ✖ Promoting renewable energy

Question Number : 62 Question Id : 97103635736 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 pollution is primarily caused by industrial emissions and vehicle exhaust?

Options :

1. ✔ Air pollution

2. ✖ Water pollution

3. ✖ Soil pollution

4. ✖ Noise pollution

Question Number : 63 Question Id : 97103635737 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which renewable energy resource harnesses energy from the Earth's internal heat?

Options :

1. ✖ Solar

2. ✖ Wind

3. ✔ Geothermal

4. ✖ Biomass

Question Number : 64 Question Id : 97103635738 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which international agreement aims to protect the ozone layer by phasing out the production and use of ozone-depleting substances?

Options :

1. ✔ Montreal Protocol

2. ✖ Rio Summit

3. ✖ Kyoto Protocol

4. ✖ Paris Agreement

Question Number : 65 Question Id : 97103635739 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which organization aims to promote solar energy usage globally through international cooperation and partnerships?

Options :

1. ✖ Montreal Protocol

2. ✖ Convention on Biodiversity

3. ✔ International Solar Alliance

4. ✖ Kyoto Protocol

Question Number : 66 Question Id : 97103635740 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 anthropogenic activity?

Options :

1. ✖ Volcanic eruption

2. ✖ Earthquake

3. ✔ Deforestation

4. ✖ Tsunami

Question Number : 67 Question Id : 97103635741 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 education in India focuses on imparting practical skills and hands-on training?

Options :

1. ✔ Technical education

2. ✖ Value education

3. ✖ Environmental education

4. ✖ Conventional education

Question Number : 68 Question Id : 97103635742 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 emphasis of value education in India?

Options :

1. ✖ Acquiring technical skills

2. ✔ Developing moral and ethical values

3. ✖ Learning traditional subjects

4. ✖ Enhancing environmental awareness

Question Number : 69 Question Id : 97103635743 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 learning program in India includes fields like engineering, medicine, and management?

Options :

1. ✖ Oriental learning

2. ✖ Conventional learning

3. ✖ Non-conventional learning

4. ✔ Professional education

Question Number : 70 Question Id : 97103635744 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 in India does environmental education primarily address?

Options :

1. ✖ Technical skills

2. ✖ Ethical values

3. ✔ Environmental awareness and conservation

4. ✖ Professional development

Chemical Engineering

Section Id :	971036508
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 : 97103635745 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Eigen values of the unit matrix of order 3 are

Options :

1. ✖ 0, 0,1

2. ✖ 0,1,1

3. ✖ 1,0,1

4. ✔ 1,1,1

Question Number : 72 Question Id : 97103635746 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Sum of the characteristic roots of a matrix A is equal to the

Options :

1. ✔ Sum of the principal diagonal elements of A

2. ✖ Sum of the elements of first row of A

3. ✖ Sum of the elements of third row of A

4. ✖ Sum of the Eigen vectors of A

Question Number : 73 Question Id : 97103635747 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Can the Rolle's theorem be applied to the following functions in the intervals cited ?

Options :

1. ✖ $f(x)= \tan x$ in $[0,\pi]$

2. ✖ $f(x)=1/x^2$ in $[-1,1]$

3. ✖ f(x)=x^3 in [1,3]

4. ✔ f(x)=$x^2 - 2x - 3$ in the [-1,3]

Question Number : 74 Question Id : 97103635748 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For any closed surface $\iint_S \nabla \times \overline{F}.\overline{N}ds =$

Options :

1. ✖ Area of the surface S

2. ✖ A unit normal vector to S

3. ✔ 0

4. ✖ 3 times the volume of the region bounded by S

Question Number : 75 Question Id : 97103635749 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If n is a positive integer then $\frac{1}{(D-\alpha)^n} e^{ax}$, $(where\, D = \frac{d}{dx}) =$

Options :

1. ✔ $\frac{x^n}{n!}e^{\alpha x}$

2. ✖ $-\frac{x^n}{n!}e^{\alpha x}$

3. ✖ $\frac{x^n}{n!}e^{-\alpha x}$

4. ✖ $\frac{x^n}{n!}ae^{\alpha x}$

Question Number : 76 Question Id : 97103635750 Display Question Number : Yes Is Questi

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

The Laplace transform of t cos2t is

Options :

1. ✖ $\frac{s^2+4}{(s^2+4)^2}$

2. ✔ $\frac{s^2-4}{(s^2+4)^2}$

3. ✖ $\frac{s^2}{(s^2+4)^2}$

4. ✖

$\frac{4}{(s^2+4)^2}$

Question Number : 77 Question Id : 97103635751 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The principal value of $\sqrt{3}-i$ is

Options :

1. ✔ $-\pi/6$

2. ✖ $\pi/6$

3. ✖ π

4. ✖ 2π

Question Number : 78 Question Id : 97103635752 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the area of the triangle on the complex plane formed by the Points z, z+iz, iz is 50 then $|z| =$

Options :

1. ✖ 60

2. ✖ 50

3. ✔ 10

4. ✖ 100

Question Number : 79 Question Id : 97103635753 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Trapezoidal rule for the evaluation $\int_a^b f(x)dx$ requires the interval (a,b) to be divided into

Options :

1. ✔ Any number of subintervals of equal width

2. ✖ 3n subintervals of equal width

3. ✖ 2n subintervals of equal width

4. ✖ 2n+1 subintervals of equal width

Question Number : 80 Question Id : 97103635754 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Simpson's $1/3^{rd}$ rule fits by adding the areas under curves $y = f_i(x), where\ f_i(x)$ is a

Options :

1. ✔ 2^{nd} degree polynomial

2. ✖ 3^{rd} degree polynomial

3. ✖ n^{th} degree polynomial

4. ✖ 3^{rd} ordered equation

Question Number : 81 Question Id : 97103635755 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Entropy of a substance has the units of

Options :

1. ✖ J

2. ✔ J/K

3. ✖ J/kg K

4. ✖ J/kg

Question Number : 82 Question Id : 97103635756 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

"For any closed system formed initially from given masses of prescribed chemical species, the equilibrium state is completely determined when any two independent variables are fixed" is known as

Options :

1. ✖ Gibb's theorem

2. ✖ Phase rule

3. ✔ Duhem's theorem

4. ✖ Lewis/Randall rule

Question Number : 83 Question Id : 97103635757 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 true for virial equation of state?

Options :

1. ✖ Virial coefficients are universal constants

2. ✖ Virial coefficient B represents three body interactions

3. ✔ Virial coefficients are functions of temperature only

4. ✖ For some gases, Virial equations and ideal gas equations are the same

Question Number : 84 Question Id : 97103635758 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 used to estimate heat capacity of a solid compound?

Options :

1. ✖ Trouton's rule

2. ✖ Gibbs equation

3. ✔ Kopp's rule

4. ✖ Clapeyron equation

Question Number : 85 Question Id : 97103635759 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

One ppm is equal to

Options :

1. ✔ 1 mg/l

2. ✖ 10 mg/l

3. ✖ 1 g/l

4. ✖ 10 g/l

Question Number : 86 Question Id : 97103635760 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

The total pressure exerted by the mixture of non-reactive gases is equal to the sum of the partial pressures of individual gas is known as

Options :

1. ✖ Raoult's law

2. ✖ Henry's law

3. ✔ Dalton's law

4. ✖ Amagat's law

Question Number : 87 Question Id : 97103635761 Display Question Number : Yes Is Questi

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

Consider a duct of square cross section of side 'b'. The hydraulic radius is given by

Options :

1. ✖ b/8

2. ✔ b/4

3. ✖ b/2

4. ✖ b

Question Number : 88 Question Id : 97103635762 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Priming is needed in a

Options :

1. ✖ Reciprocating pump

2. ✖ Gear pump

3. ✔ Centrifugal pump

4. ✖ Diaphragm pump

Question Number : 89 Question Id : 97103635763 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For a fluidized bed, with the increase in expansion of the bed, up to solids carry over from the bed, the pressure drop across the bed

Options :

1. ✖ Increases rapidly

2. ✖ Decreases rapidly

3. ✖ First increases and then decreases

4. ✔ Remains essentially constant

Question Number : 90 Question Id : 97103635764 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Pressure drop in a packed bed for laminar flow is given by

Options :

1. ✔ Kozney-Carman equation

2. ✖ Blake – Plummer equation

3. ✖ Leva's equation

4. ✖ Hagen Poisulle's equation

Question Number : 91 Question Id : 97103635765 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Weber number is the ratio of inertial forces

Options :

1. ✖ Pressure forces

2. ✔ Surface tension

3. ✖ Gravity forces

4.

✖ Viscous forces

Question Number : 92 Question Id : 97103635766 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A filter aid is added to the slurry before filtration to

Options :

1. ✖ Decrease the porosity of the cake

2. ✔ Increase the porosity of the cake

3. ✖ Increase the compressibility coefficient of the cake

4. ✖ Decrease the compressibility coefficient of the cake

Question Number : 93 Question Id : 97103635767 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 minerals is minimum Rittinger's number?

Options :

1. ✖ Galena

2. ✖ Pyrite

3. ✔ Quartz

4. ✖ Calcite

Question Number : 94 Question Id : 97103635768 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Devices which separate particles of differing densities are known as

Options :

1. ✖ Thickners

2. ✔ Sorting classifiers

3. ✖ Cyclones

4. ✖ Filters

Question Number : 95 Question Id : 97103635769 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Stoke's equation is valid in the Reynolds number range

Options :

1. ✔ 0.01 to 0.1

2. ✖ 0.1 to 2

3. ✖ 2 to 10

4. ✖ 10 to 100

Question Number : 96 Question Id : 97103635770 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For motion of spherical particles in a stationery fluid, the drag coefficient in hindered settling is

Options :

1. ✖ Always equal to that in free settling

2. ✖ Always less than in free settling

3. ✔ Always greater than in free settling

4. ✖ Equal to or less than in free settling

Question Number : 97 Question Id : 97103635771 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Heat transfer occurs by natural convection because change in temperature causes differences in

Options :

1. ✖ Viscosity

2. ✔ Eensity

3. ✖ Thermal conductivity

4. ✖ Heat capacity

Question Number : 98 Question Id : 97103635772 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Grashof number is associated with

Options :

1. ✖ Buoyancy effects

2. ✔ Free convection

3. ✖ Forced convection

4. ✖ High temperature difference

Question Number : 99 Question Id : 97103635773 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To determine the heat transfer coefficient Dittus-Boelter equation is valid for

Options :

1. ✖ Laminar flow

2. ✖ For liquid metals

3. ✔ Turbulent flow

4. ✖ Natural convection

Question Number : 100 Question Id : 97103635774 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a heat exchanger, floating head is provided to

Options :

1. ✖ Facilitate cleaning of the exchanger

2. ✖ Increase the heat transfer area

3. ✔ Relieve stresses caused by thermal expansion

4. ✖ Increase the log mean temperature gradient

Question Number : 101 Question Id : 97103635775 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The hydrodynamic and thermal boundary layers will merge when

Options :

1. ✔ Prandtl number is one

2. ✖ Schmidt number tends to infinity

3. ✖ Nusselt number tends to infinity

4. ✖ Archimedes number is greater than 10,000

Question Number : 102 Question Id : 97103635776 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The thermal conductivity is minimum for

Options :

1. ✖ Asphalt

2. ✖ Water

3. ✖ Petroleum coke

4. ✔ Air

Question Number : 103 Question Id : 97103635777 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A multiple effect evaporator as compared to a single effect evaporator of the same capacity has

Options :

1. ✖ Lower heat transfer area

2. ✖ Lower steam economy

3. ✔ Higher steam economy

4. ✖ Higher solute concentrations in the product

Question Number : 104 Question Id : 97103635778 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A globe value is most suitable for applications in which

Options :

1. ✖ The value is required to be either fully open or fully closed

2. ✔ Flow control is required

3. ✖ The fluid contains dispersed particles

4. ✖ One-way flow is required

Question Number : 105 Question Id : 97103635779 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 ideal stages are required in a fractionating column when the reflux ratio is equal to

Options :

1. ✖ Minimum reflux ratio

2. ✖ Optimum reflux ratio

3. ✖ Zero

4. ✔ Infinity

Question Number : 106 Question Id : 97103635780 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct Time : 0

Absorption towers are operated under conditions of

Options :

1. ✖ Low pressure, high temperature

2. ✖ High pressure, high temperature

3. ✔ High pressure, low temperature

4. ✖ Low pressure, low temperature

Question Number : 107 Question Id : 97103635781 Display Question Number : Yes Is Question

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

Mass transfer coefficient, k, according to penetration theory varies with mass diffusivity is

Options :

1. ✔ $D^{0.5}$

2. ✖ D

3. ✖ 1/D

4. ✖ $D^{1.2}$

Question Number : 108 Question Id : 97103635782 Display Question Number : Yes Is Quest

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

Milk powder is made from milk by drying in a

Options :

1. ✖ Drum drier

2. ✖ Rotary drier

3. ✖ Spouted bed drier

4. ✔ Spray drier

Question Number : 109 Question Id : 97103635783 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In distillation column design, the McCabe-Thiele procedure is inadequate and Ponchon- Savarit procedure is needed when

Options :

1. ✖ Saturated feed is not used

2. ✖ An azeotrope forms

3. ✔ The latent heats of vaporization of the more and less volatile components are greatly different

4. ✖ A total condenser is used

Question Number : 110 Question Id : 97103635784 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In an inter phase mass transfer process, the lesser the solubility of a given solute in a liquid, the higher are the chances that the transfer process will be

Options :

1. ✔ Liquid phase resistance controlled

2. ✖ Gas phase resistance controlled

3. ✖ Impossible

4. ✖ Driven by a non-linear driving force

Question Number : 111 Question Id : 97103635785 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Moisture contained by a substance in excess of equilibrium moisture is called

Options :

1. ✖ Unbound moisture

2. ✔ Free moisture

3. ✖ Critical moisture

4. ✖ Bound moisture.

Question Number : 112 Question Id : 97103635786 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Lewis number is the ratio of

Options :

1. ✔ Thermal diffusivity/ mass diffusivity

2. ✖ Mass diffusivity/thermal diffusivity

3. ✖ Thermal diffusivity/momentum diffusivity

4. ✖ Momentum diffusivity/ mass diffusivity

Question Number : 113 Question Id : 97103635787 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The units of frequency factor in Arrhenius equation

Options :

1. ✔ Are the same as those of the rate constant

2. ✖ Depend on the order of the reaction

3. ✖ Depend on T, P etc. of the reaction

4. ✖ Are cycles per unit time

Question Number : 114 Question Id : 97103635788 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The energy balance equation over a tubular reactor under transient conditions is

Options :

1. ✖ An ordinary nonlinear differential equation

2. ✖ An algebraic equation

3. ✖ A linear partial differential equation

4. ✔ A nonlinear partial differential equation

Question Number : 115 Question Id : 97103635789 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The reaction A→B is conducted in an isothermal batch reactor. If the conversion of A increases linearly with holding time, the order of the reaction is

Options :

1. ✔ 0

2. ✖ 1

3. ✖ 2

4. ✖ 3

Question Number : 116 Question Id : 97103635790 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For plug flow system, the dispersion number must be

Options :

1. ✔ Zero

2. ✖ <2100

3. ✖ <2

4. ✖ Infinity

Question Number : 117 Question Id : 97103635791 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Collision theory states that the rate constant k is proportional to

Options :

1. ✖ T

2. ✖ $Te^{-E/RT}$

3. ✖ $e^{-E/RT}$

4. ✔ $T^{0.5}e^{-E/RT}$

Question Number : 118 Question Id : 97103635792 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A reaction follows the rate expression, rate = kC_A, if the rate is expressed in terms of mole/lit sec and concentration of A (C_A) is in mole/lit, the units of the first order rate constan (k) are

Options :

1. ✖ 1/mole sec

2. ✔ 1/sec

3. ✖ Mole/ lit sec

4. ✖ Sec

Question Number : 119 Question Id : 97103635793 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The rate of a chemical reaction is a function of

Options :

1. ✖ Temperature of the system

2. ✖ Pressure of the system

3. ✖ Concentration of the system

4. ✔ Temperature, pressure and concentration of the system

Question Number : 120 Question Id : 97103635794 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For a steady state CSTR, the space time and holding time are same for

Options :

1. ✖ Variable density system

2. ✔ Constant density system

3. ✖ Non-isothermal reaction system

4. ✖ Gas phase reaction with changing number of moles

Question Number : 121 Question Id : 97103635795 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A typical example of a physical system with under-damped characteristics is a

Options :

1. ✔ U-tube manometer

2. ✖ Spring – loaded diaphragm valve

3. ✖ CSTR with first order reaction

4. ✖ Thermocouple kept immersed in a liquid filled thermal well

Question Number : 122 Question Id : 97103635796 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Offset of a system can be eliminated by one of the following controllers

Options :

1. ✖ Proportional controller

2. ✔ proportional – Integral controller

3. ✖ Proportional – derivative controller

4. ✖ No controller can reduce

Question Number : 123 Question Id : 97103635797 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct

Time : 0

Which one of the following static characteristics of instrument is undesirable?

Options :

1. ✖ Accuracy

2. ✖ Reproducibility

3. ✖ Sensitivity

4. ✔ Drift

Question Number : 124 Question Id : 97103635798 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Mcleoid gauge is used to measure

Options :

1. ✖ Pressures of greater than 30 psia

2. ✖ Pressures of less than 30 psia

3. ✔ High vacuum

4. ✖ Atmospheric pressure

Question Number : 125 Question Id : 97103635799 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Feed forward control is used when the disturbances are associated with

Options :

1. ✖ Manipulated variable

2. ✔ Load variable

3. ✖ Controlled variable

4. ✖ Output parameter

Question Number : 126 Question Id : 97103635800 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Bode diagrams are generated from output response of the system subjected to which of the following input

Options :

1. ✖ Impulse

2. ✖ Step

3. ✖ Ramp

4. ✔ Sinusoidal

Question Number : 127 Question Id : 97103635801 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The bandwidth of an on-off control is approximately equal to

Options :

1. ✖ One

2. ✖ Two

3. ✖ Four

4.

✔ Zero

Question Number : 128 Question Id : 97103635802 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Pick out the first order system from the following

Options :

1. ✖ Damped vibrator

2. ✔ Mercury in glass thermometer kept in boiling water

3. ✖ Interacting system of two tanks in series

4. ✖ Non-interacting system of two tanks in series

Question Number : 129 Question Id : 97103635803 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 component of working capital investment?

Options :

1. ✖ Process equipment

2. ✔ Maintenance and repair inventory

3.

✖ Utilities plants

4. ✖ Depreciation

Question Number : 130 Question Id : 97103635804 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the straight- line method for determining depreciation, it is assumed that the value of the property

Options :

1. ✖ Decreases exponentially with time

2. ✖ Decreases logarithmically with time

3. ✔ Decreases linearly with time

4. ✖ Remains constant with time

Question Number : 131 Question Id : 97103635805 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Turnover ratio is defined as the ratio of gross annual sales to the

Options :

1. ✖ Total income

2.

✖ Total product cost

3. ✔ Fixed capital investment

4. ✖ Rate of production

Question Number : 132 Question Id : 97103635806 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 methods results in book values greater than those obtained with the straight line method?

Options :

1. ✖ Sum-of-the-years-digits method

2. ✔ Sinking –fund method

3. ✖ Declining- balance method

4. ✖ Multiple straight – line method

Question Number : 133 Question Id : 97103635807 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Catalyst used in the contact process of sulfuric acid manufacture is

Options :

1. ✖ Alumina

2. ✔ V_2O_5

3. ✖ Iron oxide

4. ✖ Silicon dioxide

Question Number : 134 Question Id : 97103635808 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In petroleum refining, the process used for conversion of hydrocarbons to aromatics is

Options :

1. ✖ Catalytic cracking

2. ✔ Catalytic reforming

3. ✖ Hydrotreating

4. ✖ Alkylation

Question Number : 135 Question Id : 97103635809 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Solvent used for extraction of oil is

Options :

1. ✖ Furfural

2. ✔ Hexane

3. ✖ Methyl ethyl ketone

4. ✖ Ether

Question Number : 136 Question Id : 97103635810 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the sulphate (Kraft) pulp process, the essential chemical reagents used in digestor are

Options :

1. ✔ Caustic soda, sodium sulphide, and soda ash

2. ✖ Slaked lime, salt cake, and mercaptans

3. ✖ Caustic soda, mercaptans, and ethylene oxide

4. ✖ Quick lime, baking soda, and dimethyl sulphide

Question Number : 137 Question Id : 97103635811 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Producer gas consists mainly of

Options :

1. ✔ CO, CO_2, N_2, H_2

2. ✖ CO_2, H_2

3. ✖ CH_4, H_2

4. ✖ C_2H_2, CO_2, H_2

Question Number : 138 Question Id : 97103635812 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Identify the thermosetting plastic from the following?

Options :

1. ✖ Polyethylene

2. ✖ Polypropylene

3. ✔ Bakelite

4. ✖ Teflon

Question Number : 139 Question Id : 97103635813 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Commercially, ethylene is produced from naphtha by

Options :

1. ✖ Catalytic cracking

2. ✖ Catalytic dehydrogenation

3. ✔ Pyrolysis

4. ✖ Hydrocracking

Question Number : 140 Question Id : 97103635814 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruct

Time : 0

The organic acid monomer in Nylon 66 is

Options :

1. ✖ Sebacic acid

2. ✖ Terephthallic acid

3. ✔ Adipic acid

4. ✖ Benzoic acid

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