

# NHPC JE

**Previous Year Paper**

(Mechanical)

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Test Date	29/10/2025
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Subject	Junior Engineer Mechanical

## Section : General Awareness

Q.1 Announced in 2025, which type of engine is ISRO developing for the Next Generation Launch Vehicle (NGLV)?

Ans  1. Solid-Powered Engine  
 2. Liquid Propellant Engine  
 3. Hybrid Rocket Engine  
 4. LOX-Methane Engine

Question ID : 441009151786

Option 1 ID : 441009602309

Option 2 ID : 441009602307

Option 3 ID : 441009602308

Option 4 ID : 441009602310

Status : Answered

Chosen Option : 4

Q.2 Which party emerged as the second largest in the 2024 Jammu and Kashmir Assembly elections?

Ans  1. People's Democratic Party  
 2. National Conference  
 3. Bharatiya Janata Party  
 4. Indian National Congress

Question ID : 441009151814

Option 1 ID : 441009602422

Option 2 ID : 441009602419

Option 3 ID : 441009602421

Option 4 ID : 441009602420

Status : Answered

Chosen Option : 3

**Q.3 Which freedom fighter led the famous Bardoli Satyagraha against the Britishers?**

Ans  1. Subhas Chandra Bose  
 2. Mahatma Gandhi  
 3. Motilal Nehru  
 4. Sardar Vallabhbhai Patel

Question ID : 44100980357

Option 1 ID : 441009319213

Option 2 ID : 441009319215

Option 3 ID : 441009319212

Option 4 ID : 441009319214

Status : Not Answered

Chosen Option : --

**Q.4 According to the Economic Survey 2024-25, how much did government health expenditure increase as a share of total health expenditure between FY15 and FY22?**

Ans  1. 15.0% to 25.0%  
 2. 25.0% to 40.5%  
 3. 30.5% to 45.2%  
 4. 29.0% to 48.0%

Question ID : 441009114268

Option 1 ID : 441009454536

Option 2 ID : 441009454535

Option 3 ID : 441009454534

Option 4 ID : 441009454537

Status : Not Answered

Chosen Option : --

**Q.5 The Golden Quadrilateral project in India is primarily related to which sector?**

Ans  1. Railways  
 2. Highways  
 3. Seaports  
 4. Airports

Question ID : 44100998797

Option 1 ID : 441009393287

Option 2 ID : 441009393288

Option 3 ID : 441009393290

Option 4 ID : 441009393289

Status : Answered

Chosen Option : 2

**Q.6 Which dynasty emerged as a dominant power in Northern India after the decline of the Gupta Empire?**

Ans  1. Chalukyas  
 2. Pallavas  
 3. Mauryans  
 4. Pushyabhatis

Question ID : 44100980319

Option 1 ID : 441009319062

Option 2 ID : 441009319061

Option 3 ID : 441009319060

Option 4 ID : 441009319063

Status : Not Answered

Chosen Option : --

Q.7 Which of the following is India's first national park?

Ans  1. Gir National Park  
 2. Sundarbans National Park  
 3. Kaziranga National Park  
 4. Jim Corbett National Park

Question ID : 44100996398

Option 1 ID : 441009383636

Option 2 ID : 441009383637

Option 3 ID : 441009383638

Option 4 ID : 441009383639

Status : **Answered**

Chosen Option : 4

Q.8 As per the Economic Survey 2024-25, what was the estimated growth rate of the industrial sector in FY25?

Ans  1. 6.2%  
 2. 9.8%  
 3. 3.5%  
 4. 15.1%

Question ID : 441009114257

Option 1 ID : 441009454495

Option 2 ID : 441009454496

Option 3 ID : 441009454494

Option 4 ID : 441009454497

Status : **Not Answered**

Chosen Option : --

Q.9 When was Shahid Bhagat Singh hanged?

Ans  1. 1932  
 2. 1931  
 3. 1922  
 4. 1925

Question ID : 44100980354

Option 1 ID : 441009319202

Option 2 ID : 441009319201

Option 3 ID : 441009319203

Option 4 ID : 441009319200

Status : **Answered**

Chosen Option : 2

Q.10 Among the given options, which of the following States of India has the least number of MPs in the Rajya Sabha?

Ans  1. Himachal Pradesh  
 2. Madhya Pradesh  
 3. Haryana  
 4. Rajasthan

Question ID : 44100996153

Option 1 ID : 441009382649

Option 2 ID : 441009382646

Option 3 ID : 441009382647

Option 4 ID : 441009382648

Status : **Not Answered**

Chosen Option : --

Q.11 What is an oasis in the Thar Desert?

Ans  1. A fertile area with water  
 2. A dry river bed  
 3. A desert storm  
 4. A large sand dune

Question ID : 44100996451

Option 1 ID : 441009383859

Option 2 ID : 441009383856

Option 3 ID : 441009383857

Option 4 ID : 441009383858

Status : Not Answered

Chosen Option : --

Q.12 What was the purpose of Operation Brahma in March 2025?

Ans  1. Earthquake relief assistance to Myanmar  
 2. Diplomatic mission  
 3. Trade agreement between India and Myanmar  
 4. Military exercise

Question ID : 441009151797

Option 1 ID : 441009602354

Option 2 ID : 441009602353

Option 3 ID : 441009602352

Option 4 ID : 441009602351

Status : Answered

Chosen Option : 1

Q.13 What is the primary objective of the Dx-EDGE initiative launched in 2025?

Ans  1. To promote foreign investments in India  
 2. To provide financial subsidies to large corporations  
 3. To regulate e-commerce businesses  
 4. To empower MSMEs with digital tools and knowledge

Question ID : 441009119317

Option 1 ID : 441009474389

Option 2 ID : 441009474387

Option 3 ID : 441009474390

Option 4 ID : 441009474388

Status : Not Answered

Chosen Option : --

Q.14 Which Five-Year Plan of Government of India was terminated one year before its scheduled completion due to economic instability?

Ans  1. Fifth Five-Year Plan  
 2. Second Five-Year Plan  
 3. Eighth Five-Year Plan  
 4. Third Five-Year Plan

Question ID : 44100998826

Option 1 ID : 441009393403

Option 2 ID : 441009393404

Option 3 ID : 441009393405

Option 4 ID : 441009393406

Status : Not Answered

Chosen Option : --

**Q.15** Who was honoured with the Best Actor in a Leading Role award at the 70<sup>th</sup> National Film Awards in 2024?

Ans  1. Rishab Shetty

2. Allu Arjun

3. Ayushmann Khurrana

4. Vicky Kaushal

Question ID : 441009114331

Option 1 ID : 441009454783

Option 2 ID : 441009454784

Option 3 ID : 441009454782

Option 4 ID : 441009454785

Status : Not Answered

Chosen Option : --

**Q.16** Where were the National Games, 2025, held?

Ans  1. Uttarakhand

2. Rajasthan

3. Madhya Pradesh

4. Himachal Pradesh

Question ID : 441009119298

Option 1 ID : 441009474311

Option 2 ID : 441009474314

Option 3 ID : 441009474313

Option 4 ID : 441009474312

Status : Answered

Chosen Option : 2

**Q.17** What was the approximate total budget allocated to the Ministry of Youth Affairs and Sports in 2025?

Ans  1. ₹4,200 crore

2. ₹5,232 crore

3. ₹3,794 crore

4. ₹2,534 crore

Question ID : 441009131653

Option 1 ID : 441009523200

Option 2 ID : 441009523201

Option 3 ID : 441009523199

Option 4 ID : 441009523198

Status : Not Answered

Chosen Option : --

**Q.18** Where are coniferous forests commonly found in India?

Ans  1. Indo-Gangetic Plains

2. Himalayan Region

3. Deccan Plateau

4. Thar Desert

Question ID : 44100996433

Option 1 ID : 441009383785

Option 2 ID : 441009383786

Option 3 ID : 441009383787

Option 4 ID : 441009383784

Status : Not Answered

Chosen Option : --

Q.19 Which of the following are used as a common salt in food?

Ans  1. Potassium sulphate  
 2. Magnesium sulphate  
 3. Sodium bicarbonate  
 4. Sodium chloride

Question ID : 44100988704

Option 1 ID : 441009352818

Option 2 ID : 441009352816

Option 3 ID : 441009352817

Option 4 ID : 441009352815

Status : Answered

Chosen Option : 4

Q.20 Which site is known for rock-cut architecture and Buddhist murals from the 2<sup>nd</sup> century BCE?

Ans  1. Ajanta Caves  
 2. Chennakeshava Temple  
 3. Virupaksha Temple  
 4. Badami Temple

Question ID : 44100980711

Option 1 ID : 441009320612

Option 2 ID : 441009320613

Option 3 ID : 441009320611

Option 4 ID : 441009320610

Status : Not Answered

Chosen Option : --

Q.21 The region in the Great Indian Plains where rivers deposit new fertile soil annually is known as:

Ans  1. Banger  
 2. Khadar  
 3. Terai  
 4. Bhabar

Question ID : 44100996454

Option 1 ID : 441009383869

Option 2 ID : 441009383868

Option 3 ID : 441009383871

Option 4 ID : 441009383870

Status : Not Answered

Chosen Option : --

Q.22 Which revolutionary leader was associated with the assassination attempt on British official Kingsford in 1908?

Ans  1. Rajnarayan Bose  
 2. Khudiram Bose  
 3. Ashwini Kumar Dutt  
 4. Aurobindo Ghosh

Question ID : 44100980402

Option 1 ID : 441009319388

Option 2 ID : 441009319389

Option 3 ID : 441009319391

Option 4 ID : 441009319390

Status : Not Answered

Chosen Option : --

Q.23 The 42nd Amendment of the Constitution of India was enacted in which year?

Ans  1. 1990  
 2. 1976  
 3. 1946  
 4. 1972

Question ID : 44100996104

Option 1 ID : 441009382446

Option 2 ID : 441009382449

Option 3 ID : 441009382448

Option 4 ID : 441009382447

Status : Answered

Chosen Option : 2

Q.24 What was India's rank in the Global Innovation Index 2024?

Ans  1. 32nd  
 2. 50th  
 3. 25th  
 4. 39th

Question ID : 441009151799

Option 1 ID : 441009602359

Option 2 ID : 441009602360

Option 3 ID : 441009602362

Option 4 ID : 441009602361

Status : Not Answered

Chosen Option : --

Q.25 When was the Steel Authority of India Limited set up for the industrial development in India?

Ans  1. 1946  
 2. 1987  
 3. 1973  
 4. 1990

Question ID : 44100998811

Option 1 ID : 441009393345

Option 2 ID : 441009393344

Option 3 ID : 441009393343

Option 4 ID : 441009393346

Status : Answered

Chosen Option : 3

Q.26 Who wrote the book 'The New Icon: Savarkar and the Facts', released in 2025?

Ans  1. Vikram Sampath  
 2. Anirban Ganguly  
 3. Rajiv Malhotra  
 4. Arun Shourie

Question ID : 441009114324

Option 1 ID : 441009454752

Option 2 ID : 441009454751

Option 3 ID : 441009454750

Option 4 ID : 441009454753

Status : Not Answered

Chosen Option : --

Q.27 Which constitutional amendments aimed to restore democratic principles and safeguard fundamental rights?

Ans  1. 54th (1978)  
 2. 44th (1978)  
 3. 40th (1978)  
 4. 64th (1978)

Question ID : 44100996099

Option 1 ID : 441009382426

Option 2 ID : 441009382428

Option 3 ID : 441009382427

Option 4 ID : 441009382429

Status : Answered

Chosen Option : 2

Q.28 Bibek Debroy, awarded with Padma Bhushan, 2025, was known for his contributions in which field?

Ans  1. Literature  
 2. Economics  
 3. Politics  
 4. Sports

Question ID : 441009131650

Option 1 ID : 441009523188

Option 2 ID : 441009523189

Option 3 ID : 441009523186

Option 4 ID : 441009523187

Status : Not Answered

Chosen Option : --

Q.29 Which article of the Directive Principles of the State Policy states that it is the duty of the State to secure Uniform Civil Code for the citizens throughout the country?

Ans  1. Article 40  
 2. Article 42  
 3. Article 44  
 4. Article 34

Question ID : 44100996085

Option 1 ID : 441009382360

Option 2 ID : 441009382359

Option 3 ID : 441009382358

Option 4 ID : 441009382361

Status : Not Answered

Chosen Option : --

Q.30 In which classical dance form does the dancer depict stories from Ramayana and Mahabharata through elaborate facial expressions and hand gestures?

Ans  1. Odissi  
 2. Kathak  
 3. Kathakali  
 4. Bharatnatyam

Question ID : 44100980724

Option 1 ID : 441009320663

Option 2 ID : 441009320665

Option 3 ID : 441009320664

Option 4 ID : 441009320662

Status : Answered

Chosen Option : 4

Section : Reasoning

Q.1 Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding to/subtracting from/multiplying with 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

10-12-14-28;  
11-13-15-30

Ans  1. 20-22-24-96  
 2. 6-8-12-24  
 3. 10-12-16-36  
 4. 15-17-19-38

Question ID : 4410091312748

Option 1 ID : 4410095182697

Option 2 ID : 4410095182699

Option 3 ID : 4410095182698

Option 4 ID : 4410095182700

Status : Answered

Chosen Option : 4

Q.2 Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?

YJN 5, WHL 13, UFJ 21, SDH 29, ?

Ans  1. QBG 39  
 2. PAE 35  
 3. RBE 37  
 4. QBF 37

Question ID : 4410091313658

Option 1 ID : 4410095186333

Option 2 ID : 4410095186334

Option 3 ID : 4410095186331

Option 4 ID : 4410095186332

Status : Answered

Chosen Option : 4

Q.3 What should come in place of the question mark (?) in the given series?

35 48 64 83 105 130 ?

Ans  1. 163  
 2. 149  
 3. 155  
 4. 158

Question ID : 4410091312767

Option 1 ID : 4410095182775

Option 2 ID : 4410095182774

Option 3 ID : 4410095182773

Option 4 ID : 4410095182776

Status : Answered

Chosen Option : 4

Q.4 In a certain code language,

'A + B' means 'A is the mother of B',  
'A - B' means 'A is the brother of B',  
'A x B' means 'A is the wife of B' and  
'A ÷ B' means 'A is the father of B'.

How is P related to T if 'P ÷ Q x R - S + T'?

Ans  1. Father's brother's wife's brother  
 2. Mother's brother's wife's father  
 3. Father's brother's wife's father  
 4. Mother's brother's wife's brother

Question ID : 4410091313793

Option 1 ID : 4410095186874

Option 2 ID : 4410095186871

Option 3 ID : 4410095186873

Option 4 ID : 4410095186872

Status : Answered

Chosen Option : 2

Q.5 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans  1. JS-RY  
 2. UD-CJ  
 3. YH-GN  
 4. LU-TY

Question ID : 4410091313764

Option 1 ID : 4410095186756

Option 2 ID : 4410095186757

Option 3 ID : 4410095186758

Option 4 ID : 4410095186755

Status : Answered

Chosen Option : 4

Q.6 What will come in place of the question mark (?) in the following equation if ‘÷’ and ‘–’ are interchanged and ‘×’ and ‘+’ are interchanged?

$$114 - 6 \div 3 + 2 \times 8 = ?$$

Ans  1. 17

2. 21

3. 23

4. 20

Question ID : 441009531903

Option 1 ID : 4410092083019

Option 2 ID : 4410092083017

Option 3 ID : 4410092083016

Option 4 ID : 4410092083018

Status : Answered

Chosen Option : 2

Q.7 Refer to the given letter series and answer the question that follows. Counting to be done from left to right only.

(Left) C D P B Q L M O A J K T S N F G R E H W Y (Right)

How many such consonants are there, each of which is immediately preceded by a vowel and also immediately followed by a vowel?

Ans  1. Three

2. One

3. None

4. Two

Question ID : 441009793056

Option 1 ID : 4410093126226

Option 2 ID : 4410093126224

Option 3 ID : 4410093126223

Option 4 ID : 4410093126225

Status : Answered

Chosen Option : 3

Q.8 A, B, C, D, E, F and G are sitting around a circular table, facing the centre of the table. B sits third to the right of A. G sits to the immediate left of A. E sits second to the right of G. F sits to the immediate right of D. Who sits second to the left of C?

Ans  1. G

2. D

3. F

4. A

Question ID : 441009755584

Option 1 ID : 4410092976330

Option 2 ID : 4410092976332

Option 3 ID : 4410092976331

Option 4 ID : 4410092976329

Status : Answered

Chosen Option : 4

Q.9 C, D, E, F, G, H and I live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it is numbered 2 and so on, till the topmost floor is numbered 6. H lives on an odd numbered floor but not on floor number 5. Only two people live between C and D. F lives immediately below E. D lives on an even numbered floor. Only three people live between E and G. On which floor does F live?

Ans  1. Floor number 4  
 2. Floor number 5  
 3. Floor number 2  
 4. Floor number 3

Question ID : 4410091313665

Option 1 ID : 4410095186361

Option 2 ID : 4410095186359

Option 3 ID : 4410095186362

Option 4 ID : 4410095186360

Status : Answered

Chosen Option : 2

Q.10 Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number result(s) in the second number. Similarly, certain mathematical operation(s) on the second number result(s) in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (Note: A two/three digit number cannot be broken into individual digits for operations, e.g., if 37 is followed by 10, the operation cannot be  $3 + 7$  as a two-digit number cannot be broken into individual digits.)

38 - 266 - 532 - 544  
 13 - 91 - 182 - 1942301

Ans  1. 12 - 96 - 288 - 300  
 2. 15 - 105 - 210 - 222  
 3. 25 - 155 - 465 - 478  
 4. 22 - 154 - 770 - 782

Question ID : 441009552766

Option 1 ID : 4410092166379

Option 2 ID : 4410092166378

Option 3 ID : 4410092166380

Option 4 ID : 4410092166381

Status : Answered

Chosen Option : 2

Q.11 Each of A, B, I, J, O, P and S has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. Only one person has exam after S. Only one person has exam between S and B. Exactly four people have their exams between J and S. A has an exam immediately before P. I does not have an exam on Friday. How many people have exams before O?

Ans  1. Four  
 2. Two  
 3. Three  
 4. One

Question ID : 4410091313709

Option 1 ID : 4410095186535

Option 2 ID : 4410095186537

Option 3 ID : 4410095186536

Option 4 ID : 4410095186538

Status : Answered

Chosen Option : 1

Q.12 Refer to the given number series and answer the question that follows. Counting to be done from left to right only. All numbers are single-digit numbers.

(Left) 8 3 6 2 7 1 9 4 5 2 8 3 7 4 9 6 1 9 2 5 6 8 7 6 3 9 4 1 2 6 7 (Right)

How many such odd digits are there each, of which is immediately preceded by an even digit and also immediately followed by an even digit? 6949

Ans  1. Four

2. Six

3. Eight

4. Five

Question ID : 441009780868

Option 1 ID : 4410093077478

Option 2 ID : 4410093077476

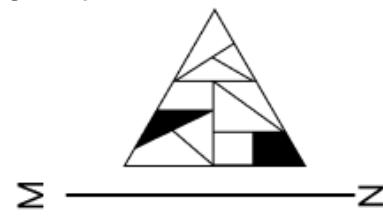
Option 3 ID : 4410093077477

Option 4 ID : 4410093077475

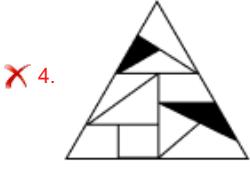
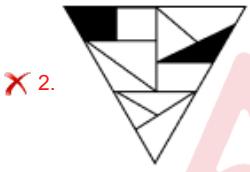
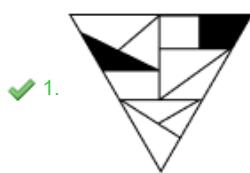
Status : Answered

Chosen Option : 2

Q.13 If a water source is placed along M-N, as shown in the following figure, which of the given options will be the water reflection of the given figure?



Ans



Question ID : 441009864938

Option 1 ID : 4410093412854

Option 2 ID : 4410093412852

Option 3 ID : 4410093412853

Option 4 ID : 4410093412855

Status : Answered

Chosen Option : 1

Q.14 Refer to the given number, symbol series and answer the question that follows.

Counting to be done from left to right only. All numbers are single-digit numbers.

(Left) @ 5 % © € 7 @ @@ 5 4 1 © \$ & 1 8 @ £ @ 8 6 (Right)

How many such numbers are there, each of which is immediately preceded by a symbol and also immediately followed by a symbol?

Ans  1. 4

2. 2

3. 3

4. 1

Question ID : 441009793695

Option 1 ID : 4410093128782

Option 2 ID : 4410093128779

Option 3 ID : 4410093128780

Option 4 ID : 4410093128781

Status : Answered

Chosen Option : 2

Q.15 REST is related to QDRS in a certain way based on the English alphabetical order. In the same way, FOIL is related to ENHK. To which of the following is GULF related, following the same logic?

Ans  1. FTKE

2. FUHB

3. BSLF

4. FSJE

Question ID : 441009771618

Option 1 ID : 4410093040465

Option 2 ID : 4410093040468

Option 3 ID : 4410093040466

Option 4 ID : 4410093040467

Status : Answered

Chosen Option : 1

Q.16 What will come in place of the question mark (?) in the following equation if '+' and '−' are interchanged and '×' and '÷' are interchanged?

$$104 \div 9 + 999 \times 9 - 2 = ?$$

Ans  1. 827

2. 826

3. 823

4. 825

Question ID : 4410091312804

Option 1 ID : 4410095182924

Option 2 ID : 4410095182923

Option 3 ID : 4410095182921

Option 4 ID : 4410095182922

Status : Answered

Chosen Option : 1

Q.17 In a certain code language, 'POET' is coded as '6428' and 'EARS' is coded as '3567'.  
What is the code for 'E' in that language?

Ans  1. 6

2. 2

3. 3

4. 5

Question ID : 441009755635

Option 1 ID : 4410092976533

Option 2 ID : 4410092976534

Option 3 ID : 4410092976535

Option 4 ID : 4410092976536

Status : Not Answered

Chosen Option : --

Q.18 Select the letter-cluster from among the given options that can replace the question mark (?) to complete the given series.

NDTK, MFQO, ?, KJKW, JLHA

Ans  1. LNHS

2. LDNS

3. LHNT

4. LHNS

Question ID : 4410091313943

Option 1 ID : 4410095187474

Option 2 ID : 4410095187473

Option 3 ID : 4410095187472

Option 4 ID : 4410095187471

Status : Answered

Chosen Option : 4

Q.19 In a certain code language,

'A + B' means 'A is the mother of B',  
'A - B' means 'A is the brother of B',  
'A x B' means 'A is the wife of B' and  
'A ÷ B' means 'A is the father of B'.

How is P related to T if 'P x Q ÷ R + S - T'?

Ans  1. Mother's Sister

2. Father's Mother

3. Mother's Mother

4. Father's Sister

Question ID : 4410091313795

Option 1 ID : 4410095186880

Option 2 ID : 4410095186881

Option 3 ID : 4410095186879

Option 4 ID : 4410095186882

Status : Answered

Chosen Option : 3

Q.20 FING is related to OPTJ in a certain way based on the English alphabetical order. In the same way, PKLS is related to YRRV. To which of the following options is QFDB related, following the same logic?

Ans  1. ZMJE

2. ZMEJ

3. ZJME

4. ZJEM

Question ID : 4410091313830

Option 1 ID : 4410095187019

Option 2 ID : 4410095187020

Option 3 ID : 4410095187021

Option 4 ID : 4410095187022

Status : Answered

Chosen Option : 1

Q.21 Which of the given letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?

# : PNL :: BZX : %

Ans  1. # = NLI , % = CAY

2. # = NNL , % = DBZ

3. # = NLJ , % = DBZ

4. # = NLJ , % = DAA

Question ID : 441009759059

Option 1 ID : 4410092990232

Option 2 ID : 4410092990231

Option 3 ID : 4410092990229

Option 4 ID : 4410092990230

Status : Answered

Chosen Option : 3

Q.22 What should come in place of the question mark (?) in the given series?

12, 24, 72, ?, 1440, 8640

Ans  1. 288

2. 218

3. 286

4. 222

Question ID : 441009605260

Option 1 ID : 4410092376158

Option 2 ID : 4410092376160

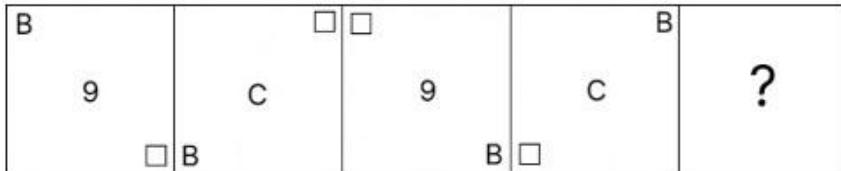
Option 3 ID : 4410092376157

Option 4 ID : 4410092376159

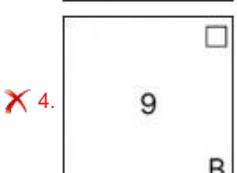
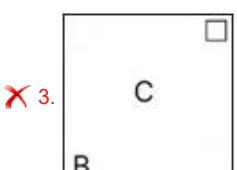
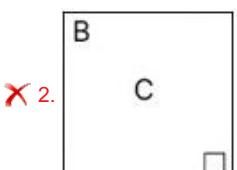
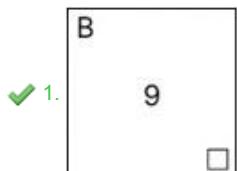
Status : Answered

Chosen Option : 1

Q.23 Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.



Ans



Question ID : 441009675682  
Option 1 ID : 4410092656869

Option 2 ID : 4410092656871

Option 3 ID : 4410092656872

Option 4 ID : 4410092656870

Status : Answered

Chosen Option : 1

Q.24 E, F, M, N, U and Y live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it is numbered 2 and so on, till the topmost floor is numbered 6.

Only three people live below U. Only two people live between U and N. Only E lives between U and M. F lives immediately below U. How many people live between Y and E?

Ans ✗ 1. One

✗ 2. Four

✓ 3. Two

✗ 4. Three

Question ID : 4410091313776

Option 1 ID : 4410095186806

Option 2 ID : 4410095186803

Option 3 ID : 4410095186805

Option 4 ID : 4410095186804

Status : Answered

Chosen Option : 3

Q.25 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans  1. RI-NL

2. SJ-OM

3. DU-ZA

4. ZQ-VT

Question ID : 4410091313779

Option 1 ID : 4410095186816

Option 2 ID : 4410095186818

Option 3 ID : 4410095186815

Option 4 ID : 4410095186817

Status : Answered

Chosen Option : 3

Q.26 In a certain code language, 'CATS' is coded as '3571' and 'TURN' is coded as '2438'. What is the code for 'T' in that language?

Ans  1. 3

2. 8

3. 2

4. 7

Question ID : 441009755632

Option 1 ID : 4410092976521

Option 2 ID : 4410092976524

Option 3 ID : 4410092976522

Option 4 ID : 4410092976523

Status : Not Answered

Chosen Option : --

Q.27 A, B, C, D, E, F and G are sitting around a circular table, facing the centre of the table. A sits third to the left of E. C and B are immediate neighbours of E. F is an immediate neighbour of G. F sits third to the left of D. Who among the following is the neighbour of A?

Ans  1. E

2. D

3. F

4. C

Question ID : 441009755585

Option 1 ID : 4410092976335

Option 2 ID : 4410092976334

Option 3 ID : 4410092976336

Option 4 ID : 4410092976333

Status : Answered

Chosen Option : 2

Q.28 If 'A' stands for '÷', 'B' stands for 'x', 'C' stands for '+' and 'D' stands for '−', then what will come in place of the question mark (?) in the following equation?

23 D 40 A 8 C 12 B 5 = ?

Ans  1. 75  
 2. 76  
 3. 78  
 4. 77

Question ID : 441009551801

Option 1 ID : 4410092162518

Option 2 ID : 4410092162519

Option 3 ID : 4410092162521

Option 4 ID : 4410092162520

Status : Answered

Chosen Option : 3

Q.29 Refer to the given letter and symbol series and answer the question that follows.

Counting to be done from left to right only.

(Left) A P % ^ S T # P U M % P T M L J Z U # P S T L H & G # Z P % (Right)

If all the 'P's and '#'s are dropped from the above series, which is the eighth term from the left in the new series thus formed? 17494

Ans  1. &  
 2. M  
 3. U  
 4. %

Question ID : 441009771530

Option 1 ID : 4410093040116

Option 2 ID : 4410093040115

Option 3 ID : 4410093040114

Option 4 ID : 4410093040113

Status : Answered

Chosen Option : 4

Q.30 A, B, C, D, E, F and G are sitting around a circular table facing the centre.

Only G sits between C and E. E sits third to the left of D. F sits to the immediate left of D. B is not an immediate neighbour of E.

How many people live between B and G when counted from the right of G?

Ans  1. 1  
 2. 3  
 3. 2  
 4. 4

Question ID : 4410091313804

Option 1 ID : 4410095186915

Option 2 ID : 4410095186917

Option 3 ID : 4410095186916

Option 4 ID : 4410095186918

Status : Answered

Chosen Option : 4

Section : Branch Specific (Mechanical)

**Q.1** What is one benefit of multi-stage compression in gas pipelines?

Ans  1. Reduces the need for lubricants  
 2. Decreases compression costs significantly  
 3. Simplifies pipeline design  
 4. Improves gas flow over long distances

Question ID : 441009120675

Option 1 ID : 441009479738

Option 2 ID : 441009479741

Option 3 ID : 441009479740

Option 4 ID : 441009479739

Status : **Answered**

Chosen Option : 2

**Q.2** In the Rankine cycle, what is the purpose of the pump?

Ans  1. Increases temperature  
 2. Decreases entropy  
 3. Increases pressure  
 4. Decreases pressure

Question ID : 441009120065

Option 1 ID : 441009477332

Option 2 ID : 441009477333

Option 3 ID : 441009477331

Option 4 ID : 441009477334

Status : **Answered**

Chosen Option : 3

**Q.3** What is the function of the combustion chamber in the Cochran Boiler?

Ans  1. To circulate water  
 2. To mix water and fuel  
 3. To burn fuel and produce heat  
 4. To store steam

Question ID : 441009106478

Option 1 ID : 441009423934

Option 2 ID : 441009423932

Option 3 ID : 441009423933

Option 4 ID : 441009423931

Status : **Answered**

Chosen Option : 3

**Q.4** Which assumption is NOT required for the Continuity Equation to be valid?

Ans  1. Steady flow  
 2. Mass conservation  
 3. No-slip condition  
 4. External forces

Question ID : 441009125980

Option 1 ID : 441009500646

Option 2 ID : 441009500644

Option 3 ID : 441009500647

Option 4 ID : 441009500645

Status : **Answered**

Chosen Option : 3

Q.5 Entropy per unit mass is an intensive property and has the unit of \_\_\_\_\_.

Ans  1. kJ/K

2. kg/K

3. kJ/kg·K

4. kJ-kg/K

Question ID : 441009171055

Option 1 ID : 441009677125

Option 2 ID : 441009677128

Option 3 ID : 441009677126

Option 4 ID : 441009677127

Status : **Answered**

Chosen Option : 3

Q.6 Which of the following is a characteristic effect of using argon as a shielding gas in Metal Inert Gas (MIG) arc welding or Gas Metal Arc Welding (GMAW)?

Ans  1. It increases spatter and requires higher arc voltages for ionisation.

2. It enhances arc concentration, reduces spatter, and enables deep penetration.

3. It conducts heat rapidly from the arc to the weld zone, making it unsuitable for thin sheets.

4. It prevents spray transfer of metal, even when used in large proportions.

Question ID : 441009131849

Option 1 ID : 441009523982

Option 2 ID : 441009523983

Option 3 ID : 441009523984

Option 4 ID : 441009523985

Status : **Answered**

Chosen Option : 2

Q.7 Which valve allows air to enter the cylinder during the intake stroke?

Ans  1. Pressure relief valve

2. Suction valve

3. Check valve

4. Discharge valve

Question ID : 441009119524

Option 1 ID : 441009475214

Option 2 ID : 441009475213

Option 3 ID : 441009475212

Option 4 ID : 441009475211

Status : **Answered**

Chosen Option : 2

Q.8 The thermal efficiency of Otto cycle can be expressed as \_\_\_\_\_, where,  $Q_s$  = heat supplied and  $Q_R$  = heat rejected.

Ans  1.  $Q_s / (Q_s - Q_R)$

2.  $Q_s / Q_R$

3.  $(Q_s - Q_R)$

4.  $(Q_s - Q_R) / Q_s$

Question ID : 441009187503

Option 1 ID : 441009740562

Option 2 ID : 441009740563

Option 3 ID : 441009740564

Option 4 ID : 441009740561

Status : **Answered**

Chosen Option : 4

**Q.9 Why SHM is preferred for follower motion, in a cam mechanism?**

Ans  1. It provides uniform acceleration and deceleration.  
 2. It minimises wear and tear.  
 3. It gives higher lift in lesser time.  
 4. It ensures constant velocity throughout.

Question ID : 441009100911

Option 1 ID : 441009401654

Option 2 ID : 441009401657

Option 3 ID : 441009401655

Option 4 ID : 441009401656

Status : **Answered**

Chosen Option : 1

**Q.10 Which of the following factors primarily determines the cooling characteristics of a casting in Caine's method?**

Ans  1. Ratio of metal density to mould material conductivity  
 2. Ratio of pouring temperature to solidification time  
 3. Ratio of mould thickness to riser height  
 4. Ratio of surface area to volume of the casting

Question ID : 441009131812

Option 1 ID : 441009523832

Option 2 ID : 441009523833

Option 3 ID : 441009523830

Option 4 ID : 441009523831

Status : **Not Answered**

Chosen Option : --

**Q.11 What type of velocity components are present in the velocity diagram of an impulse turbine?**

Ans  1. Only tangential velocity  
 2. Only axial velocity  
 3. Absolute, relative and blade velocity components  
 4. Only absolute velocity

Question ID : 441009128131

Option 1 ID : 441009509144

Option 2 ID : 441009509146

Option 3 ID : 441009509145

Option 4 ID : 441009509143

Status : **Answered**

Chosen Option : 3

**Q.12 When specifying a drilling machine, what does the term 'maximum drill size' refer to?**

Ans  1. The maximum speed of the spindle  
 2. The largest diameter of the drill bit that can be used  
 3. The maximum depth the drill can reach  
 4. The size of the machine's base

Question ID : 441009229158

Option 1 ID : 441009896267

Option 2 ID : 441009896265

Option 3 ID : 441009896266

Option 4 ID : 441009896268

Status : **Answered**

Chosen Option : 2

Q.13 At which location is absolute pressure typically measured?

Ans  1. At the top of a mountain  
 2. Near the surface of the Earth  
 3. At sea level  
 4. In a vacuum or outer space

Question ID : 44100999735

Option 1 ID : 441009396881

Option 2 ID : 441009396880

Option 3 ID : 441009396883

Option 4 ID : 441009396882

Status : Answered

Chosen Option : 4

Q.14 Back gear used in simple lathe is part of which gear train?

Ans  1. Simple gear train  
 2. Epicyclic gear train  
 3. Reverted gear train  
 4. Compound gear train

Question ID : 441009160760

Option 1 ID : 441009636791

Option 2 ID : 441009636794

Option 3 ID : 441009636792

Option 4 ID : 441009636793

Status : Answered

Chosen Option : 4

Q.15 What is the purpose of providing a draft allowance in a pattern?

Ans  1. To minimise shrinkage defects in the casting  
 2. To improve the surface finish of the casting  
 3. To prevent mould damage during pattern removal  
 4. To increase the strength of the mould cavity

Question ID : 441009131779

Option 1 ID : 441009523701

Option 2 ID : 441009523700

Option 3 ID : 441009523699

Option 4 ID : 441009523698

Status : Answered

Chosen Option : 3

Q.16 What is the formula for determining the number of friction surfaces (n) for a multi-plate clutch?

Ans  1.  $n = \text{number of driving plates} + \text{number of driven plates} + 1$   
 2.  $n = \text{number of driving plates} + \text{number of driven plates}$   
 3.  $n = \text{number of driving plates} + \text{number of driven plates} - 1$   
 4.  $n = \text{number of driving plates} - \text{number of driven plates} - 1$

Question ID : 44100999524

Option 1 ID : 441009396034

Option 2 ID : 441009396036

Option 3 ID : 441009396033

Option 4 ID : 441009396035

Status : Answered

Chosen Option : 3

Q.17 The formula for the polar moment of inertia of a hollow circular shaft with outer diameter 'D' and inner diameter 'd' is:

Ans  1.  $J = \pi(D^4 - d^4)/32$   
 2.  $J = \pi(D^4 + d^4)/32$   
 3.  $J = \pi D^4/32$   
 4.  $J = \pi d^4/32$

Question ID : 441009135054

Option 1 ID : 441009536838

Option 2 ID : 441009536839

Option 3 ID : 441009536836

Option 4 ID : 441009536837

Status : Answered

Chosen Option : 1

Q.18 A solid circular shaft with a radius of 50 mm is subjected to torsion. The maximum shear stress developed at the outer surface of the shaft is 80 MPa. The shear stress at a radius of 20 mm from the centre of the shaft is:

Ans  1. 24 MPa  
 2. 16 MPa  
 3. 8 MPa  
 4. 32 MPa

Question ID : 441009135108

Option 1 ID : 441009537062

Option 2 ID : 441009537061

Option 3 ID : 441009537060

Option 4 ID : 441009537063

Status : Answered

Chosen Option : 4

Q.19 Which of the following is used in a diesel engine for mixing fuel and air?

Ans  1. Exhaust valve  
 2. Carburettor  
 3. Spark plug  
 4. Fuel injector

Question ID : 441009176817

Option 1 ID : 441009699172

Option 2 ID : 441009699170

Option 3 ID : 441009699169

Option 4 ID : 441009699171

Status : Answered

Chosen Option : 4

Q.20 Which of the following is the correct expression for gauge pressure?

Ans  1. Gauge pressure = Absolute pressure - Atmospheric pressure  
 2. Gauge pressure = Absolute pressure + Atmospheric pressure  
 3. Gauge pressure = Atmospheric pressure  
 4. Gauge pressure = Hydrostatic pressure + Atmospheric pressure

Question ID : 441009103344

Option 1 ID : 441009411496

Option 2 ID : 441009411498

Option 3 ID : 441009411495

Option 4 ID : 441009411497

Status : Answered

Chosen Option : 1

Q.21 The projection lines in orthographic projection are:

Ans  1. inclined  
 2. converging  
 3. perpendicular to the projection plane  
 4. diverging

Question ID : 441009226755

Option 1 ID : 441009887853

Option 2 ID : 441009887854

Option 3 ID : 441009887855

Option 4 ID : 441009887852

Status : Answered

Chosen Option : 3

Q.22 Which of the following engines operate in the way that the rate of burning can be controlled by the rate of injection of fuel?

Ans  1. External combustion engine  
 2. Compression-ignition engine  
 3. Dual combustion engine  
 4. Spark-ignition engine

Question ID : 441009176825

Option 1 ID : 441009699204

Option 2 ID : 441009699202

Option 3 ID : 441009699203

Option 4 ID : 441009699201

Status : Answered

Chosen Option : 2

Q.23 What is the main reason for cutting the runners in the cope and in-gates in the drag for ferrous metals?

Ans  1. To reduce the weight of the mould and make it easier to handle  
 2. To increase the speed of solidification of the molten metal  
 3. To improve the flow of molten metal into the mould cavity  
 4. To trap the slag and dross, which are lighter and tend to float on top

Question ID : 441009131756

Option 1 ID : 441009523606

Option 2 ID : 441009523609

Option 3 ID : 441009523607

Option 4 ID : 441009523608

Status : Answered

Chosen Option : 3

Q.24 Which of the following views causes an object to appear smaller than the actual size due to foreshortening?

Ans  1. Perspective view  
 2. Isometric projection  
 3. Isometric view  
 4. Orthographic view

Question ID : 441009229094

Option 1 ID : 441009896016

Option 2 ID : 441009896015

Option 3 ID : 441009896014

Option 4 ID : 441009896013

Status : Answered

Chosen Option : 1

**Q.25** Which of the following tools is used for holding multiple cutters on a horizontal milling machine?

Ans  1. Mandrel  
 2. Vise  
 3. Chuck  
 4. Arbor

Question ID : 441009229435

Option 1 ID : 441009897344

Option 2 ID : 441009897343

Option 3 ID : 441009897341

Option 4 ID : 441009897342

Status : Answered

Chosen Option : 4

**Q.26** The enthalpy of vapourisation is minimum at:

Ans  1. 373 K  
 2. critical temperature  
 3. absolute zero  
 4. triple point

Question ID : 441009163669

Option 1 ID : 441009648320

Option 2 ID : 441009648321

Option 3 ID : 441009648319

Option 4 ID : 441009648322

Status : Answered

Chosen Option : 2

**Q.27** What is one of the main advantages of using the Babcock and Wilcox Boiler?

Ans  1. High fuel efficiency  
 2. Compact design  
 3. Low initial cost  
 4. Easy to maintain

Question ID : 441009106494

Option 1 ID : 441009424003

Option 2 ID : 441009424005

Option 3 ID : 441009424006

Option 4 ID : 441009424004

Status : Answered

Chosen Option : 1

**Q.28** For a system, if the initial enthalpy of the substance is 40 kJ/kg and heat transferred at constant pressure to the system is 55 kJ/kg, then what will be the final enthalpy of the substance?

Ans  1. 15 kJ/kg  
 2. 95 kJ/kg  
 3. 75 kJ/kg  
 4. 60 kJ/kg

Question ID : 441009187703

Option 1 ID : 441009741183

Option 2 ID : 441009741184

Option 3 ID : 441009741185

Option 4 ID : 441009741186

Status : Answered

Chosen Option : 2

Q.29 Which of the following correctly describes an open impeller used in centrifugal pumps?

Ans  1. It has vanes enclosed between a crown plate and a base plate.  
 2. It has a partially enclosed design with a crown plate but no base plate.  
 3. It is used only for pumping clear water without suspended particles.  
 4. It has open vanes on both sides and lacks crown and base plates.

Question ID : 441009131407

Option 1 ID : 441009522200

Option 2 ID : 441009522201

Option 3 ID : 441009522202

Option 4 ID : 441009522199

Status : Answered

Chosen Option : 4

Q.30 A cone clutch with a cone angle that is too small will result in which of the following?

Ans  1. The torque transmission increases.  
 2. The slippage increases.  
 3. The clutch engagement becomes smoother.  
 4. The clutch may become self-locking.

Question ID : 441009100885

Option 1 ID : 441009401550

Option 2 ID : 441009401552

Option 3 ID : 441009401551

Option 4 ID : 441009401553

Status : Answered

Chosen Option : 1

Q.31 If the surfaces are rough, the friction between the two surfaces \_\_\_\_.

Ans  1. is more  
 2. is less  
 3. can't be determined  
 4. is zero

Question ID : 441009169208

Option 1 ID : 441009669811

Option 2 ID : 441009669812

Option 3 ID : 441009669814

Option 4 ID : 441009669813

Status : Answered

Chosen Option : 1

Q.32 Which of the following is a key advantage of submerged arc welding?

Ans  1. Good for thin sheets  
 2. No need for flux  
 3. Portable equipment  
 4. High deposition rate

Question ID : 441009161153

Option 1 ID : 441009638281

Option 2 ID : 441009638282

Option 3 ID : 441009638283

Option 4 ID : 441009638284

Status : Answered

Chosen Option : 4

Q.33 The throat diameter of a Venturi meter is one-third of the pipe diameter. If the velocity in the pipe is 2 m/s, what is the velocity at the throat (assuming ideal flow conditions)?

Ans  1. 9 m/s  
 2. 6 m/s  
 3. 18 m/s  
 4. 2 m/s

Question ID : 441009125428

Option 1 ID : 441009498555

Option 2 ID : 441009498558

Option 3 ID : 441009498556

Option 4 ID : 441009498557

Status : Answered

Chosen Option : 3

Q.34 Which of the following statements states that the heat engine will not produce net work in a complete cycle by exchanging heat with only one reservoir?

Ans  1. Kelvin-Planck statement  
 2. Clausius statement  
 3. Clausius inequality  
 4. Carnot's theorem

Question ID : 441009176769

Option 1 ID : 441009698982

Option 2 ID : 441009698981

Option 3 ID : 441009698983

Option 4 ID : 441009698984

Status : Answered

Chosen Option : 1

Q.35 Which drilling machine is characterised by multiple spindles operating simultaneously to perform drilling operations on a single workpiece?

Ans  1. Multi-Spindle Drilling Machine  
 2. Pillar Drilling Machine  
 3. Sensitive Drilling Machine  
 4. Upright Drilling Machine

Question ID : 441009229115

Option 1 ID : 441009896099

Option 2 ID : 441009896097

Option 3 ID : 441009896098

Option 4 ID : 441009896100

Status : Answered

Chosen Option : 1

Q.36 Which of the following increases the specific speed of a turbine?

Ans  1. Decreasing rotational speed  
 2. Decreasing power output  
 3. Increasing power output  
 4. Increasing net head

Question ID : 441009126350

Option 1 ID : 441009502093

Option 2 ID : 441009502092

Option 3 ID : 441009502094

Option 4 ID : 441009502095

Status : Answered

Chosen Option : 3

Q.37 The value of frictional force for V-belt is \_\_\_\_\_.

Ans  1.  $\mu R \sin \alpha$   
 2.  $\mu R \sin \alpha$   
 3.  $\mu R \cos \alpha$   
 4.  $\mu R / \cos \alpha$

Question ID : 441009162878

Option 1 ID : 441009645154

Option 2 ID : 441009645155

Option 3 ID : 441009645153

Option 4 ID : 441009645152

Status : Answered

Chosen Option : 4

Q.38 Which of the following is commonly used to hold cylindrical workpieces in a milling machine?

Ans  1. T-slot table  
 2. V-block  
 3. Angle plate  
 4. Collet

Question ID : 441009229415

Option 1 ID : 441009897261

Option 2 ID : 441009897264

Option 3 ID : 441009897263

Option 4 ID : 441009897262

Status : Answered

Chosen Option : 2

Q.39 What is the primary role of flux in the soldering process?

Ans  1. To remove oxides and promote wetting  
 2. To melt the base metal  
 3. To act as a filler material  
 4. To insulate the joint

Question ID : 441009161175

Option 1 ID : 441009638369

Option 2 ID : 441009638370

Option 3 ID : 441009638371

Option 4 ID : 441009638372

Status : Answered

Chosen Option : 1

Q.40 Identify the INCORRECT statement from among the following.

Ans  1. The evaporation process is both isobaric and isothermal in character.  
 2. The superheated vapour behaves like a perfect gas.  
 3. The process of leakage of steam through the safety valve of a boiler corresponds through a throttling process.  
 4. The latent heat of vapourisation has a maximum value at the critical point.

Question ID : 441009168470

Option 1 ID : 441009666839

Option 2 ID : 441009666840

Option 3 ID : 441009666842

Option 4 ID : 441009666841

Status : Answered

Chosen Option : 4

Q.41 Which of the following statements is true regarding isometric projection?

Ans  1. Circles appear as circles.  
 2. All faces are drawn in the true shape.  
 3. Dimensions are scaled down using the isometric scale.  
 4. It uses the same scale as orthographic projection.

Question ID : 441009229090

Option 1 ID : 441009895998

Option 2 ID : 441009895997

Option 3 ID : 441009895999

Option 4 ID : 441009896000

Status : Answered

Chosen Option : 3

Q.42 How does sensible heat transfer from a substance to the refrigerant in the evaporator?

Ans  1. Through only convection process  
 2. Through both conduction and convection processes  
 3. Through only conduction process  
 4. Through only radiation process

Question ID : 44100996915

Option 1 ID : 441009385697

Option 2 ID : 441009385698

Option 3 ID : 441009385695

Option 4 ID : 441009385696

Status : Answered

Chosen Option : 2

Q.43 Which of the following processes proceeds in such a way that the system remains in equilibrium state at all times?

Ans  1. Isopiestic process  
 2. Quasi-static process  
 3. Polytropic process  
 4. Isochoric process

Question ID : 441009171198

Option 1 ID : 441009677692

Option 2 ID : 441009677691

Option 3 ID : 441009677689

Option 4 ID : 441009677690

Status : Answered

Chosen Option : 2

Q.44 How is the welding current controlled in Gas Metal Arc Welding (GMAW) or Metal Inert Gas (MIG) arc welding?

Ans  1. By adjusting the gas flow from the cylinder  
 2. By changing the voltage setting on the power supply  
 3. By varying the feed rate of the electrode wire  
 4. By modifying the electrode type used in welding

Question ID : 441009131846

Option 1 ID : 441009523962

Option 2 ID : 441009523963

Option 3 ID : 441009523964

Option 4 ID : 441009523965

Status : Answered

Chosen Option : 2

Q.45 What is the role of the feed rod in a lathe machine?

Ans  1. Rotate the spindle  
 2. Align the workpiece  
 3. Provide power to the carriage for feed motion  
 4. Transmit motion to the lead screw

Question ID : 441009161362

Option 1 ID : 441009639102

Option 2 ID : 441009639104

Option 3 ID : 441009639103

Option 4 ID : 441009639101

Status : Answered

Chosen Option : 3

Q.46 In the P-V diagram of a refrigeration cycle, the working fluid enters the compressor after the \_\_\_\_\_.

Ans  1. evaporator  
 2. condenser  
 3. throttling valve  
 4. expander

Question ID : 441009176790

Option 1 ID : 441009699063

Option 2 ID : 441009699062

Option 3 ID : 441009699064

Option 4 ID : 441009699061

Status : Answered

Chosen Option : 1

Q.47 A Watt governor is ineffective at:

Ans  1. 60 RPM  
 2. 50 RPM  
 3. 70 RPM  
 4. 80 RPM

Question ID : 44100999357

Option 1 ID : 441009395395

Option 2 ID : 441009395398

Option 3 ID : 441009395396

Option 4 ID : 441009395397

Status : Answered

Chosen Option : 4

Q.48 What is the key factor affecting the efficiency of a cone clutch?

Ans  1. Material of the cone  
 2. Angle of the cone  
 3. Type of lubrication  
 4. Speed of the shaft

Question ID : 441009100880

Option 1 ID : 441009401531

Option 2 ID : 441009401530

Option 3 ID : 441009401533

Option 4 ID : 441009401532

Status : Answered

Chosen Option : 2

Q.49 Which drive has constant velocity ratio?

Ans  1. Chain and gear  
 2. V-Belt and flat belt  
 3. V-Belt and rope  
 4. Flat belt and rope

Question ID : 441009163145

Option 1 ID : 441009646210

Option 2 ID : 441009646213

Option 3 ID : 441009646211

Option 4 ID : 441009646212

Status : Answered

Chosen Option : 1

Q.50 In the stress-strain diagram for structural steels, the slope of the linear portion represents:

Ans  1. the modulus of elasticity  
 2. the yield strength  
 3. plastic deformation  
 4. the ultimate tensile strength

Question ID : 441009130823

Option 1 ID : 441009519791

Option 2 ID : 441009519789

Option 3 ID : 441009519792

Option 4 ID : 441009519790

Status : Answered

Chosen Option : 1

Q.51 What is the coefficient of fluctuation of speed in flywheel defined as?

Ans  1. Maximum fluctuation of speed  
 2. Mean speed  
 3. Maximum Speed  
 4. Maximum fluctuation of speed  
 5. Maximum fluctuation of speed  
 6. Maximum speed  
 7. Maximum fluctuation of speed  
 8. Work Done

Question ID : 441009150972

Option 1 ID : 441009599119

Option 2 ID : 441009599122

Option 3 ID : 441009599121

Option 4 ID : 441009599120

Status : Answered

Chosen Option : 1

Q.52 Which of the following steady flow devices increases the pressure of a fluid by slowing it down?

Ans  1. Compressor  
 2. Turbine  
 3. Diffuser  
 4. Nozzle

Question ID : 441009171093

Option 1 ID : 441009677278

Option 2 ID : 441009677280

Option 3 ID : 441009677279

Option 4 ID : 441009677277

Status : Answered

Chosen Option : 3

Q.53 What is the key difference between creep and elastic deformation?

Ans  1. Elastic deformation depends on time, whereas creep is independent of time.  
 2. Creep occurs only at low temperatures, whereas elastic deformation occurs only at high temperatures.  
 3. Elastic deformation is reversible upon load removal, whereas creep leads to permanent deformation over time under constant stress.  
 4. Creep occurs instantly when a load is applied, whereas elastic deformation occurs over a long period under constant stress.

Question ID : 441009130793

Option 1 ID : 441009519692

Option 2 ID : 441009519691

Option 3 ID : 441009519690

Option 4 ID : 441009519689

Status : Answered

Chosen Option : 3

Q.54 If the speed of a turbine is doubled, how will the unit speed (Nu) change?

Ans  1. Increase by 2 times  
 2. Increase by 21/2 times  
 3. Decrease by 2 times  
 4. Remain constant

Question ID : 441009126566

Option 1 ID : 441009502954

Option 2 ID : 441009502952

Option 3 ID : 441009502955

Option 4 ID : 441009502953

Status : Answered

Chosen Option : 1

**Q.55** Determine the number of teeth in gear D in a reverted gear train in which gear A and B meshes with compound gear B-C; gear C is meshing with gear D. Modulus of gear A and C are 6 mm and 5 mm, respectively. The number of teeth in gear A, B, C are 24, 36 and 40, respectively.

Ans  1. 30

2. 32

3. 34

4. 38

Question ID : 441009160846

Option 1 ID : 441009637110

Option 2 ID : 441009637108

Option 3 ID : 441009637109

Option 4 ID : 441009637111

Status : Answered

Chosen Option : 2

**Q.56** The amount of refrigeration effect produced depends on the:

Ans  1. size of the compressor

2. amount of heat absorbed at the evaporator

3. temperature difference across the system

4. efficiency of the condenser

Question ID : 44100995924

Option 1 ID : 441009381659

Option 2 ID : 441009381658

Option 3 ID : 441009381661

Option 4 ID : 441009381660

Status : Answered

Chosen Option : 2

**Q.57** A force of 120 kN makes angles of  $60^\circ$ ,  $80^\circ$  and  $120^\circ$  with x, y and z axes, respectively. Determine its z component of force.

Ans  1. -21 kN

2. 21 kN

3. -60 kN

4. 120 kN

Question ID : 441009168072

Option 1 ID : 441009665285

Option 2 ID : 441009665286

Option 3 ID : 441009665287

Option 4 ID : 441009665288

Status : Answered

Chosen Option : 3

Q.58 A material has a bulk modulus of 80 GPa and a Poisson's ratio of 0.25. Its Young's modulus is:

Ans  1. 180 GPa  
 2. 200 GPa  
 3. 120 GPa  
 4. 100 GPa

Question ID : 441009130852

Option 1 ID : 441009519903

Option 2 ID : 441009549317

Option 3 ID : 441009519902

Option 4 ID : 441009519901

Status : Answered

Chosen Option : 2

Q.59 Which of the following is NOT typically included in the specifications of a drilling machine?

Ans  1. Maximum drilling capacity  
 2. Type of coolant used  
 3. Spindle speed range  
 4. Table size

Question ID : 441009229145

Option 1 ID : 441009896219

Option 2 ID : 441009896218

Option 3 ID : 441009896217

Option 4 ID : 441009896220

Status : Answered

Chosen Option : 2

Q.60 Which of the following assumptions is NOT valid for Bernoulli's theorem?

Ans  1. Frictionless flow  
 2. Viscous flow  
 3. Incompressible flow  
 4. Steady flow

Question ID : 441009125305

Option 1 ID : 441009498083

Option 2 ID : 441009498082

Option 3 ID : 441009498084

Option 4 ID : 441009498085

Status : Answered

Chosen Option : 2

Q.61 The specific speed ( $N_s$ ) of a hydraulic turbine is defined as the speed of a geometrically similar turbine that \_\_\_\_\_.

Ans  1. delivers unit power at maximum efficiency  
 2. develops unit power at unit head  
 3. operates at maximum efficiency  
 4. delivers unit discharge at unit head

Question ID : 441009126165

Option 1 ID : 441009501365

Option 2 ID : 441009501366

Option 3 ID : 441009501364

Option 4 ID : 441009501367

Status : Answered

Chosen Option : 2

Q.62 Force is a \_\_\_\_ quantity.

Ans  1. scalar  
 2. tensor  
 3. vector  
 4. dimensionless

Question ID : 441009100945

Option 1 ID : 441009401790

Option 2 ID : 441009401792

Option 3 ID : 441009401791

Option 4 ID : 441009401793

Status : Answered

Chosen Option : 3

Q.63 Which of the following refrigerants has the highest latent heat of vaporisation?

Ans  1. R-12 (Dichlorodifluoromethane)  
 2. Carbon dioxide (R-744)  
 3. Ammonia (R-717)  
 4. R-123 (Dichloro-trifluoro ethane)

Question ID : 44100997715

Option 1 ID : 441009388861

Option 2 ID : 441009388860

Option 3 ID : 441009388859

Option 4 ID : 441009388862

Status : Answered

Chosen Option : 3

Q.64 What is typically mounted on the lathe bed?

Ans  1. Pulley system  
 2. Chuck and gears only  
 3. Tailstock, carriage and headstock  
 4. Cutting fluids

Question ID : 441009161375

Option 1 ID : 441009639155

Option 2 ID : 441009639154

Option 3 ID : 441009639153

Option 4 ID : 441009639156

Status : Answered

Chosen Option : 3

Q.65 How does the use of an economiser impact the overall fuel consumption of a boiler system?

Ans  1. It increases fuel consumption significantly.  
 2. It increases the heat losses from the boiler.  
 3. It decreases fuel consumption by recovering waste heat.  
 4. It has no effect on fuel consumption.

Question ID : 441009104199

Option 1 ID : 441009414991

Option 2 ID : 441009414994

Option 3 ID : 441009414992

Option 4 ID : 441009414993

Status : Answered

Chosen Option : 3

**Q.66** What is the relation between maximum fluctuation of energy and coefficient of fluctuation of speed for a flywheel?

Ans  1. Maximum fluctuation of energy =  $I\omega C_s$   
 2.  $C_s = I\omega^2 \times$  Maximum fluctuation of energy  
 3. Maximum fluctuation of energy =  $I\omega^2 C_s$   
 4.  $C_s = I\omega \times$  Maximum fluctuation of energy

Question ID : 441009151025

Option 1 ID : 441009599332

Option 2 ID : 441009599329

Option 3 ID : 441009599330

Option 4 ID : 441009599331

Status : Answered

Chosen Option : 3

**Q.67** What is the primary purpose of a steam trap?

Ans  1. To store steam  
 2. To regulate steam pressure  
 3. To increase steam temperature  
 4. To remove condensate and non-condensable gases from the steam system

Question ID : 441009109529

Option 1 ID : 441009435827

Option 2 ID : 441009435825

Option 3 ID : 441009435828

Option 4 ID : 441009435826

Status : Answered

Chosen Option : 4

**Q.68** Resistance seam welding creates a continuous joint using:

Ans  1. induction coil  
 2. pointed electrodes  
 3. rotating wheel electrodes  
 4. laser beam

Question ID : 441009161350

Option 1 ID : 441009639056

Option 2 ID : 441009639053

Option 3 ID : 441009639054

Option 4 ID : 441009639055

Status : Answered

Chosen Option : 3

**Q.69** What is the primary purpose of converting a pictorial view into orthographic views in technical drawing?

Ans  1. To add colours and texture to the drawing  
 2. To simplify the drawing for artistic interpretation  
 3. To accurately represent all dimensions and details from different views  
 4. To create a 3D representation for visual appeal

Question ID : 441009224007

Option 1 ID : 441009877314

Option 2 ID : 441009877317

Option 3 ID : 441009877316

Option 4 ID : 441009877315

Status : Answered

Chosen Option : 3

Q.70 Which of the following is a key benefit of multi-stage compression?

Ans  1. Increases the overall efficiency of the system  
 2. Increases the complexity of the compressor  
 3. Eliminates the need for cooling  
 4. Reduces the need for lubrication

Question ID : 441009114199

Option 1 ID : 441009454251

Option 2 ID : 441009454252

Option 3 ID : 441009454253

Option 4 ID : 441009454250

Status : Answered

Chosen Option : 1

Q.71 When analysing a spherical pressure vessel, the convenient free body used for analysis

is:

Ans  1. a small segment of the sphere wall  
 2. a quarter of the sphere  
 3. the entire sphere  
 4. one-half of the sphere

Question ID : 441009139539

Option 1 ID : 441009554422

Option 2 ID : 441009554419

Option 3 ID : 441009554421

Option 4 ID : 441009554420

Status : Answered

Chosen Option : 2

Q.72 In a separating and throttling calorimeter, the steam will be at minimum pressure:

Ans  1. before throttling unit  
 2. before separating unit  
 3. after separating unit  
 4. after throttling unit

Question ID : 441009149335

Option 1 ID : 441009593101

Option 2 ID : 441009593103

Option 3 ID : 441009593100

Option 4 ID : 441009593102

Status : Answered

Chosen Option : 4

Q.73 In which of the following mechanisms is a cam and follower used to convert rotary motion into reciprocating motion?

Ans  1. Belt conveyor  
 2. Chain drive  
 3. Gearbox  
 4. IC engine valve mechanism

Question ID : 441009100896

Option 1 ID : 441009401595

Option 2 ID : 441009401594

Option 3 ID : 441009401597

Option 4 ID : 441009401596

Status : Answered

Chosen Option : 4

Q.74 What is a common issue caused by a steam trap failing to function properly?

Ans  1. Overheating of the system  
 2. Leakage of air into the system  
 3. Increased steam pressure  
 4. Water hammer and reduced system efficiency

Question ID : 441009109518

Option 1 ID : 441009435781

Option 2 ID : 441009435784

Option 3 ID : 441009435783

Option 4 ID : 441009435782

Status : Answered

Chosen Option : 4

Q.75 When a body slides or tends to slide on a surface on which it is resting, a resisting force opposing the motion is produced at the contact surface. This resisting force is called \_\_\_\_\_.

Ans  1. friction  
 2. angle of friction  
 3. angle of response  
 4. limiting friction

Question ID : 441009169232

Option 1 ID : 441009669907

Option 2 ID : 441009669909

Option 3 ID : 441009669910

Option 4 ID : 441009669908

Status : Answered

Chosen Option : 4

Q.76 Which of the following steady flow devices is a kind of flow-restricting device that causes a significant pressure drop in the fluid?

Ans  1. Throttling valve  
 2. Turbine  
 3. Compressor  
 4. Nozzle

Question ID : 441009171103

Option 1 ID : 441009677316

Option 2 ID : 441009677314

Option 3 ID : 441009677315

Option 4 ID : 441009677313

Status : Answered

Chosen Option : 4

Q.77 What is the function of a tool post?

Ans  1. Rotate the spindle  
 2. Hold and adjust the cutting tool  
 3. Support the chuck  
 4. Support the tailstock

Question ID : 441009161394

Option 1 ID : 441009639229

Option 2 ID : 441009639231

Option 3 ID : 441009639230

Option 4 ID : 441009639232

Status : Answered

Chosen Option : 2

Q.78 Which of the following relations is correct between train value and velocity ratio?

Ans  1. Train value  $\times$  Velocity ratio = 1  
 2. Train value + Velocity ratio = 1  
 3. Train value / Velocity ratio = 1  
 4. Train value - Velocity ratio = 1

Question ID : 441009163112

Option 1 ID : 441009646083

Option 2 ID : 441009646085

Option 3 ID : 441009646084

Option 4 ID : 441009646086

Status : Answered

Chosen Option : 1

Q.79 Which of the following statements about a tailrace in a hydroelectric power plant is true?

Ans  1. It removes sediments from the water before entering the turbine.  
 2. It increases the head of water entering the turbine.  
 3. It is located after the turbine and returns water to the river.  
 4. It carries water from the reservoir to the penstock.

Question ID : 441009126643

Option 1 ID : 441009503255

Option 2 ID : 441009503253

Option 3 ID : 441009503252

Option 4 ID : 441009503254

Status : Answered

Chosen Option : 3

Q.80 How does by-pass governing affect the power output of a steam turbine?

Ans  1. It limits or reduces the power output during low load conditions.  
 2. It has no effect on power output.  
 3. It increases power output.  
 4. It maintains constant power output regardless of load.

Question ID : 441009101850

Option 1 ID : 441009405417

Option 2 ID : 441009405418

Option 3 ID : 441009405415

Option 4 ID : 441009405416

Status : Answered

Chosen Option : 1

Q.81 If the diameter (d) and length (L) of a thin cylinder are doubled, then how does the force due to fluid pressure change?

Ans  1. It decreases by two times.  
 2. It increases by four times.  
 3. It remains the same.  
 4. It increases by two times.

Question ID : 441009138821

Option 1 ID : 441009551615

Option 2 ID : 441009551614

Option 3 ID : 441009551612

Option 4 ID : 441009551613

Status : Not Answered

Chosen Option : --

Q.82 The total energy of a simple harmonic oscillator is proportional to \_\_\_\_.

Ans  1. the displacement  
 2. the mass of the oscillator  
 3. the square of the amplitude  
 4. the velocity

Question ID : 441009100915

Option 1 ID : 441009401671

Option 2 ID : 441009401673

Option 3 ID : 441009401670

Option 4 ID : 441009401672

Status : Not Answered

Chosen Option : --

Q.83 Which of the following is INCORRECT with respect to rope drive?

Ans  1. Resultant driving tension is more than belt drive.  
 2. Friction grip is more than belt drive.  
 3. Preferred for long centre distance.  
 4. Tension in it is not uniformly distributed.

Question ID : 441009162458

Option 1 ID : 441009643484

Option 2 ID : 441009643485

Option 3 ID : 441009643487

Option 4 ID : 441009643486

Status : Answered

Chosen Option : 4

Q.84 A reaction turbine has a hydraulic efficiency of 90% and a mechanical efficiency of 92%.

If the generator efficiency is 95%, what is the overall efficiency of the turbine-generator system?

Ans  1. 80.8%  
 2. 78.66%  
 3. 74.5%  
 4. 85.5%

Question ID : 441009126156

Option 1 ID : 441009501329

Option 2 ID : 441009501330

Option 3 ID : 441009501331

Option 4 ID : 441009501328

Status : Answered

Chosen Option : 2

Q.85 For a hollow shaft, the polar moment of inertia is used to determine:

Ans  1. compressive strength  
 2. axial stress  
 3. bending moment  
 4. torsional rigidity

Question ID : 441009135068

Option 1 ID : 441009536903

Option 2 ID : 441009536900

Option 3 ID : 441009536901

Option 4 ID : 441009536902

Status : Answered

Chosen Option : 4

Q.86 In the T-S diagram of Otto cycle, the entropy remains constant and the temperature increases in \_\_\_\_\_.

Ans  1. isentropic compression  
 2. isentropic expansion  
 3. constant volume heat addition  
 4. constant volume heat rejection

Question ID : 441009187633

Option 1 ID : 441009740938

Option 2 ID : 441009740940

Option 3 ID : 441009740939

Option 4 ID : 441009740941

Status : Answered

Chosen Option : 1

Q.87 In a pressure-compounded turbine, each stage typically includes \_\_\_\_\_.

Ans  1. one condenser and one nozzle  
 2. one nozzle and one moving blade  
 3. two moving blades  
 4. one nozzle, one fixed blade and one moving blade

Question ID : 441009157531

Option 1 ID : 441009625290

Option 2 ID : 441009625287

Option 3 ID : 441009625289

Option 4 ID : 441009625288

Status : Answered

Chosen Option : 2

Q.88 If the coefficient of friction is 0.577, then find out the angle of friction.

Ans  1. 900  
 2. 600  
 3. 300  
 4. 450

Question ID : 441009168876

Option 1 ID : 441009668474

Option 2 ID : 441009668473

Option 3 ID : 441009668471

Option 4 ID : 441009668472

Status : Answered

Chosen Option : 3

Q.89 The principle that the pressure intensity in a fluid at a given depth is the same in all directions is known as:

Ans  1. Surface Tension  
 2. Pascal's Law  
 3. Viscosity  
 4. Hook's Law

Question ID : 441009103374

Option 1 ID : 441009411631

Option 2 ID : 441009411633

Option 3 ID : 441009411634

Option 4 ID : 441009411632

Status : Answered

Chosen Option : 2

Q.90 Calculate the maximum velocity of belt in which centrifugal tension is

Ans  1.  $\sqrt{100}$   
 2.  $\sqrt{1000}$   
 3.  $\sqrt{10}$   
 4.  $\sqrt{1}$

Question ID : 441009162988

Option 1 ID : 441009645594

Option 2 ID : 441009645595

Option 3 ID : 441009645593

Option 4 ID : 441009645592

Status : Answered

Chosen Option : 3

Q.91 Which turbine type is more efficient in large-scale power generation?

Ans  1. Reaction turbine only  
 2. Impulse turbine only  
 3. De-Lavel turbine  
 4. Both impulse and reaction turbines are equally efficient

Question ID : 441009102559

Option 1 ID : 441009408259

Option 2 ID : 441009408258

Option 3 ID : 441009408261

Option 4 ID : 441009408260

Status : Answered

Chosen Option : 1

Q.92 During compression of 10 kg of gas from  $1.5 \text{ m}^3$  to  $0.3 \text{ m}^3$  at constant pressure of 15 bars, the temperature rise was observed to be from  $20^\circ\text{C}$  to  $150^\circ\text{C}$ . The increase in internal energy was observed to be 3250 kJ. The work done and heat interaction during the process was observed as \_\_\_\_\_ and \_\_\_\_\_, respectively.

Ans  1.  $-1450 \text{ kJ}$ ;  $-1800 \text{ kJ}$   
 2.  $1800 \text{ kJ}$ ;  $1450 \text{ kJ}$   
 3.  $-1800 \text{ kJ}$ ;  $1450 \text{ kJ}$   
 4.  $-1450 \text{ kJ}$ ;  $1800 \text{ kJ}$

Question ID : 441009157893

Option 1 ID : 441009626552

Option 2 ID : 441009626553

Option 3 ID : 441009626551

Option 4 ID : 441009626550

Status : Answered

Chosen Option : 3

Q.93 Cavitation in a centrifugal pump occurs when the suction pressure falls below the \_\_\_\_\_ of the liquid.

Ans  1. discharge pressure  
 2. vapour pressure  
 3. suction head  
 4. atmospheric pressure

Question ID : 441009131221

Option 1 ID : 441009521488

Option 2 ID : 441009521487

Option 3 ID : 441009521489

Option 4 ID : 441009521486

Status : Answered

Chosen Option : 2

Q.94 During steam formation, external work of evaporation is basically \_\_\_\_\_.

Ans  1. heat removed from saturated or superheated steam to make it a wet steam  
 2. work done by steam to increase its volume  
 3. work done on steam by external force to reduce its volume  
 4. heat supplied to steam to increase its temperature

Question ID : 441009161419

Option 1 ID : 441009639332

Option 2 ID : 441009639329

Option 3 ID : 441009639330

Option 4 ID : 441009639331

Status : Answered

Chosen Option : 4

Q.95 The air temperature during compression in a single-stage compressor \_\_\_\_\_.

Ans  1. only increases  
 2. fluctuates randomly  
 3. only decreases  
 4. remains constant

Question ID : 441009119507

Option 1 ID : 441009475149

Option 2 ID : 441009475150

Option 3 ID : 441009475147

Option 4 ID : 441009475148

Status : Answered

Chosen Option : 1

Q.96 Find the kinetic energy of a flywheel at 250rpm if it absorbs 24kJ of energy on increasing its speed from 210rpm to 214rpm.

Ans  1. 784.3J  
 2. 884.3J  
 3. 784.3kJ  
 4. 884.3kJ

Question ID : 441009151132

Option 1 ID : 441009599742

Option 2 ID : 441009599741

Option 3 ID : 441009599743

Option 4 ID : 441009599744

Status : Not Answered

Chosen Option : --

Q.97 Mollier diagram is a plot between \_\_\_\_\_.

Ans  1. pressure and enthalpy  
 2. pressure and entropy  
 3. temperature and entropy  
 4. enthalpy and entropy

Question ID : 441009151775

Option 1 ID : 441009602266

Option 2 ID : 441009602264

Option 3 ID : 441009602263

Option 4 ID : 441009602265

Status : **Answered**

Chosen Option : 4

Q.98 Identify the INCORRECT statement with respect to superheated steam.

Ans  1. The moisture content of steam leaving the steam turbine can be kept within safe limits.  
 2. A greater heat content of superheated steam leads to more steam consumption for a given output.  
 3. Superheating is done generally by utilising the heat of waste furnace gases, which will otherwise pass unutilised to the atmosphere.  
 4. It allows higher work capacity without increase in pressure.

Question ID : 441009133349

Option 1 ID : 441009530195

Option 2 ID : 441009530196

Option 3 ID : 441009530197

Option 4 ID : 441009530194

Status : **Answered**

Chosen Option : 2

Q.99 In which of the following systems, the mass flow rate within the control volume, which is accumulated, changes?

Ans  1. Evacuating gas cylinders  
 2. Diffuser  
 3. Compressor  
 4. Throttling valve

Question ID : 441009171279

Option 1 ID : 441009678007

Option 2 ID : 441009678008

Option 3 ID : 441009678006

Option 4 ID : 441009678005

Status : **Answered**

Chosen Option : 1

Q.10 The movement of the sleeve in a dead-weight Porter governor \_\_\_\_.

0

Ans  1. is downward when the speed decreases  
 2. is upward when the speed decreases  
 3. is downward when the speed increases  
 4. moves randomly

Question ID : 44100999419

Option 1 ID : 441009395634

Option 2 ID : 441009395633

Option 3 ID : 441009395635

Option 4 ID : 441009395636

Status : Answered

Chosen Option : 1

Q.10 At critical pressure, \_\_\_\_.

1

Ans  1. latent heat of vapourisation is zero  
 2. saturated vapour becomes a gas  
 3. entropy is zero  
 4. sublimation occurs from solid to vapour phase

Question ID : 441009163633

Option 1 ID : 441009648176

Option 2 ID : 441009648177

Option 3 ID : 441009648175

Option 4 ID : 441009648178

Status : Answered

Chosen Option : 1

Q.10 In orthographic projection, which of the following is true regarding auxiliary views?

2

Ans  1. They show parts of an object not visible in principal views.  
 2. They are only used in third angle projection.  
 3. They are used to simplify the drawing.  
 4. They replace the top or front views.

Question ID : 441009226764

Option 1 ID : 441009887889

Option 2 ID : 441009887891

Option 3 ID : 441009887888

Option 4 ID : 441009887890

Status : Answered

Chosen Option : 1

Q.10 Which chain is used in quietness operation?

3

Ans  1. Hoisting chain  
 2. Roller chain  
 3. Block chain  
 4. Inverted tooth chain

Question ID : 441009163046

Option 1 ID : 441009645823

Option 2 ID : 441009645821

Option 3 ID : 441009645820

Option 4 ID : 441009645822

Status : Answered

Chosen Option : 4

Q.10 The correct relation between tension  $T_1$ ,  $T_2$ , angle of lap  $\theta$  and coefficient of friction  $\mu$  is

4

Ans  1.  $\frac{T_1}{T_2} = e^{\mu\theta}$   
 2.  $\frac{T_1}{T_2} = e^{\frac{\theta}{\mu}}$   
 3.  $\frac{T_1}{T_2} = \mu\theta$   
 4.  $\frac{T_1}{T_2} = e^{\frac{\mu}{\theta}}$

Question ID : 441009162600

Option 1 ID : 441009644052

Option 2 ID : 441009644055

Option 3 ID : 441009644053

Option 4 ID : 441009644054

Status : Answered

Chosen Option : 1

Q.10 The Naval Research Laboratory (NRL) method simplifies Caine's method by defining a shape factor to replace the freezing ratio. How is this shape factor calculated?

Ans  1.  $(\text{Length} + \text{Width}) / \text{Thickness}$   
 2.  $(\text{Length} \times \text{Width}) / \text{Thickness}$   
 3.  $(\text{Length} + \text{Width}) / \text{Thickness}$   
 4.  $(\text{Length} - \text{Width}) / \text{Thickness}$

Question ID : 441009131829

Option 1 ID : 441009523899

Option 2 ID : 441009523898

Option 3 ID : 441009523901

Option 4 ID : 441009523900

Status : Not Answered

Chosen Option : --

Q.10 The centre of pressure of a submerged plane surface always lies \_\_\_\_\_.

6

Ans  1. at the free surface  
 2. below the centroid of the surface  
 3. above the centroid of the surface  
 4. at the centroid of the surface

Question ID : 441009103326

Option 1 ID : 441009411415

Option 2 ID : 441009411417

Option 3 ID : 441009411416

Option 4 ID : 441009411418

Status : Answered

Chosen Option : 2

Q.10 Which of the following correctly describes the flow characteristics in a Pelton wheel

7 turbine?

Ans  1. Water flows radially inward through the runner to generate power.  
 2. Water flows tangentially and impacts the buckets to rotate the wheel.  
 3. Water flows in a mixed direction to ensure efficient energy transfer.  
 4. Water enters the runner axially and gradually loses pressure.

Question ID : 441009132174

Option 1 ID : 441009525322

Option 2 ID : 441009525323

Option 3 ID : 441009525325

Option 4 ID : 441009525324

Status : Answered

Chosen Option : 2

Q.10 The abscissa of a Mollier diagram represents \_\_\_\_\_.

8

Ans  1. temperature of the system  
 2. dryness fraction of the system  
 3. enthalpy of the system  
 4. entropy of the system

Question ID : 441009151712

Option 1 ID : 441009602027

Option 2 ID : 441009602030

Option 3 ID : 441009602028

Option 4 ID : 441009602029

Status : Answered

Chosen Option : 4

Q.10 In compressible flow through an orifice meter, the mass flow rate equation includes a 9 correction factor to account for which of the following?

Ans  1. Pipe roughness  
 2. Compressibility of fluid  
 3. Change in kinetic energy  
 4. Change in potential energy

Question ID : 441009125672

Option 1 ID : 441009499509

Option 2 ID : 441009499510

Option 3 ID : 441009499511

Option 4 ID : 441009499508

Status : Answered

Chosen Option : 2

Q.11 According to the Principle of Transmissibility, shifting a force along its line of action 0 does NOT affect:

Ans  1. the external reaction forces  
 2. the internal forces in the body  
 3. the force itself  
 4. the motion of the body

Question ID : 441009100987

Option 1 ID : 441009401959

Option 2 ID : 441009401958

Option 3 ID : 441009401961

Option 4 ID : 441009401960

Status : Answered

Chosen Option : 3

Q.11 Which of the following is NOT required when converting orthographic views into 1 isometric projection?

Ans  1. Front, top, and side views  
 2. Type of object  
 3. Dimensions  
 4. Line thickness

Question ID : 441009226811

Option 1 ID : 441009888072

Option 2 ID : 441009888075

Option 3 ID : 441009888073

Option 4 ID : 441009888074

Status : Answered

Chosen Option : 4

Q.11 When comparing the torsional strength of a solid and a hollow circular shaft of the same material and outer diameter, which of the following statement is true?

Ans  1. Both shafts have equal torsional strength, regardless of weight.

2. The solid shaft always has greater torsional strength.

3. The hollow shaft can have equivalent torsional strength with less weight.

4. The hollow shaft always has greater torsional strength.

Question ID : 441009131557

Option 1 ID : 441009522817

Option 2 ID : 441009522814

Option 3 ID : 441009522816

Option 4 ID : 441009522815

Status : Answered

Chosen Option : 2

Q.11 If a hydraulic turbine has a hydraulic efficiency of 85% and a mechanical efficiency of 90%, what is the overall efficiency?

Ans  1. 81.2%

2. 76.5%

3. 75.6%

4. 78.4%

Question ID : 441009126129

Option 1 ID : 441009501228

Option 2 ID : 441009501230

Option 3 ID : 441009501229

Option 4 ID : 441009501231

Status : Answered

Chosen Option : 2

Q.11 In the Babcock and Wilcox Boiler, where is the water present?

4

Ans  1. Inside the combustion chamber

2. Inside the furnace tubes

3. Inside the water tubes

4. In the steam drum

Question ID : 441009106493

Option 1 ID : 441009424002

Option 2 ID : 441009423999

Option 3 ID : 441009424001

Option 4 ID : 441009424000

Status : Answered

Chosen Option : 3

Q.11 In which type of follower does the motion depend on the axis movement of the follower  
5 rod?

Ans  1. Roller follower  
 2. Knife-edge follower  
 3. Oscillating follower  
 4. Radial follower

Question ID : 441009100907

Option 1 ID : 441009401641

Option 2 ID : 441009401640

Option 3 ID : 441009401639

Option 4 ID : 441009401638

Status : Answered

Chosen Option : 3

Q.11 A domestic food freezer maintains a temperature of  $-15^{\circ}\text{C}$ . If heat leaks into the freezer  
6 at the continuous rate of 1.75 kJ/s and heat is discharged from the condenser at the  
rate of 2.06 kJ/s, then what is the least power necessary to pump this heat out  
continuously?

Ans  1. 3.81 kW  
 2. 38.1 W  
 3. 31 W  
 4. 0.31 kW

Question ID : 441009176749

Option 1 ID : 441009698901

Option 2 ID : 441009698902

Option 3 ID : 441009698904

Option 4 ID : 441009698903

Status : Answered

Chosen Option : 4

Q.11 The point locus in a multi-stage turbine is influenced by:  
7

Ans  1. only the blade angle  
 2. both blade angle and flow conditions  
 3. only the turbine speed  
 4. only the flow rate

Question ID : 441009124802

Option 1 ID : 441009496087

Option 2 ID : 441009496089

Option 3 ID : 441009496090

Option 4 ID : 441009496088

Status : Not Answered

Chosen Option : --

Q.11 Which of the following has the least impact on the accuracy of velocity measurement  
8 using a Pitot tube?

Ans  1. Fluid density variation  
 2. Size of Pitot tube orifice  
 3. Misalignment with the flow direction  
 4. Surface roughness of the tube exterior

Question ID : 441009125710

Option 1 ID : 441009499633

Option 2 ID : 441009499634

Option 3 ID : 441009499635

Option 4 ID : 441009499632

Status : Answered

Chosen Option : 4

Q.11 How does the water jet interact with the runner before exiting in a cross-flow turbine?

9

Ans  1. The jet flows along the runner's length, exits axially without re-entering, and transfers half its energy.  
 2. The jet strikes the runner buckets once, transfers all its kinetic energy, and exits radially.  
 3. The jet enters from the top, reacts with the buckets twice, and exits after losing most of its energy.  
 4. The jet is deflected by guide vanes, enters from the side, and exits after a single pass through the runner.

Question ID : 441009132193

Option 1 ID : 441009525447

Option 2 ID : 441009525445

Option 3 ID : 441009525446

Option 4 ID : 441009525448

Status : Answered

Chosen Option : 3

Q.12 The process of leakage of steam through a narrow aperture or slightly open valve  
0 constitutes a \_\_\_\_\_.

Ans  1. constant enthalpy process  
 2. constant pressure process  
 3. constant volume process  
 4. constant temperature process

Question ID : 441009151683

Option 1 ID : 441009601917

Option 2 ID : 441009601915

Option 3 ID : 441009601916

Option 4 ID : 441009601918

Status : Answered

Chosen Option : 1

Q.12 Which of the following is the condition to be met for the wall thickness (t) of a sphere to be considered 'thin-walled'?

Ans  1.  $t < 1/10$  of the radius  
 2.  $t < 1/2$  of the radius  
 3.  $t > 1/2$  of the radius  
 4.  $t > 1/10$  of the radius

Question ID : 441009139540

Option 1 ID : 441009554426

Option 2 ID : 441009554423

Option 3 ID : 441009554424

Option 4 ID : 441009554425

Status : Answered

Chosen Option : 1

Q.12 What is the typical threading mechanism linked to the lead screw?

2

Ans  1. Rack and pinion  
 2. Cross-slide  
 3. Half-nut  
 4. Compound rest

Question ID : 441009161383

Option 1 ID : 441009639185

Option 2 ID : 441009639186

Option 3 ID : 441009639187

Option 4 ID : 441009639188

Status : Answered

Chosen Option : 3

Q.12 Which of the following statements correctly describes a characteristic of a cross-flow turbine?

3

Ans  1. It has a cylindrical runner mounted on a horizontal shaft.  
 2. It operates as a reaction turbine with pressure variation along the blades.  
 3. Its runner consists of straight blades instead of curved ones.  
 4. It works under fully submerged conditions like a Kaplan turbine.

Question ID : 441009132188

Option 1 ID : 441009525410

Option 2 ID : 441009525411

Option 3 ID : 441009525412

Option 4 ID : 441009525413

Status : Not Answered

Chosen Option : --

Q.12 Which of the following correctly represents the components included in the total manometric head ( $H_m$ ) of a centrifugal pump?

Ans  1. Suction head, delivery head and velocity head in the suction pipe  
 2. Pressure head, velocity head in the suction pipe and vertical height of the pump  
 3. Suction head, delivery head, frictional losses and velocity head in the delivery pipe  
 4. Pressure head, velocity head in the delivery pipe and losses due to impeller rotation

Question ID : 441009131265

Option 1 ID : 441009521658

Option 2 ID : 441009521660

Option 3 ID : 441009521659

Option 4 ID : 441009521661

Status : Answered

Chosen Option : 3

Q.12 What is the true scale factor used in isometric projection (not isometric drawing)?

5

Ans  1. 0.816  
 2. 2  
 3. 1  
 4. 0.916

Question ID : 441009227088

Option 1 ID : 441009889141

Option 2 ID : 441009889139

Option 3 ID : 441009889138

Option 4 ID : 441009889140

Status : Not Answered

Chosen Option : --

Q.12 A centrifugal clutch operates because of \_\_\_\_\_.

6

Ans  1. hydraulic pressure  
 2. force due to belt tension  
 3. centripetal force  
 4. centrifugal force

Question ID : 441009100865

Option 1 ID : 441009401471

Option 2 ID : 441009401473

Option 3 ID : 441009401472

Option 4 ID : 441009401470

Status : Answered

Chosen Option : 4

Q.12 For a dual combustion cycle for fixed value of heat addition and compression ratio, the  
7 \_\_\_\_\_.

Ans  1. mean effective pressure will be greater with increase in pressure ratio and decrease in compression ratio  
 2. mean effective pressure will be greater with decrease in pressure ratio and increase in compression ratio  
 3. mean effective pressure will be greater with decrease in pressure ratio and decrease in compression ratio  
 4. mean effective pressure remain the same with increase in pressure ratio and decrease in compression ratio

Question ID : 441009177242

Option 1 ID : 441009700830

Option 2 ID : 441009700833

Option 3 ID : 441009700831

Option 4 ID : 441009700832

Status : Answered

Chosen Option : 2

Q.12 What happens if a centrifugal pump is NOT primed before starting?  
8

Ans  1. The impeller will rotate faster due to the presence of air.  
 2. The pump will function normally, but with reduced efficiency.  
 3. The air inside the pump will prevent it from creating sufficient suction.  
 4. The pump will generate a high head but fail to discharge water.

Question ID : 441009131356

Option 1 ID : 441009521990

Option 2 ID : 441009521989

Option 3 ID : 441009521988

Option 4 ID : 441009521987

Status : Answered

Chosen Option : 3

Q.12 In terms of energy consumption, how does a multi-stage compressor compare to a  
9 single-stage compressor?

Ans  1. Energy consumption is irrelevant  
 2. It consumes less energy for the same output  
 3. It consumes the same amount of energy  
 4. It consumes more energy

Question ID : 441009120680

Option 1 ID : 441009479761

Option 2 ID : 441009479759

Option 3 ID : 441009479760

Option 4 ID : 441009479758

Status : Answered

Chosen Option : 2

Q.13 The change in the length of a thin cylindrical shell of 100 cm diameter, 1 cm thickness, 0 and 5 m length ( $E = 2 \times 10^5 \text{ N/mm}^2$  and  $\mu = 0.3$ ), when subjected to an internal pressure of 3 N/mm<sup>2</sup> is:

Ans  1. 7.5 cm  
 2. 0.75 cm  
 3. 0.075 cm  
 4. 7.5 cm

Question ID : 441009139364

Option 1 ID : 441009553735

Option 2 ID : 441009553737

Option 3 ID : 441009553738

Option 4 ID : 441009553736

Status : Not Answered

Chosen Option : --

Q.13 What happens when the number of plates are increased in a multi-plate clutch?

1

Ans  1. The clutch stops working.  
 2. The clutch becomes weaker.  
 3. The torque transmission capacity increases.  
 4. The clutch response time decreases.

Question ID : 441009100888

Option 1 ID : 441009401562

Option 2 ID : 441009401564

Option 3 ID : 441009401565

Option 4 ID : 441009401563

Status : Answered

Chosen Option : 3

Q.13 In the system, the ordinate of the Mollier diagram represents \_\_\_\_\_.

2

Ans  1. enthalpy  
 2. temperature  
 3. entropy  
 4. dryness fraction

Question ID : 441009151724

Option 1 ID : 441009602076

Option 2 ID : 441009602075

Option 3 ID : 441009602077

Option 4 ID : 441009602078

Status : Answered

Chosen Option : 1

Q.13 Which type of feed pump is commonly used in high-pressure boiler systems?

3

Ans  1. Reciprocating pump

2. Gear pump

3. Diaphragm pump

4. Centrifugal pump

Question ID : 441009104237

Option 1 ID : 441009415137

Option 2 ID : 441009415140

Option 3 ID : 441009415139

Option 4 ID : 441009415138

Status : Answered

Chosen Option : 4

Q.13 Why is shear stress considered tangential to the area over which it acts?

4

Ans  1. Because it causes elongation

2. Because it causes compression

3. Because it is a normal force

4. Because it acts along the surface of the area, causing sliding

Question ID : 441009130713

Option 1 ID : 441009519388

Option 2 ID : 441009519387

Option 3 ID : 441009519386

Option 4 ID : 441009519385

Status : Answered

Chosen Option : 4

Q.13 On an inclined plane, a block is resting. The inclination angle is progressively raised.

5 The block only starts to slide when the angle approaches  $30^\circ$ . What is the block's and the plane's angle of friction and coefficient of friction?

Ans  1. Angle of friction =  $300$ ; Coefficient of friction =  $\tan 300$

2. Angle of friction =  $\tan^{-1}(0.5)$ ; Coefficient of friction = 0.50

3. Angle of friction =  $300$ ; Coefficient of friction = 0.50

4. Angle of friction =  $600$ ; Coefficient of friction =  $\tan 600$

Question ID : 441009168911

Option 1 ID : 441009668616

Option 2 ID : 441009668617

Option 3 ID : 441009668615

Option 4 ID : 441009668618

Status : Answered

Chosen Option : 1

Q.13 The relation between circular pitch (p) and module (m) for a spur gear is \_\_\_\_\_.

6

Ans  1.  $p/m=1$

2.  $p/m=\Pi$

3.  $p \times m=\Pi$

4.  $p/m=1/\Pi$

Question ID : 441009163139

Option 1 ID : 441009646186

Option 2 ID : 441009646188

Option 3 ID : 441009646189

Option 4 ID : 441009646187

Status : **Answered**

Chosen Option : 2

Q.13 The specific heat of a refrigerant is typically measured in SI units of:

7

Ans  1.  $\text{kcal/kg}\cdot\text{^\circ C}$

2.  $\text{J/kg}\cdot\text{K}$

3.  $\text{J/mol}\cdot\text{^\circ C}$

4.  $\text{kJ/mol.K}$

Question ID : 44100996840

Option 1 ID : 441009385393

Option 2 ID : 441009385391

Option 3 ID : 441009385394

Option 4 ID : 441009385392

Status : **Answered**

Chosen Option : 2

Q.13 What is the primary source of heat for the refrigeration system?

8

Ans  1. Heat released by the refrigerant in the condenser

2. Work done on the refrigerant in the expansion valve

3. Work done by the compressor

4. Heat absorbed from the refrigerated space in the evaporator

Question ID : 44100997781

Option 1 ID : 441009389133

Option 2 ID : 441009389134

Option 3 ID : 441009389131

Option 4 ID : 441009389132

Status : **Answered**

Chosen Option : 4

Q.13 In which of the following examples does the shape of an object change by the application of force?

Ans  1. Kicking a football  
 2. A falling apple  
 3. Squeezing a sponge  
 4. A car coming to a stop

Question ID : 441009100964

Option 1 ID : 441009401867

Option 2 ID : 441009401869

Option 3 ID : 441009401868

Option 4 ID : 441009401866

Status : Answered

Chosen Option : 3

Q.14 The two fundamental stress components developed within the material of a thin-walled cylindrical pressure vessel when subjected to internal fluid pressure are:

Ans  1. hoop stress and longitudinal stress  
 2. shear stress and bending stress  
 3. compressive stress and tensile stress  
 4. radial stress and tangential stress

Question ID : 441009138827

Option 1 ID : 441009551638

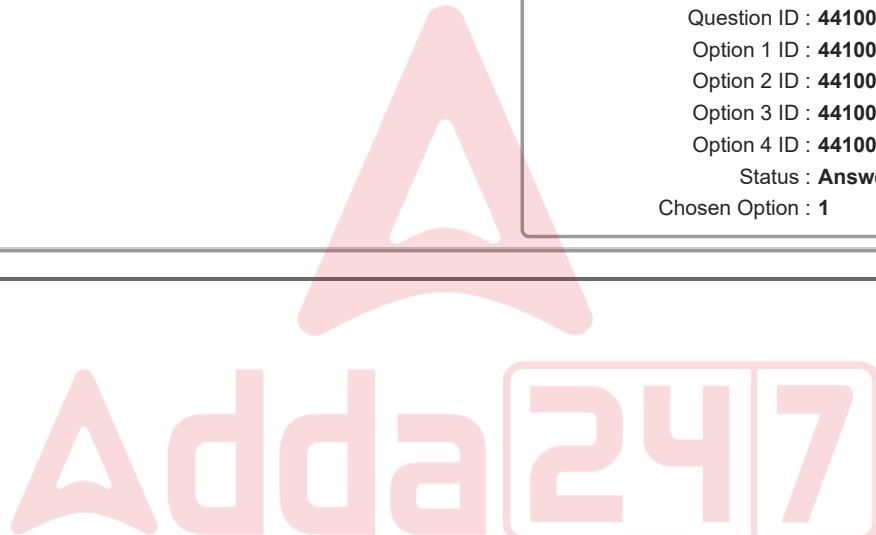
Option 2 ID : 441009551636

Option 3 ID : 441009551639

Option 4 ID : 441009551637

Status : Answered

Chosen Option : 1

**Adda247**