



COAL INDIA LIMITED
(A Govt. of India Undertaking)
(A Maharatna Company)

Recruitment of Management Trainees through Computer Based Test (CBT-26)

Participant ID	
Participant Name	
Test Center Name	
Test Date	24/08/2026
Test Time	3:00 PM - 6:00 PM
Subject	Mechanical

Section : Part 1 General Knowledge Awareness

Q.1 Who is credited with developing and scientifically demonstrating the first successful vaccine against smallpox in 1796?

- Ans ☒ A. Louis Pasteur
☒ B. Edward Jenner
☒ C. Alexander Fleming
☒ D. Robert Hooke

Question ID : 4410092216345
Option 1 ID : 4410098721514
Option 2 ID : 4410098721517
Option 3 ID : 4410098721516
Option 4 ID : 4410098721515
Status : Answered
Chosen Option : A

Q.2 The third volume of the Akbar Nama, written by Abul Fazl during the reign of Akbar, was titled which of the following?

- Ans ☒ A. Baburnama
- ☒ B. Tuzuk-i-Jahangiri
- ☒ C. Humayun Nama
- ☒ D. Ain-i Akbari

Question ID : 4410092215631
Option 1 ID : 4410098718662
Option 2 ID : 4410098718665
Option 3 ID : 4410098718664
Option 4 ID : 4410098718663
Status : Answered
Chosen Option : C

Q.3 In the Union Budget 2026–27, India's fiscal deficit in Budget Estimates (BE) was estimated at what percentage of GDP?

- Ans ☒ A. 4.3 percent of GDP
- ☒ B. 5.1 percent of GDP
- ☒ C. 5.6 percent of GDP
- ☒ D. 4.8 percent of GDP

Question ID : 4410092216131
Option 1 ID : 4410098720659
Option 2 ID : 4410098720661
Option 3 ID : 4410098720658
Option 4 ID : 4410098720660
Status : Answered
Chosen Option : C

Q.4 Which of the following statements best differentiates system software from application software in terms of their update processes?

- Ans ☒ A. Application software updates are generally more important for maintaining system stability than system software
- ☒ B. System software updates are mainly for adding new user features
- ☒ C. Application software updates are only for fixing hardware and device driver issues that arise in the system
- ☒ D. System software updates mainly improve security and stability, while application software updates enhance features

Question ID : 4410091797720
Option 1 ID : 4410097088109
Option 2 ID : 4410097088106
Option 3 ID : 4410097088107
Option 4 ID : 4410097088108
Status : Answered
Chosen Option : D

Q.5 On the basis of which Five Year Plan had the Industrial Policy Resolution of 1956 been formulated to build the basis for a socialist pattern of society?

- Ans ☒ A. Fourth Five Year Plan
- ☒ B. First Five Year Plan
- ☒ C. Second Five Year Plan
- ☒ D. Third Five Year Plan

Question ID : 4410092215681
Option 1 ID : 4410098718865
Option 2 ID : 4410098718862
Option 3 ID : 4410098718863
Option 4 ID : 4410098718864
Status : Answered
Chosen Option : D

Q.6 Which organisation released the SDG India Index 2023-24, titled Towards Viksit Bharat: Sustainable Progress, Inclusive Growth, for tracking progress towards the Sustainable Development Goals?

- Ans ☒ A. Economic Advisory Council to the Prime Minister
- ☒ B. NITI Aayog
- ☒ C. Ministry of Statistics and Programme Implementation
- ☒ D. Reserve Bank of India

Question ID : 4410092215626
Option 1 ID : 4410098718644
Option 2 ID : 4410098718643
Option 3 ID : 4410098718642
Option 4 ID : 4410098718645
Status : Answered
Chosen Option : C

Q.7 In which year had the Government approved the nationalization of 14 major Indian Scheduled Commercial Banks under the Banking Companies (Acquisition and Transfer of Undertakings) Ordinance?

- Ans ☒ A. 1969
- ☒ B. 1968
- ☒ C. 1970
- ☒ D. 1967

Question ID : 4410092215682
Option 1 ID : 4410098718868
Option 2 ID : 4410098718867
Option 3 ID : 4410098718869
Option 4 ID : 4410098718866
Status : Answered
Chosen Option : B

Q.8 Mount Everest is situated on the border between which two countries?

- Ans ☒ A. Pakistan and Afghanistan
- ☒ B. Nepal and China
- ☒ C. India and Nepal
- ☒ D. India and Bhutan

Question ID : 4410092216340
Option 1 ID : 4410098721495
Option 2 ID : 4410098721496
Option 3 ID : 4410098721494
Option 4 ID : 4410098721497
Status : Answered
Chosen Option : C

Q.9 The Santhal tribe, which fought against the zamindars, mahajans, and the East India Company during the Santhal Rebellion (1855–56), had been settled by the British in a specially demarcated tract known as:

- Ans ☒ A. Doab-i-Koh
- ☒ B. Damin-i-Koh
- ☒ C. Damin-i-Nagar
- ☒ D. Koh-i-Bengal

Question ID : 4410092215635
Option 1 ID : 4410098718679
Option 2 ID : 4410098718678
Option 3 ID : 4410098718680
Option 4 ID : 4410098718681
Status : Answered
Chosen Option : B

Q.10 The Western Coastal Plain is an example of a submerged coast. Which of the following features supports this classification?

- Ans ☒ A. Straight coastline with no indentations
- ☒ B. Formation of estuaries and backwaters
- ☒ C. Wide continental shelf
- ☒ D. Presence of extensive deltas

Question ID : 4410092216040
Option 1 ID : 4410098720297
Option 2 ID : 4410098720295
Option 3 ID : 4410098720296
Option 4 ID : 4410098720294
Status : Answered
Chosen Option : B

Q.11 In the physiographic classification of the Northern Plains of India, which belt lies immediately south of the Bhabar region?

- Ans ☒ A. Bhangar Belt
☒ B. Terai Belt
☒ C. Delta Region Belt
☒ D. Khadar Belt

Question ID : 4410092216333
Option 1 ID : 4410098721468
Option 2 ID : 4410098721467
Option 3 ID : 4410098721469
Option 4 ID : 4410098721466
Status : Answered
Chosen Option : D

Q.12 As announced in the Union Budget 2026–27, NIMHANS-2 is proposed to be established in which region of India?

- Ans ☒ A. South India
☒ B. West India
☒ C. East India
☒ D. North India

Question ID : 4410092216144
Option 1 ID : 4410098720713
Option 2 ID : 4410098720711
Option 3 ID : 4410098720712
Option 4 ID : 4410098720710
Status : Answered
Chosen Option : A

Q.13 The UNESCO World Heritage Site Group of Monuments at Hampi is associated with which South Indian empire?

- Ans ☒ A. Hoysala Empire
☒ B. Chera Empire
☒ C. Chola Empire
☒ D. Vijayanagara Empire

Question ID : 4410092216324
Option 1 ID : 4410098721430
Option 2 ID : 4410098721431
Option 3 ID : 4410098721432
Option 4 ID : 4410098721433
Status : Answered
Chosen Option : C

Q.14 In Indian elections, what is the minimum share of valid votes a candidate must secure in a constituency to avoid forfeiting the security deposit?

- Ans ☒ A. One-half of votes polled
- ☒ B. One-sixth of votes polled
- ☒ C. One-third of votes polled
- ☒ D. One-fourth of votes polled

Question ID : 4410092339444
Option 1 ID : 4410099199875
Option 2 ID : 4410099199872
Option 3 ID : 4410099199874
Option 4 ID : 4410099199873
Status : Answered
Chosen Option : B

Q.15 Which category of land includes areas occupied by buildings, roads, railways, and other non-agricultural activities?

- Ans ☒ A. Land on Net Sown Area
- ☒ B. Land Put to Non-Agricultural Uses
- ☒ C. Permanent Fallow Land
- ☒ D. Culturable Waste Land

Question ID : 4410092216336
Option 1 ID : 4410098721479
Option 2 ID : 4410098721480
Option 3 ID : 4410098721478
Option 4 ID : 4410098721481
Status : Not Answered
Chosen Option : --

Q.16 Commercial coal mining in India was opened to private companies without any end-use restriction starting from which year?

- Ans ☒ A. 2020
- ☒ B. 2019
- ☒ C. 2021
- ☒ D. 2018

Question ID : 4410092215541
Option 1 ID : 4410098718304
Option 2 ID : 4410098718303
Option 3 ID : 4410098718305
Option 4 ID : 4410098718302
Status : Not Answered
Chosen Option : --

Q.17 The 7th edition of India–Uzbekistan joint military Exercise DUSTLIK was conducted in 2026 at which location?

- Ans ☒ A. Five Hills Training Area, Ulaanbaatar
- ☒ B. Gurumsaray Field Training Area, Namangan
- ☒ C. Chaubattia Military Station, Uttarakhand
- ☒ D. Foreign Training Node, Aundh, Pune

Question ID : 4410092216138
Option 1 ID : 4410098720689
Option 2 ID : 4410098720686
Option 3 ID : 4410098720688
Option 4 ID : 4410098720687
Status : Not Answered
Chosen Option : --

Q.18 Tejaswin Shankar won India's only gold medal at the 2026 Asian Indoor Athletics Championships in which event?

- Ans ☒ A. Men's pole vault event
- ☒ B. Men's heptathlon event
- ☒ C. Men's long jump event
- ☒ D. Men's high jump event

Question ID : 4410092216136
Option 1 ID : 4410098720681
Option 2 ID : 4410098720679
Option 3 ID : 4410098720680
Option 4 ID : 4410098720678
Status : Not Answered
Chosen Option : --

Q.19 World Environment Day 2026 was observed under which theme?

- Ans ☒ A. Restore Our Earth. For People and the Planet
- ☒ B. Green Growth. Climate Justice for All Nations
- ☒ C. Beat Plastic Pollution. Build a Cleaner World
- ☒ D. Inspired by Nature. For Climate. For Our Future

Question ID : 4410092216128
Option 1 ID : 4410098720648
Option 2 ID : 4410098720646
Option 3 ID : 4410098720649
Option 4 ID : 4410098720647
Status : Not Answered
Chosen Option : --

Q.20 Which of the following bodies derives its powers directly from the Constitution of India (Article 280) rather than from an Act of Parliament or an executive resolution?

- Ans ☒ A. Finance Commission of India
- ☐ B. NITI Aayog Institution
- ☐ C. Central Vigilance Commission
- ☐ D. Central Bureau of Investigation

Question ID : 4410092339439
Option 1 ID : 4410099199852
Option 2 ID : 4410099199853
Option 3 ID : 4410099199855
Option 4 ID : 4410099199854
Status : Not Answered
Chosen Option : --

Q.21 The Swadeshi Movement, which adopted the boycott of British goods as a new method of protest from 1905, was launched primarily in response to which event?

- Ans ☐ A. Ilbert Bill Controversy
- ☒ B. Partition of Bengal
- ☐ C. Vernacular Press Act
- ☐ D. The Rowlatt Act

Question ID : 4410092215636
Option 1 ID : 4410098718684
Option 2 ID : 4410098718683
Option 3 ID : 4410098718685
Option 4 ID : 4410098718682
Status : Not Answered
Chosen Option : --

Q.22 Under Article 75, the total strength of the Union Council of Ministers, including the Prime Minister, cannot exceed what share of the total membership of the Lok Sabha?

- Ans ☐ A. 20 percent of members
- ☐ B. 25 percent of members
- ☐ C. 10 percent of members
- ☒ D. 15 percent of members

Question ID : 4410092339436
Option 1 ID : 4410099199842
Option 2 ID : 4410099199843
Option 3 ID : 4410099199840
Option 4 ID : 4410099199841
Status : Not Answered
Chosen Option : --

Q.23 The World Governments Summit 2026, held in Dubai in February 2026, was organised under which theme?

- Ans ☒ A. Building Climate-Resilient Cities
☒ B. Shaping Future Governments
☒ C. Securing Digital Public Goods
☒ D. Advancing Global Trade Reforms

Question ID : 4410092216125
Option 1 ID : 4410098720637
Option 2 ID : 4410098720634
Option 3 ID : 4410098720636
Option 4 ID : 4410098720635
Status : Not Answered
Chosen Option : --

Q.24 In which year was the Sagarmala Programme launched to promote port-led development in India?

- Ans ☒ A. 2015
☒ B. 2017
☒ C. 2014
☒ D. 2016

Question ID : 4410092215621
Option 1 ID : 4410098718623
Option 2 ID : 4410098718625
Option 3 ID : 4410098718622
Option 4 ID : 4410098718624
Status : Not Answered
Chosen Option : --

Q.25 Why is data encryption important in cyber security for organizations handling sensitive customer information?

- Ans ☒ A. It allows anyone to access the data easily.
☒ B. It prevents unauthorized access during data transmission
☒ C. It increases the file size significantly for all data.
☒ D. It automatically deletes all data after use of transmission

Question ID : 4410091837360
Option 1 ID : 4410097243075
Option 2 ID : 4410097243074
Option 3 ID : 4410097243077
Option 4 ID : 4410097243076
Status : Not Answered
Chosen Option : --

Q.1 A biased coin has a probability of 0.7 of landing on heads. If this coin is tossed three times, what is the probability of getting at least one tail?

- Ans ☒ A. 0.657
- ☒ B. 0.343
- ☒ C. 0.512
- ☒ D. 0.784

Question ID : 4410092200440
Option 1 ID : 4410098658934
Option 2 ID : 4410098658935
Option 3 ID : 4410098658933
Option 4 ID : 4410098658932
Status : Answered
Chosen Option : A

Q.2 A solid metal hemisphere with a radius of 10 cm is melted and recast into a cone with a base radius of 7 cm. If 10% of the material is lost, what is the height of the cone? (Give your answer in cm, rounded off to two decimal places.)

- Ans ☒ A. 36.73 cm
- ☒ B. 38.56 cm
- ☒ C. 29.22 cm
- ☒ D. 26.92 cm

Question ID : 4410092200446
Option 1 ID : 4410098658958
Option 2 ID : 4410098658959
Option 3 ID : 4410098658957
Option 4 ID : 4410098658956
Status : Answered
Chosen Option : A

Q.3 A sum of money is divided among three people P, Q, and R such that the ratio of the amounts given to P and Q is 17:29 and the ratio of the amounts given to Q and R is 29:41. If the total amount is ₹1740, how much more does R receive than P?

- Ans ☒ A. ₹660
- ☒ B. ₹600
- ☒ C. ₹540
- ☒ D. ₹480

Question ID : 4410092200422
Option 1 ID : 4410098658862
Option 2 ID : 4410098658860
Option 3 ID : 4410098658863
Option 4 ID : 4410098658861
Status : Answered
Chosen Option : D

Q.4 A solid sphere of radius 12 cm is melted and recast into identical solid cylinders each with base radius 3 cm and height 8 cm. If the density of the metal is 7.5 g/cm³ and the price is ₹10 per kg, what is the cost (in ₹) of the metal in a single cylinder? [Use $\pi = 3.14$, and round off the answer to two places after decimal.]

- Ans ☒ A. ₹20.56
☒ B. ₹18.33
☒ C. ₹16.96
☒ D. ₹22.23

Question ID : 4410092200452
Option 1 ID : 4410098658982
Option 2 ID : 4410098658981
Option 3 ID : 4410098658980
Option 4 ID : 4410098658983
Status : Answered
Chosen Option : B

Q.5 Lights at three intersections change every 30, 45, and 60 seconds respectively. If they all change together at 8:00:00 AM, when will they change together next?

- Ans ☒ A. 8:04:00 AM
☒ B. 8:03:00 AM
☒ C. 8:02:00 AM
☒ D. 8:01:00 AM

Question ID : 4410092200413
Option 1 ID : 4410098658825
Option 2 ID : 4410098658827
Option 3 ID : 4410098658824
Option 4 ID : 4410098658826
Status : Answered
Chosen Option : B

Q.6 The average height of 8 students is 150 cm. If the tallest student leaves and the new average becomes 148 cm, what was the height of the tallest student?

- Ans ☒ A. 162 cm
☒ B. 166 cm
☒ C. 164 cm
☒ D. 168 cm

Question ID : 4410092200398
Option 1 ID : 4410098658765
Option 2 ID : 4410098658766
Option 3 ID : 4410098658764
Option 4 ID : 4410098658767
Status : Answered
Chosen Option : C

Q.7 Workers P, Q, and R can complete a task in 8 days, 12 days, and 24 days respectively when working alone. If all three start work together but P leaves after 2 days, then how many days will Q and R need to finish the remaining work?

- Ans ☒ A. 6 days
☒ B. 4 days
☒ C. 3 days
☒ D. 5 days

Question ID : 4410092200431
Option 1 ID : 4410098658898
Option 2 ID : 4410098658897
Option 3 ID : 4410098658896
Option 4 ID : 4410098658899
Status : Answered
Chosen Option : B

Q.8
$$\frac{(6.3 \div 0.21) \times \frac{2}{3} - \sqrt{0.0144}}{\frac{5}{14} \text{ of } (9.1 - 4.2) + 0.7 \times 1.3}$$

Simplify:

- Ans ☒ A. 31/12
☒ B. 10
☒ C. 142/19
☒ D. 3/5

Question ID : 4410092200410
Option 1 ID : 4410098658814
Option 2 ID : 4410098658812
Option 3 ID : 4410098658815
Option 4 ID : 4410098658813
Status : Answered
Chosen Option : D

Q.9 20% of a number is more than 20% of 520 by 210. The number is:

- Ans ☒ A. 1670
☒ B. 1620
☒ C. 1570
☒ D. 1420

Question ID : 441009520861
Option 1 ID : 4410092038866
Option 2 ID : 4410092038865
Option 3 ID : 4410092038863
Option 4 ID : 4410092038864
Status : Answered
Chosen Option : C

Q.10 For the dataset 21, 26, 24, 29, 25, 23, 28, if you increase the largest value by 2 and decrease the smallest value by 3, what will the new range be?

- Ans ☒ A. 13
- ☒ B. 9
- ☒ C. 10
- ☒ D. 11

Question ID : 4410092200428
Option 1 ID : 4410098658887
Option 2 ID : 4410098658885
Option 3 ID : 4410098658886
Option 4 ID : 4410098658884
Status : Answered
Chosen Option : A

Q.11 A playground has a decorative solid hemisphere with a radius of 1.5 meters. Which value represents its total volume? (Give your answer in m^3 , rounded off to two decimal places. Use $\pi = 3.14$)

- Ans ☒ A. 21.21 cubic meters
- ☒ B. 14.13 cubic meters
- ☒ C. 7.07 cubic meters
- ☒ D. 4.19 cubic meters

Question ID : 4410092200443
Option 1 ID : 4410098658947
Option 2 ID : 4410098658944
Option 3 ID : 4410098658945
Option 4 ID : 4410098658946
Status : Answered
Chosen Option : B

Q.12 If (a, b) is an ordered pair where a is a prime number, b is a composite number, a and b are coprime, and $a + b = 36$, how many such pairs exist?

- Ans ☒ A. 4
- ☒ B. 3
- ☒ C. 2
- ☒ D. 1

Question ID : 4410092200407
Option 1 ID : 4410098658803
Option 2 ID : 4410098658802
Option 3 ID : 4410098658801
Option 4 ID : 4410098658800
Status : Answered
Chosen Option : D

Q.13 A right prism with a hexagonal base of side 10 cm and height 18 cm is melted and recast into solid cubes of edge 6 cm each. What is the maximum number of cubes that can be formed? [Use $\sqrt{3} = 1.7$]

- Ans ☒ A. 12
☒ B. 21
☒ C. 16
☒ D. 18

Question ID : 4410092200449
Option 1 ID : 4410098658968
Option 2 ID : 4410098658971
Option 3 ID : 4410098658969
Option 4 ID : 4410098658970
Status : Answered
Chosen Option : A

Q.14 A vendor sells 35 chocolates for ₹1 and earns a 20% profit. How many chocolates did he purchase for ₹1?

- Ans ☒ A. 48
☒ B. 44
☒ C. 46
☒ D. 42

Question ID : 441009574946
Option 1 ID : 4410092254907
Option 2 ID : 4410092254905
Option 3 ID : 4410092254906
Option 4 ID : 4410092254904
Status : Answered
Chosen Option : D

Q.15 Which of the following is the correct first installment amount to clear a loan of ₹18000 at 10% simple interest per annum, to be paid in 2 equal yearly installments? (Rounded off to the nearest rupee)

- Ans ☒ A. ₹10286
☒ B. ₹12000
☒ C. ₹11200
☒ D. ₹10330

Question ID : 4410092200401
Option 1 ID : 4410098658776
Option 2 ID : 4410098658779
Option 3 ID : 4410098658777
Option 4 ID : 4410098658778
Status : Answered
Chosen Option : A

Q.16 If the speed of a vehicle varies inversely as the time taken to cover a fixed distance and a car travels 150 km in 3 hours at a constant speed, how long will it take to cover 150 km if the speed is increased by 50%?

- Ans ☒ A. 1 hour
☒ B. 2.5 hours
☒ C. 3.5 hours
☒ D. 2 hours

Question ID : 4410092200425
Option 1 ID : 4410098658873
Option 2 ID : 4410098658875
Option 3 ID : 4410098658874
Option 4 ID : 4410098658872
Status : Answered
Chosen Option : D

Q.17 If a person walks 1,200 meters in 20 minutes, what is the average speed in km/h?

- Ans ☒ A. 3.0 km/h
☒ B. 4.2 km/h
☒ C. 3.6 km/h
☒ D. 2.4 km/h

Question ID : 4410092200437
Option 1 ID : 4410098658921
Option 2 ID : 4410098658923
Option 3 ID : 4410098658922
Option 4 ID : 4410098658920
Status : Answered
Chosen Option : C

Q.18 A shopkeeper sells rock salt at ₹7 per kg, while its cost price is ₹6 per kg. However, instead of supplying 1,104 g, he delivers only 644 g for the same price. What is his overall percentage profit?

- Ans ☒ A. 75%
☒ B. 125%
☒ C. 100%
☒ D. 150%

Question ID : 441009565262
Option 1 ID : 4410092216169
Option 2 ID : 4410092216170
Option 3 ID : 4410092216168
Option 4 ID : 4410092216171
Status : Answered
Chosen Option : C

Q.19 If ₹15,000 is invested at an interest rate of 6% per annum for 2 years, what will be the difference between the compound interest (compounded annually) and simple interest for the same period at the mentioned rate?

- Ans ☒ A. ₹ 72
☒ B. ₹90
☒ C. ₹54
☒ D. ₹36

Question ID : 4410092200404
Option 1 ID : 4410098658791
Option 2 ID : 4410098658790
Option 3 ID : 4410098658788
Option 4 ID : 4410098658789
Status : Answered
Chosen Option : C

Q.20 The price of petrol rises by 60% per litre. By what percentage should petrol consumption be reduced from its original level so that the overall expenditure on petrol increases by only 20%?

- Ans ☒ A. 75%
☒ B. 23%
☒ C. 25%
☒ D. 77%

Question ID : 441009560991
Option 1 ID : 4410092199231
Option 2 ID : 4410092199232
Option 3 ID : 4410092199233
Option 4 ID : 4410092199234
Status : Answered
Chosen Option : C

Q.21 Simplify: $\frac{(\sqrt{144}) + 8^2}{(\sqrt{81}) + (\sqrt{25}) - \sqrt{(16 \times 1)}}$.

- Ans ☒ A. 5.6
☒ B. 7.6
☒ C. 6.5
☒ D. 7.2

Question ID : 4410092200416
Option 1 ID : 4410098658836
Option 2 ID : 4410098658838
Option 3 ID : 4410098658837
Option 4 ID : 4410098658839
Status : Answered
Chosen Option : B

Q.22 The average of 11 numbers is 142. If the first 3 numbers are 30, 38 and 46, then what will be the average of the remaining numbers?

- Ans ☒ A. 177
☒ B. 173
☒ C. 175
☒ D. 181

Question ID : 441009580521
Option 1 ID : 4410092277213
Option 2 ID : 4410092277212
Option 3 ID : 4410092277211
Option 4 ID : 4410092277210
Status : Answered
Chosen Option : D

Q.23 A train travels from station X to station Y, covering the first 60% of the distance at 50 km/h and the remaining 40% at 75 km/h. What is the average speed for the entire journey if the total distance is 300 km? (Give your answer in km/h, rounded off to two places after decimal.)

- Ans ☒ A. 60.25 km/h
☒ B. 62.56 km/h
☒ C. 57.69 km/h
☒ D. 55.56 km/h

Question ID : 4410092200434
Option 1 ID : 4410098658909
Option 2 ID : 4410098658908
Option 3 ID : 4410098658910
Option 4 ID : 4410098658911
Status : Answered
Chosen Option : B

Q.24 The number of men to women in a seminar is in the ratio 7 to 9. If there are 63 men, how many women are present?

- Ans ☒ A. 90
☒ B. 81
☒ C. 72
☒ D. 69

Question ID : 4410092200419
Option 1 ID : 4410098658851
Option 2 ID : 4410098658850
Option 3 ID : 4410098658849
Option 4 ID : 4410098658848
Status : Answered
Chosen Option : B

Q.25 The sum of 2 times Seeta's present age and Geeta's present age is 46 years. Geeta's father is presently 2 times as old as Geeta. Seeta's brother's present age is 4 years more than Seeta's present age. The sum of the present ages of Geeta's father and Seeta's brother is 78 years. What is the sum of the present ages (in years) of Seeta and Geeta?

- Ans  A. 53
 B. 37
 C. 35
 D. 40

Question ID : 4410091219407
Option 1 ID : 4410094811054
Option 2 ID : 4410094811052
Option 3 ID : 4410094811053
Option 4 ID : 4410094811051
Status : Answered
Chosen Option : D

Section : Part 3 Reasoning

Q.1 Kailash starts from Point A and drives 48 km towards South. He then takes a left turn, drives 48 km, turns left and drives 55 km. He then takes a left turn and drives 50 km. He takes a final left turn, drives 7 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degree turns only, unless specified.)

- Ans  A. 4 km to the west
 B. 2 km to the east
 C. 1 km to the east
 D. 3 km to the west

Question ID : 441009121651
Option 1 ID : 441009483601
Option 2 ID : 441009483599
Option 3 ID : 441009483598
Option 4 ID : 441009483600
Status : Answered
Chosen Option : B

Q.2 In a certain code language,
“volume bookbinder binds cover” is coded as “cD nC fF dX”
“volume press contains cover” is coded as “yT oW fF dX”
“careful bookbinder volume repairs” is coded as “dX qK dL nC”
How is 'cover' coded in the given language?
(All codes are two-letter codes)

- Ans ☒ A. dX
☒ B. qK
☒ C. oW
☒ D. fF

Question ID : 4410092226539
Option 1 ID : 4410098761454
Option 2 ID : 4410098761455
Option 3 ID : 4410098761456
Option 4 ID : 4410098761453
Status : Answered
Chosen Option : D

Q.3 Refer to the following letter, symbol series and answer the question.
Counting to be done from left to right only.
(Left) \$ X Q \$ J N B & H M % G @ Z R & & = W \$ B (Right)
How many such symbols are there each of which is immediately preceded by
a symbol and also immediately followed by a letter?

- Ans ☒ A. Three
☒ B. Two
☒ C. One
☒ D. Zero

Question ID : 441009782804
Option 1 ID : 4410093085222
Option 2 ID : 4410093085221
Option 3 ID : 4410093085220
Option 4 ID : 4410093085219
Status : Answered
Chosen Option : C

Q.4 Given below is a statement followed by two possible reasons numbered I and II. Read the statement carefully and decide which of the two explains the event/observation/information given in the statement.

Statement: Despite being the most populous country in the world, Country X's per capita energy consumption is lower than that of Country Y, which has a much smaller population.

Reason I: Country X has a larger proportion of its population living in rural areas with limited access to electricity.

Reason II: Country Y has a more advanced industrial sector and a higher standard of living, which usually demands more energy.

- Ans ☒ A. Both I and II are possible reasons.
- ☐ B. Only II is a possible reason.
- ☐ C. Neither I nor II is a possible reason.
- ☐ D. Only I is a possible reason.

Question ID : 441009477874
Option 1 ID : 4410091866904
Option 2 ID : 4410091866902
Option 3 ID : 4410091866903
Option 4 ID : 4410091866901
Status : Answered
Chosen Option : A

Q.5 What should come in place of '?' in the given series?
19 30 52 85 129 ?

- Ans ☒ A. 184
- ☐ B. 183
- ☐ C. 185
- ☐ D. 186

Question ID : 4410091201882
Option 1 ID : 4410094741311
Option 2 ID : 4410094741310
Option 3 ID : 4410094741312
Option 4 ID : 4410094741313
Status : Answered
Chosen Option : A

Q.6 Refer to the following letter, symbol series and answer the question.
Counting to be done from left to right only
(Left) P D * F C # J © % € K £ G P £ G © # H £ £ B (Right)
How many such letters are there each of which is immediately preceded by a letter and also immediately followed by a symbol?

- Ans ☒ A. Two
☒ B. Three
☒ C. Five
☒ D. Four

Question ID : 441009701119
Option 1 ID : 4410092758508
Option 2 ID : 4410092758506
Option 3 ID : 4410092758509
Option 4 ID : 4410092758507
Status : Answered
Chosen Option : A

Q.7 VCNK is related to UAOM in a certain way based on the English alphabetical order. In the same way, LPIE is related to KNJG. To which of the following is BDYW related, following the same logic?
1957

- Ans ☒ A. BAYX
☒ B. BBZY
☒ C. ABZY
☒ D. ACZY

Question ID : 441009805368
Option 1 ID : 4410093175598
Option 2 ID : 4410093175597
Option 3 ID : 4410093175595
Option 4 ID : 4410093175596
Status : Answered
Chosen Option : C

Q.8 An accurate clock shows 4:40 am. By how many degrees will the hour hand rotate when the clock shows 10:20 am?

- Ans ☒ A. 140°
☒ B. 190°
☒ C. 150°
☒ D. 170°

Question ID : 4410092226531
Option 1 ID : 4410098761421
Option 2 ID : 4410098761424
Option 3 ID : 4410098761422
Option 4 ID : 4410098761423
Status : Answered
Chosen Option : D

Q.9 M, N, O, P, W, X and Y are sitting around a circular table facing the centre of the table. Y is the immediate neighbour of both W and N. N sits third to the left of X. O sits to the immediate left of X. M is not an immediate neighbor of N. Who sits second to the right of P?

- Ans ☒ A. O
☒ B. W
☒ C. M
☒ D. X

Question ID : 441009810005
Option 1 ID : 4410093194144
Option 2 ID : 4410093194145
Option 3 ID : 4410093194143
Option 4 ID : 4410093194146
Status : Answered
Chosen Option : D

Q.10 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
All eggs are kettles.
Some trays are kettles.

Conclusions:
(I) : Some trays are eggs.
(II) : Some kettles are eggs.

- Ans ☒ A. Only conclusion (I) follows
☒ B. Neither conclusion (I) nor (II) follows
☒ C. Only conclusion (II) follows
☒ D. Both conclusions (I) and (II) follow

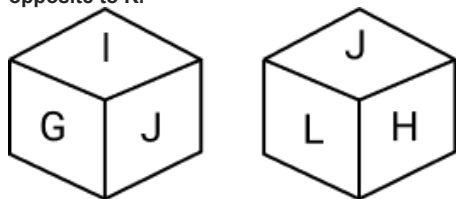
Question ID : 44100929064
Option 1 ID : 441009115726
Option 2 ID : 441009115728
Option 3 ID : 441009115727
Option 4 ID : 441009115729
Status : Answered
Chosen Option : C

Q.11 Each letter in the word BRANCH is changed to the letter immediately following it in the English alphabetical order and then all the letters thus formed are arranged in alphabetical order. Which of the following letters will be third from the left in the new group of letters thus formed?

- Ans ☒ A. I
☒ B. O
☒ C. D
☒ D. C

Question ID : 441009790862
Option 1 ID : 4410093117449
Option 2 ID : 4410093117450
Option 3 ID : 4410093117447
Option 4 ID : 4410093117448
Status : Answered
Chosen Option : C

Q.12 Six letters G, H, I, J, K and L are written on different faces of a dice. Two positions of this dice are shown in the figure. Find the letter on the face opposite to K.



- Ans ☒ A. H
☒ B. J
☒ C. I
☒ D. G

Question ID : 441009865745
Option 1 ID : 4410093416101
Option 2 ID : 4410093416103
Option 3 ID : 4410093416102
Option 4 ID : 4410093416100
Status : Answered
Chosen Option : B

Q.13 Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that 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 ☒ A. SJE
☒ B. JAV
☒ C. FVQ
☒ D. YPK

Question ID : 441009397287
Option 1 ID : 4410091554601
Option 2 ID : 4410091554600
Option 3 ID : 4410091554602
Option 4 ID : 4410091554603
Status : Answered
Chosen Option : C

Q.14 C, O, R, P and E have different heights. E is taller than C but shorter than O. C is taller than P. R is taller than P. More than two people are taller than R. How many people are taller than P?

- Ans ☒ A. Two
☒ B. Three
☒ C. Four
☒ D. One

Question ID : 4410091646985
Option 1 ID : 4410096504202
Option 2 ID : 4410096504203
Option 3 ID : 4410096504204
Option 4 ID : 4410096504201
Status : Answered
Chosen Option : B

Q.15 Seven boxes B, U, I, L, D, E and R are kept one over the other but not necessarily in the same order. Only three boxes are kept below B. Only one box is kept between L and B. Only three boxes are kept between L and U. U is kept at some place above B. R is kept immediately below U. E is kept at one of the places above I. D is not kept immediately above or below L. Which box is kept at the lowermost position?

- Ans ☒ A. B
☒ B. I
☒ C. R
☒ D. U

Question ID : 441009709955
Option 1 ID : 4410092793794
Option 2 ID : 4410092793791
Option 3 ID : 4410092793792
Option 4 ID : 4410092793793
Status : Answered
Chosen Option : B

Q.16 Seven boxes, C, H, A, I, R, E and D, are kept one over the other but not necessarily in the same order.
Only two boxes are kept below H. Only one box is kept above R. Only one box is kept between R and D. E is kept immediately above A. C is kept at some place below I.
How many boxes are kept between I and E?

- Ans ☒ A. Three
☒ B. One
☒ C. Four
☒ D. Two

Question ID : 4410091526443
Option 1 ID : 4410096028888
Option 2 ID : 4410096028886
Option 3 ID : 4410096028889
Option 4 ID : 4410096028887
Status : Answered
Chosen Option : C

Q.17 In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer.
Among 5 sticks, S, G, R, D and J each having a different height, which stick is the shortest?
(I) J is taller than D.
(II) Only one stick is shorter than S. S is shorter than D but taller than G.

- Ans ☒ A. Both statements I and II together are NOT sufficient to answer the question
☒ B. Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question
☒ C. Data in Statement II alone is sufficient to answer the question while data in statement I is not
☒ D. Data in Statement I alone is sufficient to answer the question while data in statement II is not

Question ID : 4410092226543
Option 1 ID : 4410098761472
Option 2 ID : 4410098761471
Option 3 ID : 4410098761470
Option 4 ID : 4410098761469
Status : Answered
Chosen Option : C

Q.18 18 is related to 160 following a certain logic. Following the same logic, 21 is related to 175. To which of the following is 26 related to, following the same logic?
(NOTE : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

- Ans ☒ A. 200
☒ B. 190
☒ C. 170
☒ D. 210

Question ID : 4410092226549
Option 1 ID : 4410098761495
Option 2 ID : 4410098761494
Option 3 ID : 4410098761493
Option 4 ID : 4410098761496
Status : Answered
Chosen Option : D

Q.19 What should come in place of the question mark (?) in the given series?
45 56 71 90 113 ?

- Ans ☒ A. 141
☒ B. 139
☒ C. 140
☒ D. 142

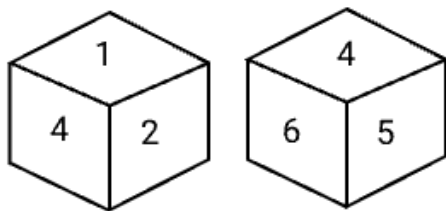
Question ID : 441009339845
Option 1 ID : 4410091325419
Option 2 ID : 4410091325418
Option 3 ID : 4410091325417
Option 4 ID : 4410091325420
Status : Answered
Chosen Option : C

Q.20 What will come in the place of ‘?’ in the following equation, if ‘+’ and ‘-’ are interchanged and ‘x’ and ‘÷’ are interchanged?
 $78 - 24 \div 5 + 32 \times 8 = ?$

- Ans ☒ A. 192
☒ B. 198
☒ C. 196
☒ D. 194

Question ID : 441009384707
Option 1 ID : 4410091504478
Option 2 ID : 4410091504481
Option 3 ID : 4410091504480
Option 4 ID : 4410091504479
Status : Answered
Chosen Option : D

Q.21 Six numbers 1, 2, 3, 4, 5 and 6 are written on different faces of a dice .Two different positions of the same dice are given below. Which is the number on the face opposite the face containing 5?



- Ans ☒ A. 3
☒ B. 6
☒ C. 1
☒ D. 2

Question ID : 4410092228065
Option 1 ID : 4410098766582
Option 2 ID : 4410098766583
Option 3 ID : 4410098766580
Option 4 ID : 4410098766581
Status : Answered
Chosen Option : C

Q.22 What should come in place of the question mark (?) in the following series based on the English alphabetical order?
IKG LNJ OQM RTP ?

11876

- Ans ☒ A. USW
☒ B. SUW
☒ C. SWU
☒ D. UWS

Question ID : 441009732346
Option 1 ID : 4410092883137
Option 2 ID : 4410092883138
Option 3 ID : 4410092883139
Option 4 ID : 4410092883136
Status : Answered
Chosen Option : D

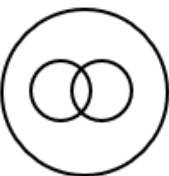
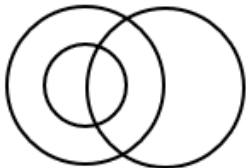
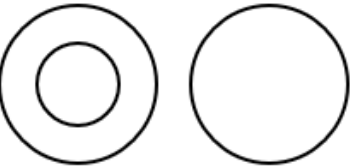
Q.23 If 15 August 1947 was a Friday, which day of the week was 15th August 1957?

- Ans ☒ A. Tuesday
☒ B. Monday
☒ C. Thursday
☒ D. Friday

Question ID : 441009726104
Option 1 ID : 4410092858169
Option 2 ID : 4410092858168
Option 3 ID : 4410092858170
Option 4 ID : 4410092858171
Status : Answered
Chosen Option : C

Q.24 Choose the diagram that best represents the relationship among the following classes:
Forests, Grasslands, Ecosystems

Ans

- ☒ A. 
- ☒ B. 
- ☒ C. 
- ☒ D. 

Question ID : 4410092226547
Option 1 ID : 4410098761486
Option 2 ID : 4410098761488
Option 3 ID : 4410098761487
Option 4 ID : 4410098761485
Status : Answered
Chosen Option : D

Q.25 B is the brother of P. P is the father of N. Z is the father of H. H is the son of N.
How is B related to Z?

- Ans ☒ A. Wife's father's brother
- ☐ B. Wife's father
- ☐ C. Wife's father's father
- ☐ D. Wife's brother

Question ID : 4410092226535
Option 1 ID : 4410098761437
Option 2 ID : 4410098761439
Option 3 ID : 4410098761438
Option 4 ID : 4410098761440
Status : Answered
Chosen Option : A

Section : Part 4 General English

Q.1 Which of the following is the correct direct speech form of the sentence?
She said that she felt confident about the upcoming presentation.

- Ans ☐ A. She said, "I feel confident about the upcoming presentation."
- ☐ B. She said, "She feels confident about the upcoming presentation."
- ☐ C. She said, "I am confident about the upcoming presentation."
- ☒ D. She said, "I felt confident about the upcoming presentation."

Question ID : 441009932343
Option 1 ID : 4410093683141
Option 2 ID : 4410093683142
Option 3 ID : 4410093683140
Option 4 ID : 4410093683143
Status : Answered
Chosen Option : A

Q.2 Complete the sentence by choosing the most appropriate option.
To address the complex issue, the team adopted a _____ methodology and
provided _____ evidence in their report.

- Ans ☐ A. limited, ambiguous
- ☒ B. comprehensive, compelling
- ☐ C. fragmented, irrelevant
- ☐ D. narrow, questionable

Question ID : 4410091602511
Option 1 ID : 4410096329618
Option 2 ID : 4410096329621
Option 3 ID : 4410096329620
Option 4 ID : 4410096329619
Status : Answered
Chosen Option : B

Q.3 Convert the following sentence into passive voice.
They are developing a new curriculum for graduate students.

- Ans ☒ A. A new curriculum has been developed for graduate students.
- ☒ B. A new curriculum was being developed for graduate students.
- ☒ C. A new curriculum was developed for graduate students.
- ☒ D. A new curriculum is being developed for graduate students.

Question ID : 4410092220721
Option 1 ID : 4410098738543
Option 2 ID : 4410098738542
Option 3 ID : 4410098738545
Option 4 ID : 4410098738544
Status : Answered
Chosen Option : A

Q.4 Select the option that expresses the given sentence in active voice.
A groundbreaking discovery is expected to be announced by the scientists tomorrow.

- Ans ☒ A. A groundbreaking discovery expects to be announced by the scientists.
- ☒ B. Tomorrow, scientists announced a groundbreaking discovery.
- ☒ C. The scientists are expected to announce a groundbreaking discovery tomorrow.
- ☒ D. The scientists are announcing a groundbreaking discovery tomorrow as expected.

Question ID : 4410092220641
Option 1 ID : 4410098738232
Option 2 ID : 4410098738231
Option 3 ID : 4410098738233
Option 4 ID : 4410098738230
Status : Answered
Chosen Option : C

Q.5 Select the most appropriate option to substitute the underlined word segment.
He tried to bury a skeleton and make peace after the conflict.

- Ans ☒ A. a sword
- ☒ B. the club
- ☒ C. an axe
- ☒ D. the hatchet

Question ID : 4410092220635
Option 1 ID : 4410098738208
Option 2 ID : 4410098738207
Option 3 ID : 4410098738206
Option 4 ID : 4410098738209
Status : Answered
Chosen Option : A

Q.6 Choose the correct one word substitution for the underlined phrase.
He is a/an person who is always dissatisfied.

- Ans ☒ A. Altruist
☒ B. Malcontent
☒ C. Conformist
☒ D. Benefactor

Question ID : 4410092220612
Option 1 ID : 4410098738115
Option 2 ID : 4410098738117
Option 3 ID : 4410098738114
Option 4 ID : 4410098738116
Status : Answered
Chosen Option : B

Q.7 What is the meaning of the idiom "to be caught between the devil and the deep blue sea"?

- Ans ☒ A. To be overwhelmed by an easy choice
☒ B. To be faced with two equally undesirable options
☒ C. To avoid making a decision
☒ D. To be under pressure but not taking any action

Question ID : 441009241861
Option 1 ID : 441009945158
Option 2 ID : 441009945157
Option 3 ID : 441009945159
Option 4 ID : 441009945160
Status : Answered
Chosen Option : D

Q.8 The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

(A) She goes to the market yesterday / (B) evening and bought / (C) fresh vegetables / (D) for the dinner.

- Ans ☒ A. for the dinner.
☒ B. evening and bought
☒ C. fresh vegetables
☒ D. She goes to the market yesterday

Question ID : 4410091297027
Option 1 ID : 4410095120374
Option 2 ID : 4410095120372
Option 3 ID : 4410095120373
Option 4 ID : 4410095120371
Status : Answered
Chosen Option : D

Q.9 Select the most appropriate synonym of the underlined word in the given sentence.

The CEO remained adamant despite the board's objections.

- Ans ☒ A. stubborn
- ☐ B. flexible
- ☐ C. hesitant
- ☐ D. indifferent

Question ID : 441009291530
Option 1 ID : 4410091132988
Option 2 ID : 4410091132986
Option 3 ID : 4410091132989
Option 4 ID : 4410091132987
Status : Answered
Chosen Option : A

Q.10 Rearrange the segments to form a coherent statement: The policy proposal, (A) / Which was drafted after extensive consultations,(B) / Focuses on improving transparency,(C) / And is expected to enhance public trust (D)

- Ans ☒ A. ABCD
- ☐ B. BCAD
- ☐ C. DABC
- ☐ D. CBDA

Question ID : 4410092230802
Option 1 ID : 4410098776672
Option 2 ID : 4410098776671
Option 3 ID : 4410098776673
Option 4 ID : 4410098776674
Status : Answered
Chosen Option : A

Q.11 The given sentence is divided into four segments, identify the segment that contains an error.

When the interdisciplinary panel has reviewed/ the extensive body of evidence, it will /recommend a comprehensive policy framework /that will addressed the socioeconomic challenges.

- Ans ☐ A. recommend a comprehensive policy framework
- ☐ B. the extensive body of evidence, it will
- ☐ C. When the interdisciplinary panel has reviewed
- ☒ D. that will addressed the socioeconomic challenges.

Question ID : 4410092220626
Option 1 ID : 4410098738172
Option 2 ID : 4410098738171
Option 3 ID : 4410098738170
Option 4 ID : 4410098738173
Status : Answered
Chosen Option : D

Q.12 Select an appropriate option to complete the following sentence.
____ heated debate erupted during ____ public rally, drawing citizens from
across the city to voice their opinions.

- Ans ☒ A. An, a
☒ B. A,a
☒ C. A, an
☒ D. No article, an

Question ID : 4410091430056
Option 1 ID : 4410095648547
Option 2 ID : 4410095648544
Option 3 ID : 4410095648545
Option 4 ID : 4410095648546
Status : Answered
Chosen Option : B

Q.13 Complete the given sentence, choosing your answer from the options
provided.

Dr. Jane Goodall explained her findings on chimpanzees _____ so that
even non-specialists could understand.

- Ans ☒ A. cryptically
☒ B. perspicuously
☒ C. murkily
☒ D. randomly

Question ID : 4410091646596
Option 1 ID : 4410096502628
Option 2 ID : 4410096502627
Option 3 ID : 4410096502626
Option 4 ID : 4410096502625
Status : Answered
Chosen Option : B

Q.14 A sentence with a grammatical error is given here. Select the option which
will rectify this error.
The CEO, along with all the senior VPs, are attending the off-site leadership
retreat at Lonavala.

- Ans ☒ A. The CEO, along with all the senior VPs is attending the off-site leadership retreat at
Lonavala.
☒ B. The CEO, along with all the senior VPs are going to attend the off-site leadership retreat
at Lonavala.
☒ C. The CEO, along with all the senior VPs have been attending the off-site leadership
retreat at Lonavala.
☒ D. The CEO , along with all the senior VPs were attending the off-site leadership retreat at
Lonavala.

Question ID : 4410091649487
Option 1 ID : 4410096514102
Option 2 ID : 4410096514105
Option 3 ID : 4410096514104
Option 4 ID : 4410096514103
Status : Answered
Chosen Option : D

Q.15 One of the four words in bold is incorrectly spelt. Select the incorrectly spelt word

She was admired for her **meticulousness** and attention to detail. However, some **colleagues** questioned her **accomodation** of **alternative** viewpoints during meetings.

- Ans ☒ A. meticulousness
☒ B. accomodation
☒ C. colleagues
☒ D. alternative

Question ID : 4410091324329
Option 1 ID : 4410095228793
Option 2 ID : 4410095228795
Option 3 ID : 4410095228794
Option 4 ID : 4410095228796
Status : Answered
Chosen Option : A

Q.16 Arrange the following segments to form a meaningful sentence.
A. in recent years
B. communication technology
C. has rapidly evolved
D. due to innovation

- Ans ☒ A. B C A D
☒ B. D A C B
☒ C. D C A B
☒ D. C B D A

Question ID : 4410092220621
Option 1 ID : 4410098738153
Option 2 ID : 4410098738150
Option 3 ID : 4410098738152
Option 4 ID : 4410098738151
Status : Answered
Chosen Option : A

Q.17 Select the correct option to complete the following sentence.

___ Roman God of ___ underworld ruled over seeds but he also ruled over metals which lay under ___ surface of ___ earth.

- Ans ☒ A. No article, the, no article, the
☒ B. The , the , no article, no article
☒ C. The, the, the , the
☒ D. No article, the , the, the

Question ID : 441009113150
Option 1 ID : 441009450149
Option 2 ID : 441009450148
Option 3 ID : 441009450147
Option 4 ID : 441009450150
Status : Answered
Chosen Option : C

Q.18 Which of the following is the correct indirect speech transformation of: He said, "Why are you late today?"

- Ans ☒ A. He said why are you late today.
☒ B. He asked why I was late that day.
☒ C. He asked why was I late today.
☒ D. He said why I am late that day.

Question ID : 4410092228890
Option 1 ID : 4410098769597
Option 2 ID : 4410098769596
Option 3 ID : 4410098769595
Option 4 ID : 4410098769598
Status : Answered
Chosen Option : B

Q.19 Select the wrongly spelt word from the options given below.

- Ans ☒ A. Pedestrian
☒ B. Unprentetious
☒ C. Millennium
☒ D. Correspondent

Question ID : 4410091561784
Option 1 ID : 4410096168935
Option 2 ID : 4410096168934
Option 3 ID : 4410096168936
Option 4 ID : 4410096168937
Status : Answered
Chosen Option : B

Q.20 Select the most appropriate one-word substitute for the underlined phrase.
The market was run by a/an person who is skilled at making things by hand.

- Ans ☒ A. artisan
☒ B. charlatan
☒ C. apprentice
☒ D. connoisseur

Question ID : 4410092220615
Option 1 ID : 4410098738129
Option 2 ID : 4410098738126
Option 3 ID : 4410098738127
Option 4 ID : 4410098738128
Status : Answered
Chosen Option : A

Comprehension:

Read the passage and answer the following questions:
The term “Angry Young Men” emerged in 1956, following a press release by the Royal Court Theatre to promote Look Back in Anger. This label was subsequently used to describe a group of British writers who expressed dissatisfaction with the social, political, and cultural climate of post-war Britain. These writers were particularly critical of the perceived hypocrisy and rigid class structures upheld by the middle and upper classes. Despite being grouped under a single label, the Angry Young Men were not a cohesive or unified movement. Their political ideologies varied significantly, and the term itself lacked a precise definition. Rather than forming an organized literary school, these writers were connected primarily by a shared tone of disillusionment and a willingness to challenge established norms. Their works often featured protagonists who were frustrated with societal constraints and openly critical of authority. Interestingly, many writers associated with this label frequently criticized one another’s works, highlighting the absence of collective identity within the group. The Royal Shakespeare Company served as an informal gathering space where some of these writers interacted during the 1950s and 1960s. Prominent figures linked to this movement include John Osborne, Kingsley Amis, Colin Wilson, Bill Hopkins, Harold Pinter, Alan Sillitoe, and Arnold Wesker. Collectively, they contributed to a literary trend marked by realism, rebellion, and social critique, leaving a lasting impact on modern British literature.

SubQuestion No : 21

Q.21 Identify the most suitable title for the passage.

- Ans  A. The History of the Royal Shakespeare Company
-  B. The Angry Young Men: A Literary Label of Discontent
-  C. British Novelists of the 20th Century
-  D. Post-War British Theatre Developments

Question ID : 4410091872521
Option 1 ID : 4410097377708
Option 2 ID : 4410097377707
Option 3 ID : 4410097377709
Option 4 ID : 4410097377706
Status : Answered
Chosen Option : A

Comprehension:

Read the passage and answer the following questions:
The term “Angry Young Men” emerged in 1956, following a press release by the Royal Court Theatre to promote Look Back in Anger. This label was subsequently used to describe a group of British writers who expressed dissatisfaction with the social, political, and cultural climate of post-war Britain. These writers were particularly critical of the perceived hypocrisy and rigid class structures upheld by the middle and upper classes. Despite being grouped under a single label, the Angry Young Men were not a cohesive or unified movement. Their political ideologies varied significantly, and the term itself lacked a precise definition. Rather than forming an organized literary school, these writers were connected primarily by a shared tone of disillusionment and a willingness to challenge established norms. Their works often featured protagonists who were frustrated with societal constraints and openly critical of authority. Interestingly, many writers associated with this label frequently criticized one another’s works, highlighting the absence of collective identity within the group. The Royal Shakespeare Company served as an informal gathering space where some of these writers interacted during the 1950s and 1960s. Prominent figures linked to this movement include John Osborne, Kingsley Amis, Colin Wilson, Bill Hopkins, Harold Pinter, Alan Sillitoe, and Arnold Wesker. Collectively, they contributed to a literary trend marked by realism, rebellion, and social critique, leaving a lasting impact on modern British literature.

SubQuestion No : 22

Q.22 What is the central theme of the passage?

- Ans  A. The evolution of British drama institutions
-  B. The political ideologies of British writers
-  C. A loosely defined group of writers united by social criticism
-  D. The development of modern theatre techniques

Question ID : 4410091872522
Option 1 ID : 4410097377710
Option 2 ID : 4410097377712
Option 3 ID : 4410097377711
Option 4 ID : 4410097377713
Status : Answered
Chosen Option : A

Comprehension:

Read the passage and answer the following questions:
The term “Angry Young Men” emerged in 1956, following a press release by the Royal Court Theatre to promote Look Back in Anger. This label was subsequently used to describe a group of British writers who expressed dissatisfaction with the social, political, and cultural climate of post-war Britain. These writers were particularly critical of the perceived hypocrisy and rigid class structures upheld by the middle and upper classes. Despite being grouped under a single label, the Angry Young Men were not a cohesive or unified movement. Their political ideologies varied significantly, and the term itself lacked a precise definition. Rather than forming an organized literary school, these writers were connected primarily by a shared tone of disillusionment and a willingness to challenge established norms. Their works often featured protagonists who were frustrated with societal constraints and openly critical of authority. Interestingly, many writers associated with this label frequently criticized one another’s works, highlighting the absence of collective identity within the group. The Royal Shakespeare Company served as an informal gathering space where some of these writers interacted during the 1950s and 1960s. Prominent figures linked to this movement include John Osborne, Kingsley Amis, Colin Wilson, Bill Hopkins, Harold Pinter, Alan Sillitoe, and Arnold Wesker. Collectively, they contributed to a literary trend marked by realism, rebellion, and social critique, leaving a lasting impact on modern British literature.

SubQuestion No : 23

Q.23 Which of the following statements is correct according to the passage?

- Ans  A. The Angry Young Men formed a structured literary organization
-  B. All members shared identical political beliefs
-  C. The movement was led by the Royal Shakespeare Company
-  D. The term lacked a clear and strict definition

Question ID : 4410091872523
Option 1 ID : 4410097377714
Option 2 ID : 4410097377715
Option 3 ID : 4410097377717
Option 4 ID : 4410097377716
Status : Answered
Chosen Option : C

Comprehension:

Read the passage and answer the following questions:
The term “Angry Young Men” emerged in 1956, following a press release by the Royal Court Theatre to promote Look Back in Anger. This label was subsequently used to describe a group of British writers who expressed dissatisfaction with the social, political, and cultural climate of post-war Britain. These writers were particularly critical of the perceived hypocrisy and rigid class structures upheld by the middle and upper classes. Despite being grouped under a single label, the Angry Young Men were not a cohesive or unified movement. Their political ideologies varied significantly, and the term itself lacked a precise definition. Rather than forming an organized literary school, these writers were connected primarily by a shared tone of disillusionment and a willingness to challenge established norms. Their works often featured protagonists who were frustrated with societal constraints and openly critical of authority. Interestingly, many writers associated with this label frequently criticized one another’s works, highlighting the absence of collective identity within the group. The Royal Shakespeare Company served as an informal gathering space where some of these writers interacted during the 1950s and 1960s. Prominent figures linked to this movement include John Osborne, Kingsley Amis, Colin Wilson, Bill Hopkins, Harold Pinter, Alan Sillitoe, and Arnold Wesker. Collectively, they contributed to a literary trend marked by realism, rebellion, and social critique, leaving a lasting impact on modern British literature.

SubQuestion No : 24

Q.24 What can be inferred about the relationships among the writers?

- Ans  A. They worked under a single leadership structure
-  B. They often criticized one another despite being grouped together
-  C. They avoided public criticism of each other's works openly
-  D. They collaborated closely on all literary works together

Question ID : 4410091872524
Option 1 ID : 4410097377721
Option 2 ID : 4410097377720
Option 3 ID : 4410097377719
Option 4 ID : 4410097377718
Status : Answered
Chosen Option : B

Comprehension:

Read the passage and answer the following questions:
The term “Angry Young Men” emerged in 1956, following a press release by the Royal Court Theatre to promote Look Back in Anger. This label was subsequently used to describe a group of British writers who expressed dissatisfaction with the social, political, and cultural climate of post-war Britain. These writers were particularly critical of the perceived hypocrisy and rigid class structures upheld by the middle and upper classes. Despite being grouped under a single label, the Angry Young Men were not a cohesive or unified movement. Their political ideologies varied significantly, and the term itself lacked a precise definition. Rather than forming an organized literary school, these writers were connected primarily by a shared tone of disillusionment and a willingness to challenge established norms. Their works often featured protagonists who were frustrated with societal constraints and openly critical of authority. Interestingly, many writers associated with this label frequently criticized one another’s works, highlighting the absence of collective identity within the group. The Royal Shakespeare Company served as an informal gathering space where some of these writers interacted during the 1950s and 1960s. Prominent figures linked to this movement include John Osborne, Kingsley Amis, Colin Wilson, Bill Hopkins, Harold Pinter, Alan Sillitoe, and Arnold Wesker. Collectively, they contributed to a literary trend marked by realism, rebellion, and social critique, leaving a lasting impact on modern British literature.

SubQuestion No : 25

Q.25 What is the structure of the passage?

- Ans  A. Definition–Explanation–Examples
-  B. Problem–Analysis–Conclusion
-  C. Cause–Effect–Solution
-  D. Chronological narrative

Question ID : 4410091872525
Option 1 ID : 4410097377723
Option 2 ID : 4410097377725
Option 3 ID : 4410097377724
Option 4 ID : 4410097377722
Status : Answered
Chosen Option : C

Section : Part 5 Domain Knowledge

Q.1 Which measure represents the middle value in a data set arranged in order?

- Ans  A. Mean
-  B. Mode
-  C. Range
-  D. Median

Question ID : 4410092311534
Option 1 ID : 4410099090759
Option 2 ID : 4410099090757
Option 3 ID : 4410099090758
Option 4 ID : 4410099090760
Status : Answered
Chosen Option : D

Q.2 When designing a helical compression spring for increased rigidity (i.e., higher stiffness), which of the following design modifications would be most effective?

- Ans ☒ A. Increasing the wire diameter (d) or using a material with a higher modulus of rigidity (G)
- ☒ B. Increasing the number of active coils (Na)
- ☒ C. Increasing the mean coil diameter (D)
- ☒ D. Decreasing the wire diameter (d)

Question ID : 4410091216206
Option 1 ID : 4410094798233
Option 2 ID : 4410094798232
Option 3 ID : 4410094798230
Option 4 ID : 4410094798231
Status : Answered
Chosen Option : A

Q.3 An aerospace manufacturer is joining stainless steel tubes using a brazing process. The filler metal selected has a melting range of 890°C to 900°C, while the base metal melts at 1450°C. The joint design specifies a clearance of 0.08 mm. Which combination of process parameters is most likely to achieve a sound joint with optimal capillary action and minimal oxidation?

- Ans ☒ A. Brazing at 920°C with a borax-based flux in a controlled argon atmosphere
- ☒ B. Brazing at 940°C with a rosin-based flux in a vacuum
- ☒ C. Brazing at 900°C with a chloride-based flux in nitrogen atmosphere
- ☒ D. Brazing at 860°C with a fluoride-based flux in open air

Question ID : 4410092211268
Option 1 ID : 4410098701505
Option 2 ID : 4410098701503
Option 3 ID : 4410098701502
Option 4 ID : 4410098701504
Status : Answered
Chosen Option : C

Q.4 Which statement best explains why the graphical method is valuable for approximating solutions to nonlinear equations?

- Ans ☒ A. It does not give any insight into the behavior of the equation near roots.
- ☒ B. It always provides exact roots with no estimation required.
- ☒ C. It can solve multiple equations at once without plotting individual graphs.
- ☒ D. It visually identifies points where a function crosses the axis, showing approximate roots.

Question ID : 4410092311549
Option 1 ID : 4410099090818
Option 2 ID : 4410099090819
Option 3 ID : 4410099090820
Option 4 ID : 4410099090817
Status : Answered
Chosen Option : D

Q.5 A cylindrical rod of radius 60 mm has thermal conductivity 0.172 W/m K, while heat transfer coefficient (h) is 2.8 W/m² K. When insulation is added on the surface of this rod, then heat transfer from the rod will _____.

- Ans ☒ A. remain same up to the critical radius of insulation
- ☒ B. first increase then decrease
- ☒ C. always increase
- ☒ D. always decrease

Question ID : 4410091204800
Option 1 ID : 4410094752718
Option 2 ID : 4410094752717
Option 3 ID : 4410094752715
Option 4 ID : 4410094752716
Status : Answered
Chosen Option : B

Q.6 Which of the following material properties is a measure of a material's ability to absorb energy and plastically deform without fracturing when subjected to a sudden, rapidly applied load?

- Ans ☒ A. Hardness
- ☒ B. Brittleness
- ☒ C. Stiffness
- ☒ D. Impact strength

Question ID : 4410091213599
Option 1 ID : 4410094787806
Option 2 ID : 4410094787809
Option 3 ID : 4410094787807
Option 4 ID : 4410094787808
Status : Answered
Chosen Option : D

Q.7 Mechanical efficiency in a reciprocating compressor is defined as the ratio of:

- Ans ☒ A. Brake power to indicated power
- ☒ B. Actual work done to theoretical work
- ☒ C. Output power to input power
- ☒ D. Indicated power to brake power

Question ID : 4410091076978
Option 1 ID : 4410094245312
Option 2 ID : 4410094245315
Option 3 ID : 4410094245314
Option 4 ID : 4410094245313
Status : Answered
Chosen Option : A

Q.8 Which type of probing system in a Coordinate Measuring Machine (CMM) is most suitable for capturing the entire contour of a complex surface during inspection?

- Ans
- ☐ A. Optical probe system
 - ☐ B. Touch-trigger probe system
 - ☐ C. Temperature compensation system
 - ☒ D. Scanning probe system

Question ID : 4410092211280

Option 1 ID : 4410098701552

Option 2 ID : 4410098701551

Option 3 ID : 4410098701550

Option 4 ID : 4410098701553

Status : Answered

Chosen Option : D

Q.9 Which of the following differential equations is homogeneous?

- Ans
- ☐ A. $\frac{dy}{dx} = x^2 + y^2$
 - ☐ B. $\frac{dy}{dx} = x + y^2$
 - ☐ C. $\frac{dy}{dx} = x^2 - y$
 - ☒ D. $\frac{dy}{dx} = \frac{x + y}{x - y}$

Question ID : 4410092311531

Option 1 ID : 4410099090746

Option 2 ID : 4410099090748

Option 3 ID : 4410099090747

Option 4 ID : 4410099090745

Status : Answered

Chosen Option : C

Q.10 Which statement best describes the main purpose of the relaxation method when solving a system of linear equations?

- Ans
- ☐ A. It checks for diagonal dominance before starting the process.
 - ☐ B. It simultaneously solves all equations at once without iteration.
 - ☐ C. It only chooses initial guesses for the unknowns and stops.
 - ☒ D. It iteratively refines variable values to reduce equation residuals.

Question ID : 4410092311562

Option 1 ID : 4410099090870

Option 2 ID : 4410099090871

Option 3 ID : 4410099090869

Option 4 ID : 4410099090872

Status : Answered

Chosen Option : B

Q.11 A beam in a machinery setup experiences resonance at its operating speed. If the operating speed and structural configuration must remain unchanged, what is the most effective way to reduce the vibration amplitude?

- Ans ☒ A. Increase structural damping in the system.
- ☐ B. Reduce the beam length slightly.
- ☐ C. Shift the support point of the beam.
- ☐ D. Add mass to the beam uniformly.

Question ID : 4410092211232
Option 1 ID : 4410098701358
Option 2 ID : 4410098701359
Option 3 ID : 4410098701361
Option 4 ID : 4410098701360
Status : Answered
Chosen Option : A

Q.12 Which turbine type generally operates with atmospheric pressure on the runner?

- Ans ☐ A. Reaction turbine
- ☐ B. Outward radial turbine
- ☒ C. Impulse turbine
- ☐ D. Axial flow turbine

Question ID : 4410091325590
Option 1 ID : 4410095233812
Option 2 ID : 4410095233813
Option 3 ID : 4410095233814
Option 4 ID : 4410095233811
Status : Answered
Chosen Option : A

Q.13 An air-standard Diesel cycle has a compression ratio of 16 and a cut-off ratio of 2. Take $\gamma=1.4$. Find the air-standard efficiency of the cycle.

- Ans ☒ A. 61.4%
- ☐ B. 56.5%
- ☐ C. 65.2%
- ☐ D. 52.3%

Question ID : 4410091399248
Option 1 ID : 4410095526711
Option 2 ID : 4410095526710
Option 3 ID : 4410095526712
Option 4 ID : 4410095526709
Status : Answered
Chosen Option : D

Q.14 A uniform block rests on a horizontal surface and is subjected to a gradually increasing horizontal force until sliding occurs. Which parameter most directly determines the initiation of sliding?

- Ans ☒ A. The coefficient of static friction between block and surface
- ☐ B. The coefficient of kinetic friction between block and surface
- ☐ C. The area of contact between block and surface
- ☐ D. The block's mass only

Question ID : 4410092211207
Option 1 ID : 4410098701261
Option 2 ID : 4410098701260
Option 3 ID : 4410098701258
Option 4 ID : 4410098701259
Status : Answered
Chosen Option : A

Q.15 Which of the following best describes a limitation of Simpson's one third rule when used for numerical integration?

- Ans ☐ A. It can be used with any number of subintervals
- ☒ B. It requires an even number of subintervals for accurate application
- ☐ C. It only works with functions that are always positive
- ☐ D. It is more accurate for discontinuous functions

Question ID : 4410092311552
Option 1 ID : 4410099090832
Option 2 ID : 4410099090829
Option 3 ID : 4410099090831
Option 4 ID : 4410099090830
Status : Answered
Chosen Option : B

Q.16 A steel rod is subjected to a uniaxial tensile load within its elastic limit. According to Hooke's Law, what will be the nature of the relationship between the applied stress and the resulting strain in this scenario?

- Ans ☐ A. The relationship is exponential with increasing stress
- ☒ B. The relationship is linear with a constant of proportionality
- ☐ C. The relationship is quadratic due to increasing deformation
- ☐ D. The strain remains constant for varying stress

Question ID : 4410092211206
Option 1 ID : 4410098701254
Option 2 ID : 4410098701257
Option 3 ID : 4410098701255
Option 4 ID : 4410098701256
Status : Answered
Chosen Option : B

Q.17 In the case of steady one-dimensional heat conduction through a hollow cylinder, how does the temperature vary with radial distance?

- Ans ☒ A. Varies linearly with radius
- ☒ B. Remains uniform across the radius
- ☒ C. Follows a logarithmic profile
- ☒ D. Changes exponentially with radius

Question ID : 4410091049572

Option 1 ID : 4410094147386

Option 2 ID : 4410094147389

Option 3 ID : 4410094147387

Option 4 ID : 4410094147388

Status : Answered

Chosen Option : C

Q.18 Let $A = \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix}$ Using the Cayley–Hamilton theorem, find A^2

- Ans ☒ A. $\begin{bmatrix} 4 & 5 \\ 5 & 4 \end{bmatrix}$
- ☒ B. $\begin{bmatrix} 5 & 4 \\ 4 & 5 \end{bmatrix}$
- ☒ C. $\begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix}$
- ☒ D. $\begin{bmatrix} 2 & 5 \\ 5 & 2 \end{bmatrix}$

Question ID : 4410091230970

Option 1 ID : 4410094857359

Option 2 ID : 4410094857358

Option 3 ID : 4410094857361

Option 4 ID : 4410094857360

Status : Answered

Chosen Option : B

Q.19 In a crank and slotted lever quick-return mechanism, which component directly converts the rotary motion of the crank into the oscillatory motion that produces reciprocating motion of the ram?

- Ans ☒ A. Crank
- ☒ B. Sliding block
- ☒ C. Slotted lever
- ☒ D. Fixed frame

Question ID : 4410092211214

Option 1 ID : 4410098701286

Option 2 ID : 4410098701288

Option 3 ID : 4410098701287

Option 4 ID : 4410098701289

Status : Answered

Chosen Option : C

Q.20 The volume of the solid bounded by the paraboloid $z = x^2 + y^2$

- Ans
- ☒ A. 4π
 - ☒ B. 2π
 - ☒ C. π
 - ☒ D. 8π

Question ID : 4410091227861
Option 1 ID : 4410094844955
Option 2 ID : 4410094844954
Option 3 ID : 4410094844953
Option 4 ID : 4410094844956
Status : Answered
Chosen Option : A

Q.21 Air-standard efficiency of a thermodynamic cycle mainly depends on the:

- Ans
- ☒ A. frictional losses
 - ☒ B. calorific value of fuel
 - ☒ C. type of heat addition and rejection processes
 - ☒ D. actual combustion characteristics

Question ID : 4410091323565
Option 1 ID : 4410095225722
Option 2 ID : 4410095225720
Option 3 ID : 4410095225719
Option 4 ID : 4410095225721
Status : Answered
Chosen Option : C

Q.22 Given the system of equations: $2x + 3y = 7$ and $4x + 6y = 14$, which statement best describes the nature of its solutions?

- Ans
- ☒ A. The system has infinitely many solutions because the equations are dependent.
 - ☒ B. The system has no solution because the equations are inconsistent.
 - ☒ C. The system is inconsistent and independent.
 - ☒ D. The system has a unique solution because the equations are independent.

Question ID : 4410092311502
Option 1 ID : 4410099090631
Option 2 ID : 4410099090629
Option 3 ID : 4410099090632
Option 4 ID : 4410099090630
Status : Answered
Chosen Option : A

Q.23 In which of the following situations does a liquid's adhesive effect on a solid surface increase?

- Ans ☒ A. Increase in contact angle
- ☒ B. Decrease in surface tension
- ☒ C. Increase in fluid density
- ☒ D. Decrease in contact angle

Question ID : 4410091455895
Option 1 ID : 4410095751939
Option 2 ID : 4410095751942
Option 3 ID : 4410095751941
Option 4 ID : 4410095751940
Status : Answered
Chosen Option : D

Q.24 Adhesion plays a major role in which of the following phenomena?

- Ans ☒ A. Formation of clouds
- ☒ B. Water rising in a narrow glass tube
- ☒ C. Ice floating on water
- ☒ D. Mercury forming spherical droplets on glass

Question ID : 441009187130
Option 1 ID : 441009739375
Option 2 ID : 441009739373
Option 3 ID : 441009739374
Option 4 ID : 441009739372
Status : Answered
Chosen Option : D

Q.25 A solid shaft is subjected to a torque that induces shear stress of 100 MPa. According to Von Mises (distortion energy) criterion, what is the equivalent uniaxial stress?

- Ans ☒ A. 200 MPa
- ☒ B. 100 MPa
- ☒ C. 141 MPa
- ☒ D. 173 MPa

Question ID : 4410091259866
Option 1 ID : 4410094972349
Option 2 ID : 4410094972346
Option 3 ID : 4410094972347
Option 4 ID : 4410094972348
Status : Answered
Chosen Option : C

Q.26 Which function best describes the use of heat exchangers in internal combustion engines?

- Ans ☒ A. Removing heat from the engine coolant
- ☐ B. Lubricating engine parts
- ☐ C. Compressing intake air for combustion
- ☐ D. Mixing fuel with air

Question ID : 4410092211242

Option 1 ID : 4410098701398

Option 2 ID : 4410098701401

Option 3 ID : 4410098701399

Option 4 ID : 4410098701400

Status : Answered

Chosen Option : A

Q.27 Which statement best describes the application of Simpson's three-eighth rule in numerical integration?

- Ans ☐ A. It divides the interval into two parts and uses quadratic polynomial fits for each section.
- ☐ B. It uses midpoints of each interval to form rectangles for estimation.
- ☐ C. It approximates the integral by connecting data points with straight lines only.
- ☒ D. It estimates the area under a curve using cubic polynomial approximations over intervals divided into multiples of three.

Question ID : 4410092311553

Option 1 ID : 4410099090835

Option 2 ID : 4410099090836

Option 3 ID : 4410099090834

Option 4 ID : 4410099090833

Status : Answered

Chosen Option : D

Q.28 A company has two machines that are to be used for three jobs. Each job can be assigned to one and only one machine. The cost of each job on each machine is given in the table.

Machines		
Jobs	W	X
A	18	24
B	8	13
C	10	15

What are the job-assignment pairs that shall minimise the cost?

- Ans
- A. A – X, B – Dummy, C – Y
- B. A – W, B – Z, C – Y
- C. A – Y, B – X, C – Z
- D. A – Dummy, B – W, C – X

Question ID : 441009812506

Option 1 ID : 4410093204148

Option 2 ID : 4410093204150

Option 3 ID : 4410093204149

Option 4 ID : 4410093204147

Status : Answered

Chosen Option : D

Q.29 For a single shoe brake, the braking torque capacity increases with _____.

- Ans
- A. reducing normal force
- B. increasing shoe thickness
- C. decreasing drum radius
- D. increasing friction coefficient

Question ID : 4410091253946

Option 1 ID : 4410094948841

Option 2 ID : 4410094948838

Option 3 ID : 4410094948840

Option 4 ID : 4410094948839

Status : Answered

Chosen Option : D

Q.30 What happens if the wedge angle is greater than the angle of friction?

- Ans ☒ A. No friction acts
- ☒ B. Load cannot be lifted
- ☒ C. Wedge becomes self-locking
- ☒ D. Wedge slips out

Question ID : 4410091180403
Option 1 ID : 4410094655745
Option 2 ID : 4410094655747
Option 3 ID : 4410094655744
Option 4 ID : 4410094655746
Status : Answered
Chosen Option : D

Q.31 What is the value of the definite integral $\int_0^{\ln 2} e^x dx$?

- Ans ☒ A. e
- ☒ B. 2
- ☒ C. ln(2)
- ☒ D. 1

Question ID : 4410092311315
Option 1 ID : 4410099089881
Option 2 ID : 4410099089884
Option 3 ID : 4410099089883
Option 4 ID : 4410099089882
Status : Answered
Chosen Option : D

Q.32 For an ideal incompressible fluid, the bulk modulus is:

- Ans ☒ A. Infinity
- ☒ B. Zero
- ☒ C. One
- ☒ D. Equal to atmospheric pressure

Question ID : 441009187143
Option 1 ID : 441009739426
Option 2 ID : 441009739424
Option 3 ID : 441009739425
Option 4 ID : 441009739427
Status : Answered
Chosen Option : A

Q.33 Which of the following best defines an eigenvalue for a square matrix A?

- Ans ☒ A. A scalar that always equals one for any matrix A
- ☒ B. A number that makes the determinant of A zero
- ☒ C. A scalar such that there exists a nonzero vector v satisfying Av equals lambda v
- ☒ D. A vector that does not change under A

Question ID : 4410092319373

Option 1 ID : 4410099121923

Option 2 ID : 4410099121922

Option 3 ID : 4410099121921

Option 4 ID : 4410099121924

Status : Answered

Chosen Option : C

Q.34 Which of the following differential equations can be solved by separating the variables?

- Ans ☒ A. $\frac{dy}{dx} = (2x + 1)(y - 3)$
- ☒ B. $\frac{dy}{dx} = (x + y)e^{x+y}$
- ☒ C. $\frac{dy}{dx} = x^2 + y^2$
- ☒ D. $\frac{dy}{dx} + y = x^2$

Question ID : 4410092311532

Option 1 ID : 4410099090749

Option 2 ID : 4410099090750

Option 3 ID : 4410099090752

Option 4 ID : 4410099090751

Status : Answered

Chosen Option : A

Q.35 The Free Air Delivered (FAD) of a reciprocating compressor is expressed as:

$$FAD = \frac{P_a T_s}{P_s T_a} V_s \eta_v$$

This relationship is primarily derived by applying which fundamental principle?

- Ans ☒ A. Using continuity relations for compressible-flow streams
- ☒ B. Using the first-law equation for closed-system processes
- ☒ C. Using the perfect-gas law along with volumetric efficiency
- ☒ D. Using the steady-flow energy formulation for air systems

Question ID : 4410091440493
Option 1 ID : 4410095690649
Option 2 ID : 4410095690650
Option 3 ID : 4410095690648
Option 4 ID : 4410095690647
Status : Answered
Chosen Option : C

Q.36 Which of the following hardness tests uses a diamond indenter in the shape of a square pyramid with a fixed load to determine the hardness number?

- Ans ☒ A. Brinell Hardness Test
- ☒ B. Vickers Hardness Test
- ☒ C. Rockwell Hardness Test
- ☒ D. Shore Scleroscope Hardness Test

Question ID : 4410091213645
Option 1 ID : 4410094787994
Option 2 ID : 4410094787996
Option 3 ID : 4410094787995
Option 4 ID : 4410094787997
Status : Answered
Chosen Option : A

Q.37 Why does the phenomenon of critical thickness of insulation not usually arise in flat walls, but does arise in cylindrical and spherical systems?

- Ans ☒ A. Because the Fourier number for walls is always unity.
- ☒ B. Because thermal conductivity of insulation varies with wall geometry.
- ☒ C. Because flat walls always have lower convective coefficients than cylinders and spheres.
- ☒ D. Because in flat walls, addition of insulation does not increase surface area exposed to convection, while in cylinders and spheres it does.

Question ID : 4410091256504
Option 1 ID : 4410094958916
Option 2 ID : 4410094958915
Option 3 ID : 4410094958914
Option 4 ID : 4410094958913
Status : Answered
Chosen Option : D

Q.38 Which characteristic shows maximum enhancement after normalising?

- Ans ☒ A. Corrosion resistance
☒ B. Electrical conductivity
☒ C. Magnetic permeability
☒ D. Hardness

Question ID : 4410091318758
Option 1 ID : 4410095206589
Option 2 ID : 4410095206590
Option 3 ID : 4410095206591
Option 4 ID : 4410095206588
Status : Answered
Chosen Option : D

Q.39 Which of the following best describes the mode in a data set?

- Ans ☒ A. The middle value when data are ordered
☒ B. The value that appears most frequently
☒ C. The difference between highest and lowest values
☒ D. The average of all values

Question ID : 4410092311535
Option 1 ID : 4410099090762
Option 2 ID : 4410099090764
Option 3 ID : 4410099090761
Option 4 ID : 4410099090763
Status : Answered
Chosen Option : B

Q.40 Which method is typically used to determine the velocity of the piston in a crank slider mechanism for a given crank angle?

- Ans ☒ A. Instantaneous center method
☒ B. Graphical differentiation method
☒ C. Newton's method
☒ D. Relative velocity method

Question ID : 4410092211213
Option 1 ID : 4410098701283
Option 2 ID : 4410098701284
Option 3 ID : 4410098701282
Option 4 ID : 4410098701285
Status : Answered
Chosen Option : D

Q.41 A wood column section of cross-section 20 cm X 15 cm is fixed at both ends and has a length of 5 m. If Young's modulus of elasticity of the wooden column is 25K N/mm² and the factor of safety for safe load on the column is 3, then the safe load for the column is:

- Ans
- ☒ A. $\frac{\pi^2 I}{12}$
 - ☒ B. $\frac{4\pi^2 I}{3}$
 - ☒ C. $\frac{\pi^2 I}{3}$
 - ☒ D. $\frac{2\pi^2 I}{3}$

Question ID : 4410091391041
Option 1 ID : 4410095493856
Option 2 ID : 4410095493857
Option 3 ID : 4410095493854
Option 4 ID : 4410095493855
Status : Answered
Chosen Option : B

Q.42 What is a Network Diagram in Project Management?

- Ans
- ☒ A. A bar chart showing the project schedule
 - ☒ B. A diagram showing the relationships between activities
 - ☒ C. A table showing the resource allocation
 - ☒ D. A graph showing the project costs

Question ID : 4410091228959
Option 1 ID : 4410094849297
Option 2 ID : 4410094849298
Option 3 ID : 4410094849299
Option 4 ID : 4410094849300
Status : Answered
Chosen Option : B

Q.43 A matrix B of order 2x3 is reduced to the normal form $\begin{bmatrix} 1 & 0 & a \\ 0 & 1 & b \end{bmatrix}$ where 'a' and 'b' are arbitrary real numbers. What does this indicate about the solution of the linear system $BX = 0$?

- Ans
- ☒ A. The system is inconsistent for some values of a and b
 - ☒ B. The system has no solution
 - ☒ C. The system has a family of solutions parameterized by the third variable
 - ☒ D. The system has a unique solution for all a and b

Question ID : 4410092311309
Option 1 ID : 4410099089857
Option 2 ID : 4410099089858
Option 3 ID : 4410099089859
Option 4 ID : 4410099089860
Status : Answered
Chosen Option : A

Q.44 In a queuing system, what is a key difference between balking and reneging customers?

- Ans ☒ A. Balking customers leave after service, while reneging customers leave before service.
- ☒ B. Balking customers switch queues, while reneging customers receive priority.
- ☒ C. Balking customers refuse to join the queue, while reneging customers leave after joining.
- ☒ D. Balking customers arrive in groups, while reneging customers arrive individually.

Question ID : 4410091408215
Option 1 ID : 4410095561825
Option 2 ID : 4410095561827
Option 3 ID : 4410095561826
Option 4 ID : 4410095561828
Status : Answered
Chosen Option : D

Q.45 As a percentage, the volumetric efficiency of a reciprocating compressor usually varies between:

- Ans ☒ A. 60% to 85%
- ☒ B. 40% to 55%
- ☒ C. 20% to 35%
- ☒ D. 90% to 100%

Question ID : 4410091324702
Option 1 ID : 4410095230299
Option 2 ID : 4410095230298
Option 3 ID : 4410095230297
Option 4 ID : 4410095230300
Status : Answered
Chosen Option : B

Q.46 A shaft is specified with a diameter of 20.00 mm and a tolerance of +0.01 mm / -0.03 mm. What is the Maximum Material Condition (MMC) size for this shaft?

- Ans ☒ A. 19.97 mm
- ☒ B. 20.00 mm
- ☒ C. 19.99 mm
- ☒ D. 20.01 mm

Question ID : 4410092211278
Option 1 ID : 4410098701545
Option 2 ID : 4410098701544
Option 3 ID : 4410098701543
Option 4 ID : 4410098701542
Status : Answered
Chosen Option : D

Q.47 Which transformation is used to convert the Bernoulli differential equation $y' + P(x)y = Q(x)y^n$ (where $n \neq 0, 1$) into a linear differential equation?

- Ans
- ☐ A. Substitute $v = y^n$
 - ☐ B. Substitute $v = 1/y$
 - ☒ C. Substitute $v = y^{1-n}$
 - ☐ D. Substitute $v = y$

Question ID : 4410092311529
Option 1 ID : 4410099090738
Option 2 ID : 4410099090737
Option 3 ID : 4410099090739
Option 4 ID : 4410099090740
Status : Answered
Chosen Option : C

Q.48 The function of the sprue well in a gating system is to:

- Ans
- ☐ A. maintain the temperature of molten metal
 - ☐ B. filter nonmetallic inclusions before metal enters the gate
 - ☒ C. reduce the kinetic energy of molten metal from the sprue
 - ☐ D. accelerate molten metal before it enters the runner

Question ID : 4410091477922
Option 1 ID : 4410095839022
Option 2 ID : 4410095839021
Option 3 ID : 4410095839020
Option 4 ID : 4410095839019
Status : Answered
Chosen Option : C

Q.49 When the damping in a mechanically forced vibration system is increased, how does the amplitude response curve change compared with a lightly damped system?

- Ans
- ☒ A. The peak amplitude becomes lower and broader.
 - ☐ B. The resonance peak disappears completely.
 - ☐ C. The resonance frequency increases dramatically.
 - ☐ D. The peak amplitude becomes higher and narrower.

Question ID : 4410092211227
Option 1 ID : 4410098701339
Option 2 ID : 4410098701341
Option 3 ID : 4410098701338
Option 4 ID : 4410098701340
Status : Answered
Chosen Option : A

Q.50 Which of the following tests is conducted to determine the ductile to brittle transition temperature (DBTT)?

- Ans ☒ A. Impact Test
- ☒ B. Wear test
- ☒ C. Hardness test
- ☒ D. Tensile test

Question ID : 441009753611
Option 1 ID : 4410092968427
Option 2 ID : 4410092968426
Option 3 ID : 4410092968428
Option 4 ID : 4410092968425
Status : Answered
Chosen Option : D

Q.51 In a psychrometric chart at standard pressure, the curvature of the saturation line increases at higher temperatures primarily because:

- Ans ☒ A. Density of moist air increases nonlinearly
- ☒ B. Heat capacity of moist air decreases sharply
- ☒ C. Vapor pressure of water increases exponentially
- ☒ D. Humidity ratio becomes pressure-independent

Question ID : 4410091448179
Option 1 ID : 4410095721208
Option 2 ID : 4410095721210
Option 3 ID : 4410095721209
Option 4 ID : 4410095721211
Status : Answered
Chosen Option : C

Q.52 A manufacturing engineer needs to calibrate a sine bar of 200 mm length. What should be the slip gauge height combination to set an angle of 25 degrees during inspection?

- Ans ☒ A. 55.53 mm
- ☒ B. 120.82 mm
- ☒ C. 50.25 mm
- ☒ D. 84.52 mm

Question ID : 4410092211279
Option 1 ID : 4410098701547
Option 2 ID : 4410098701549
Option 3 ID : 4410098701546
Option 4 ID : 4410098701548
Status : Answered
Chosen Option : D

Q.53 A body of mass 10 kg resting on rough contact with a plane inclined at 30° to the horizontal is just about to slip. The coefficient of friction between the plane and body will be:

- Ans
- ☒ A. $\sqrt{3}$
 - ☒ B. $\frac{\sqrt{3}}{2}$
 - ☒ C. $\frac{1}{2}$
 - ☒ D. $\frac{1}{\sqrt{3}}$

Question ID : 4410091137824
Option 1 ID : 4410094486453
Option 2 ID : 4410094486452
Option 3 ID : 4410094486454
Option 4 ID : 4410094486455
Status : Answered
Chosen Option : D

Q.54 During a tensile test, the engineering stress starts decreasing after the ultimate tensile point because:

- Ans
- ☒ A. Dislocations are annihilated
 - ☒ B. Material softens with temperature
 - ☒ C. Elastic modulus decreases
 - ☒ D. Necking reduces the cross-sectional area

Question ID : 4410091470929
Option 1 ID : 4410095811659
Option 2 ID : 4410095811660
Option 3 ID : 4410095811662
Option 4 ID : 4410095811661
Status : Answered
Chosen Option : D

Q.55 In interferometry for flatness testing, change in separation between test surface and optical flat between two fringes is equal to _____. (λ is wavelength)

- Ans
- ☒ A. $\lambda/4$
 - ☒ B. 2λ
 - ☒ C. $\lambda/2$
 - ☒ D. λ

Question ID : 4410091503487
Option 1 ID : 4410095938147
Option 2 ID : 4410095938145
Option 3 ID : 4410095938146
Option 4 ID : 4410095938144
Status : Answered
Chosen Option : C

Q.56 The lamellar structure observed in eutectic alloys is formed due to:

- Ans ☒ A. high-pressure treatment
- ☒ B. slow cooling from the eutectic temperature
- ☒ C. mechanical deformation
- ☒ D. rapid quenching

Question ID : 4410091325624
Option 1 ID : 4410095233946
Option 2 ID : 4410095233943
Option 3 ID : 4410095233945
Option 4 ID : 4410095233944
Status : Answered
Chosen Option : B

Q.57 The correct transformation to convert a maximisation transportation problem into a minimisation problem is ____.

- Ans ☒ A. Subtract all matrix values from the minimum value in the matrix
- ☒ B. Subtract all matrix values from a maximum value
- ☒ C. Add all matrix values to the maximum value in the matrix
- ☒ D. Multiply all matrix values by -1

Question ID : 4410091498499
Option 1 ID : 4410095918985
Option 2 ID : 4410095918987
Option 3 ID : 4410095918986
Option 4 ID : 4410095918988
Status : Answered
Chosen Option : A

Q.58 What type of float occurs when all activities start at their earliest start time?

- Ans ☒ A. Independent slack
- ☒ B. Free float
- ☒ C. Independent float
- ☒ D. Total float

Question ID : 44100957954
Option 1 ID : 441009230740
Option 2 ID : 441009230738
Option 3 ID : 441009230739
Option 4 ID : 441009230737
Status : Answered
Chosen Option : B

Q.59 A simply supported beam is subjected to both a uniformly distributed load and a concentrated point load. According to the method of superposition, what is the total deflection at a specific point?

- Ans ☐ A. The total deflection is equal to the larger deflection from either load.
- ☐ B. The total deflection is the product of the deflections from each loading case.
- ☒ C. The total deflection is the algebraic sum of the deflections due to each load acting individually.
- ☐ D. The total deflection is based only on the distributed load effect.

Question ID : 4410092211205
Option 1 ID : 4410098701252
Option 2 ID : 4410098701251
Option 3 ID : 4410098701253
Option 4 ID : 4410098701250
Status : Answered
Chosen Option : C

Q.60 During rail production, a hot steel slab is rolled with a 1000 mm width and thickness reduced from 40 mm to 30 mm. Roll diameter is 700 mm, and average flow stress is 200 MPa. Which change would most effectively decrease the rolling load for the same reduction?

- Ans ☐ A. Increasing the roll diameter used in rolling
- ☒ B. Using smaller diameter rolls for the operation
- ☐ C. Increasing the thickness reduction to 15 mm
- ☐ D. Increasing the strip width to 1200 mm

Question ID : 4410092211263
Option 1 ID : 4410098701482
Option 2 ID : 4410098701484
Option 3 ID : 4410098701485
Option 4 ID : 4410098701483
Status : Answered
Chosen Option : A

Q.61 The maximum power transmitted by a belt drive occurs when the ratio of tight side tension (T1) to slack side tension (T2) is:

- Ans ☐ A. $\sqrt{e}$
- ☐ B. $e/2$
- ☐ C. $1/e$
- ☒ D. e

Question ID : 4410091389973
Option 1 ID : 4410095490269
Option 2 ID : 4410095490271
Option 3 ID : 4410095490270
Option 4 ID : 4410095490268
Status : Answered
Chosen Option : C

Q.62 Which of the following is a key feature of the Modified Euler's method for solving ordinary differential equations?

- Ans ☒ A. It uses only the initial slope at each step
- ☒ B. It integrates analytically over the interval
- ☒ C. It uses only the midpoint slope of the interval
- ☒ D. It uses an average of slopes at the beginning and end of the interval

Question ID : 4410092311556
Option 1 ID : 4410099090847
Option 2 ID : 4410099090846
Option 3 ID : 4410099090848
Option 4 ID : 4410099090845
Status : Answered
Chosen Option : B

Q.63 When analyzing a compound gear train, what is the correct approach to determine the angular velocity of the final driven gear relative to the input?

- Ans ☒ A. Sum the speed ratios of all gear pairs
- ☒ B. Multiply the speed ratios of each gear pair sequentially
- ☒ C. Divide the largest speed ratio by the smallest one
- ☒ D. Average the speed ratios of the driver gears

Question ID : 4410092211215
Option 1 ID : 4410098701291
Option 2 ID : 4410098701293
Option 3 ID : 4410098701292
Option 4 ID : 4410098701290
Status : Answered
Chosen Option : B

Q.64 In an inline slider-crank mechanism, consider that the length of crank and connecting rod are 3 m and 4 m, respectively. At the instant when the connecting rod is perpendicular to the crank, if the velocity of the slider is 1 m/s, what is the magnitude of angular velocity (rad/s) of the crank?

- Ans ☒ A. 3.33 rad/s
- ☒ B. 0.33 rad/s
- ☒ C. 6.3 rad/s
- ☒ D. 33.3 rad/s

Question ID : 441009191993
Option 1 ID : 441009756625
Option 2 ID : 441009756628
Option 3 ID : 441009756627
Option 4 ID : 441009756626
Status : Answered
Chosen Option : B

Q.65 Which statement best describes the motion of a single-degree-of-freedom system undergoing free vibration without damping?

- Ans ☒ A. The system's amplitude gradually decreases over time.
- ☒ B. The system oscillates with constant amplitude and frequency.
- ☒ C. The system's frequency increases during oscillation.
- ☒ D. The system comes to rest after a few cycles.

Question ID : 4410092211224
Option 1 ID : 4410098701328
Option 2 ID : 4410098701326
Option 3 ID : 4410098701329
Option 4 ID : 4410098701327
Status : Answered
Chosen Option : A

Q.66 Which of the following processes does NOT use an expendable mould?

- Ans ☒ A. Shell mould
- ☒ B. Dry sand mould
- ☒ C. Die casting
- ☒ D. Green sand mould

Question ID : 44100957527
Option 1 ID : 441009228974
Option 2 ID : 441009228972
Option 3 ID : 441009228973
Option 4 ID : 441009228971
Status : Answered
Chosen Option : C

Q.67 A stable planar truss is considered statically determinate if which of the following conditions is satisfied?

- Ans ☒ A. The number of joints plus the number of reactions equals the number of members.
- ☒ B. The number of members is equal to the number of joints plus three.
- ☒ C. The number of members minus the number of reactions equals the number of joints.
- ☒ D. The number of members plus the number of reactions equals twice the number of joints.

Question ID : 4410092211208
Option 1 ID : 4410098701262
Option 2 ID : 4410098701264
Option 3 ID : 4410098701265
Option 4 ID : 4410098701263
Status : Answered
Chosen Option : D

Q.68 Which form of first order differential equation can be converted to a homogeneous form by a suitable substitution?

- Ans ☒ A. An equation with only products of x and y
- ☒ B. An equation where variables are already separated
- ☒ C. An equation where the sum of functions of x and y appears as a ratio
- ☒ D. An equation with only sums of x and y

Question ID : 4410092311530
Option 1 ID : 4410099090742
Option 2 ID : 4410099090744
Option 3 ID : 4410099090741
Option 4 ID : 4410099090743
Status : Answered
Chosen Option : A

Q.69 Which of the following is a valid property of a probability density function (PDF) for a continuous random variable X defined on the interval [a, b]?

- Ans ☒ A. The PDF must equal 1 everywhere
- ☒ B. The PDF can take negative values on some intervals
- ☒ C. The PDF cannot take values greater than 1 at any point
- ☒ D. The integral of the PDF over [a, b] equals 1

Question ID : 4410092311542
Option 1 ID : 4410099090789
Option 2 ID : 4410099090790
Option 3 ID : 4410099090792
Option 4 ID : 4410099090791
Status : Answered
Chosen Option : C

Q.70 An industrial reciprocating compressor in a workshop has a clearance ratio of 8%. If the pressure ratio increases while keeping clearance constant, which effect is most likely observed on the compressor's volumetric efficiency?

- Ans ☒ A. Volumetric efficiency initially rises then falls
- ☒ B. Volumetric efficiency increases due to reduced clearance effect
- ☒ C. Volumetric efficiency decreases as more clearance air remains unexhausted
- ☒ D. Volumetric efficiency remains unchanged as clearance is constant

Question ID : 4410092211256
Option 1 ID : 4410098701456
Option 2 ID : 4410098701455
Option 3 ID : 4410098701454
Option 4 ID : 4410098701457
Status : Answered
Chosen Option : C

Q.71 A multi-plate clutch is a _____ type of clutch.

- Ans ☒ A. Dog
☒ B. Friction
☒ C. Electromagnetic
☒ D. Vacuum

Question ID : 441009191985
Option 1 ID : 441009756595
Option 2 ID : 441009756593
Option 3 ID : 441009756594
Option 4 ID : 441009756596
Status : Answered
Chosen Option : B

Q.72 If events A and B are independent and $P(A) = 0.6$, $P(B) = 0.5$, what is the value of $P(A|B)$?

- Ans ☒ A. 0.5
☒ B. 0.6
☒ C. 1.0
☒ D. 0.3

Question ID : 4410092311544
Option 1 ID : 4410099090800
Option 2 ID : 4410099090798
Option 3 ID : 4410099090797
Option 4 ID : 4410099090799
Status : Answered
Chosen Option : A

Q.73 If the velocity profile within a boundary layer is nearly linear from the wall to the edge, how does the momentum thickness compare to the displacement thickness?

- Ans ☒ A. Momentum thickness and displacement thickness are unrelated
☒ B. Momentum thickness is greater than displacement thickness
☒ C. Momentum thickness is less than displacement thickness
☒ D. Momentum thickness equals displacement thickness

Question ID : 4410092211240
Option 1 ID : 4410098701392
Option 2 ID : 4410098701390
Option 3 ID : 4410098701391
Option 4 ID : 4410098701393
Status : Answered
Chosen Option : B

Q.74 Excessive clearance in a compressor reduces the:

- Ans ☒ A. compression ratio
☒ B. power input
☒ C. capacity
☒ D. speed

Question ID : 4410091325214
Option 1 ID : 4410095232326
Option 2 ID : 4410095232327
Option 3 ID : 4410095232325
Option 4 ID : 4410095232324
Status : Answered
Chosen Option : A

Q.75 In an air-standard Otto cycle, if the compression ratio increases from 9 to 16 and the specific heat ratio (γ) is 1.5, what is the percentage increase in the thermal efficiency of the cycle?

- Ans ☒ A. 12.5%
☒ B. 10.5%
☒ C. 6.5%
☒ D. 8.5%

Question ID : 4410091448142
Option 1 ID : 4410095721055
Option 2 ID : 4410095721054
Option 3 ID : 4410095721052
Option 4 ID : 4410095721053
Status : Answered
Chosen Option : A

Q.76 In a parallel fillet welded joint, which parameter represents the thickness of the shear-resisting section used in calculating the effective throat area?

- Ans ☒ A. Total length of the weld
☒ B. Type of electrode material used
☒ C. Effective throat thickness of the weld
☒ D. Leg length of the weld bead

Question ID : 4410092211238
Option 1 ID : 4410098701382
Option 2 ID : 4410098701383
Option 3 ID : 4410098701384
Option 4 ID : 4410098701385
Status : Answered
Chosen Option : D

Q.77 A factory is extruding steel rods at room temperature to achieve improved mechanical properties but is experiencing high extrusion forces. What process are they likely using?

- Ans ☒ A. Indirect extrusion
☒ B. Cold extrusion
☒ C. Hot extrusion
☒ D. Hydrostatic extrusion

Question ID : 4410092211262
Option 1 ID : 4410098701478
Option 2 ID : 4410098701480
Option 3 ID : 4410098701479
Option 4 ID : 4410098701481
Status : Answered
Chosen Option : B

Q.78 If $z = x^2y + y^3x$, what is the partial derivative of z with respect to x ?

- Ans ☒ A. $2x + 3y^2x$
☒ B. $2xy + y^3$
☒ C. $2xy + 3y^2x$
☒ D. $y^2 + 3xy^2$

Question ID : 4410091551900
Option 1 ID : 4410096130208
Option 2 ID : 4410096130207
Option 3 ID : 4410096130209
Option 4 ID : 4410096130210
Status : Answered
Chosen Option : B

Q.79 If the coefficient of fluctuation of speed of a flywheel is reduced while the mean speed remains constant, what happens to the maximum fluctuation of kinetic energy?

- Ans ☒ A. The maximum kinetic energy fluctuation becomes unpredictable
☒ B. The maximum kinetic energy fluctuation remains unchanged
☒ C. The maximum kinetic energy fluctuation decreases
☒ D. The maximum kinetic energy fluctuation increases

Question ID : 4410092211219
Option 1 ID : 4410098701306
Option 2 ID : 4410098701307
Option 3 ID : 4410098701308
Option 4 ID : 4410098701309
Status : Answered
Chosen Option : C

Q.80 A differential equation $y = px + \ln(p)$ where $p = dy/dx$, what is the geometric interpretation of the singular solution obtained by eliminating the parameter p ?

- Ans ☒ A. The envelope of the family of straight lines represented by the general solution
- ☐ B. A particular solution passing through the origin
- ☐ C. The intersection point of all solution curves
- ☐ D. A tangent line to the general solution at $x=0$

Question ID : 4410092311320
Option 1 ID : 4410099089903
Option 2 ID : 4410099089901
Option 3 ID : 4410099089902
Option 4 ID : 4410099089904
Status : Answered
Chosen Option : C

Q.81 Which parameter is needed for using the normal approximation to a binomial distribution?

- Ans ☐ A. Sample mean only
- ☐ B. Number of trials only
- ☒ C. Both the number of trials and probability of success
- ☐ D. Probability of success only

Question ID : 4410092311538
Option 1 ID : 4410099090776
Option 2 ID : 4410099090773
Option 3 ID : 4410099090774
Option 4 ID : 4410099090775
Status : Answered
Chosen Option : C

Q.82 Let $s(x) = 2x - 4$ be a differentiable function on $[0,8]$. According to Lagrange's Mean Value Theorem, what is the value of $s'(c)$ for some c in $(0,8)$?

- Ans ☒ A. 2
- ☐ B. 4
- ☐ C. 1
- ☐ D. 8

Question ID : 4410092311312
Option 1 ID : 4410099089870
Option 2 ID : 4410099089872
Option 3 ID : 4410099089869
Option 4 ID : 4410099089871
Status : Answered
Chosen Option : A

Q.83 In an inspection laboratory, a technician needs to set a sine bar at 30 degrees using a 250 mm sine bar. What slip gauge height should be used?

- Ans ☒ A. 250 mm
☒ B. 216 mm
☒ C. 125 mm
☒ D. 62.5 mm

Question ID : 4410092211282
Option 1 ID : 4410098701560
Option 2 ID : 4410098701558
Option 3 ID : 4410098701561
Option 4 ID : 4410098701559
Status : Answered
Chosen Option : C

Q.84 Which step in the Gauss-Jordan method ensures that each variable's coefficient is 1 in its respective row after elimination is complete?

- Ans ☒ A. Swapping two rows to arrange nonzero entries
☒ B. Adding multiples of one row to another row
☒ C. Multiplying a row by zero to simplify entries
☒ D. Scaling each row by dividing by the leading coefficient

Question ID : 4410092311500
Option 1 ID : 4410099090622
Option 2 ID : 4410099090624
Option 3 ID : 4410099090621
Option 4 ID : 4410099090623
Status : Answered
Chosen Option : A

Q.85 Two gases at different temperatures and pressures mix irreversibly in an insulated rigid container. Gas A is 2 kg at 400 K, 300 kPa; Gas B is 3 kg at 300 K, 100 kPa; both ideal. The environment is 300 K, 100 kPa. Which statement about the availability change is correct?

- Ans ☒ A. Availability decreases equal to T_0 times entropy generated.
☒ B. Availability is conserved due to total energy conservation.
☒ C. Availability increases due to mixing of gases.
☒ D. Availability change equals enthalpy change only.

Question ID : 4410091559352
Option 1 ID : 4410096159748
Option 2 ID : 4410096159749
Option 3 ID : 4410096159750
Option 4 ID : 4410096159747
Status : Answered
Chosen Option : A

Q.86 In a rectangular electronics cooling enclosure, Surface 1 is a floor of area 2 m², and Surface 2 is a ceiling of area 6 m², both perfectly parallel. What is the relationship between F₁₂ and F₂₁ for these two surfaces?

- Ans
- ☒ A. $F_{12} = (1/3) \times F_{21}$
 - ☒ B. $F_{12} = 3 \times F_{21}$
 - ☒ C. $F_{12} = F_{21}$
 - ☒ D. $F_{12} + F_{21} = 1$

Question ID : 4410092211253
Option 1 ID : 4410098701443
Option 2 ID : 4410098701442
Option 3 ID : 4410098701444
Option 4 ID : 4410098701445
Status : Answered
Chosen Option : B

Q.87 For a flat plate in laminar flow, which formula expresses the average coefficient of drag (C_D) over length L ?

- Ans
- ☒ A. $C_{D_L} = \frac{0.316}{4\sqrt{Re_L}}$
 - ☒ B. $C_{D_L} = \frac{1.328}{\sqrt{Re_L}}$
 - ☒ C. $C_{D_L} = \frac{0.455}{2\sqrt{Re_L}}$
 - ☒ D. $C_{D_L} = \frac{0.074}{2\sqrt{Re_L}}$

Question ID : 4410091437242
Option 1 ID : 4410095677691
Option 2 ID : 4410095677688
Option 3 ID : 4410095677689
Option 4 ID : 4410095677690
Status : Answered
Chosen Option : A

Q.88 In a vibrating system with Coulomb damping, what happens to the amplitude of vibration after each cycle?

- Ans
- ☒ A. The amplitude decreases by a constant amount each cycle
 - ☒ B. The amplitude increases slightly each cycle
 - ☒ C. The amplitude decreases exponentially each cycle
 - ☒ D. The amplitude remains constant over cycles

Question ID : 4410092211228
Option 1 ID : 4410098701342
Option 2 ID : 4410098701343
Option 3 ID : 4410098701345
Option 4 ID : 4410098701344
Status : Answered
Chosen Option : C

Q.89 In a steel annealing furnace, two gray plates (emissivity 0.7 and 0.9) exchange thermal radiation. If the plates are not parallel and the view factor from Plate 1 to Plate 2 is 0.3, how does this view factor influence the net radiative heat exchange compared to otherwise identical parallel plates?

- Ans ☒ A. It increases the net radiative heat exchange because radiation becomes more concentrated.
- ☒ B. It decreases the net radiative heat exchange because less radiation reaches the opposite plate.
- ☒ C. It makes the radiative heat exchange the same as that between parallel plates
- ☒ D. It eliminates the influence of surface emissivity on the radiative heat exchange

Question ID : 4410092211252
Option 1 ID : 4410098701439
Option 2 ID : 4410098701438
Option 3 ID : 4410098701441
Option 4 ID : 4410098701440
Status : Answered
Chosen Option : C

Q.90 Which of the following heat-treatment methods is used to refine the grains (i.e., to decrease the average grain size) and produce a more uniform and desirable size distribution?

- Ans ☒ A. Tempering
- ☒ B. Hardening
- ☒ C. Case-hardening
- ☒ D. Normalizing

Question ID : 4410091172924
Option 1 ID : 4410094625864
Option 2 ID : 4410094625861
Option 3 ID : 4410094625862
Option 4 ID : 4410094625863
Status : Answered
Chosen Option : D

Q.91 For better shear strength, the spring wire should have:

- Ans ☒ A. Large wire diameter
- ☒ B. Small mean coil diameter
- ☒ C. Small wire diameter
- ☒ D. High number of coils

Question ID : 4410091172375
Option 1 ID : 4410094623683
Option 2 ID : 4410094623684
Option 3 ID : 4410094623682
Option 4 ID : 4410094623685
Status : Answered
Chosen Option : C

Q.92 In manufacturing operations, a jig is used to improve machining accuracy and productivity. Which statement correctly defines a jig?

- Ans ☒ A. A jig is a tool used for measuring finished parts after machining
- ☒ B. A jig is only used for holding the workpiece firmly
- ☒ C. A jig is a device that locates and guides the tool during machining
- ☒ D. A jig is a storage device for workshop tools

Question ID : 4410092211272
Option 1 ID : 4410098701518
Option 2 ID : 4410098701520
Option 3 ID : 4410098701521
Option 4 ID : 4410098701519
Status : Answered
Chosen Option : C

Q.93 In a simple gear train, if Gear A has 30 teeth and rotates at 120 rpm, and Gear B has 60 teeth and meshes with Gear A, what is the rotational speed of Gear B?

- Ans ☒ A. 60 rpm
- ☒ B. 180 rpm
- ☒ C. 90 rpm
- ☒ D. 240 rpm

Question ID : 4410092211217
Option 1 ID : 4410098701301
Option 2 ID : 4410098701300
Option 3 ID : 4410098701298
Option 4 ID : 4410098701299
Status : Answered
Chosen Option : D

Q.94 If an assignment problem has more jobs than workers, how can it be converted into a balanced form before applying the Hungarian method?

- Ans ☒ A. Add dummy jobs with zero cost for all assignments.
- ☒ B. Remove extra jobs until the numbers match.
- ☒ C. Add dummy workers with zero cost for all assignments.
- ☒ D. Assign multiple jobs to each worker.

Question ID : 4410091198383
Option 1 ID : 4410094727425
Option 2 ID : 4410094727423
Option 3 ID : 4410094727424
Option 4 ID : 4410094727426
Status : Answered
Chosen Option : C

Q.95 What is the purpose of Miller indices in crystallography?

- Ans ☒ A. To determine the volume of a unit cell
- ☒ B. To designate a set of parallel planes in a crystal
- ☒ C. To measure the density of a crystal
- ☒ D. To calculate the atomic mass of a crystal

Question ID : 4410091325603
Option 1 ID : 4410095233863
Option 2 ID : 4410095233864
Option 3 ID : 4410095233865
Option 4 ID : 4410095233866
Status : Answered
Chosen Option : B

Q.96 A rod of length 2 meters rotates about one end at a constant angular speed.
What is the ratio of the linear velocities of its midpoint and its free end?

- Ans ☒ A. The ratio is 2 to 3.
- ☒ B. The ratio is 2 to 1.
- ☒ C. The ratio is 1 to 2.
- ☒ D. The ratio is 1 to 1.

Question ID : 4410091691823
Option 1 ID : 4410096673413
Option 2 ID : 4410096673411
Option 3 ID : 4410096673410
Option 4 ID : 4410096673412
Status : Answered
Chosen Option : C

Q.97 A Carnot engine has an efficiency of 60%. If the sink temperature is 300 K,
what is the source temperature?

- Ans ☒ A. 900 K
- ☒ B. 750 K
- ☒ C. 500 K
- ☒ D. 600 K

Question ID : 441009334799
Option 1 ID : 4410091305153
Option 2 ID : 4410091305152
Option 3 ID : 4410091305150
Option 4 ID : 4410091305151
Status : Answered
Chosen Option : B

Q.98 Which of the following best describes the effect of increasing damping on the free vibration response of a system when its mass and stiffness remain constant?

- Ans ☒ A. The frequency of oscillation increases sharply.
- ☒ B. The amplitude of oscillations decays more rapidly.
- ☒ C. The system continues to oscillate indefinitely with constant amplitude.
- ☒ D. The system immediately remains at rest after being displaced.

Question ID : 4410092211226
Option 1 ID : 4410098701334
Option 2 ID : 4410098701335
Option 3 ID : 4410098701336
Option 4 ID : 4410098701337
Status : Answered
Chosen Option : B

Q.99 The process of heat addition in a dual cycle takes place in part at constant pressure and in part at constant volume. Using a dual cycle has which of the following primary benefits over an Otto or Diesel cycle?

- Ans ☒ A. Higher mean effective pressure than the Diesel cycle for the same compression ratio
- ☒ B. Combines the benefits of Otto and Diesel cycles, leading to more practical engine models
- ☒ C. Higher thermal efficiency than the Otto cycle for the same compression ratio
- ☒ D. Higher compression ratio than Otto cycle for the same efficiency

Question ID : 4410091078916
Option 1 ID : 4410094252979
Option 2 ID : 4410094252981
Option 3 ID : 4410094252980
Option 4 ID : 4410094252982
Status : Answered
Chosen Option : B

Q.100 Lagrange's method is used to find _____

- Ans ☒ A. Maximum and minimum of a function with no restrictions
- ☒ B. Maximum and minimum of a function with constraints
- ☒ C. Derivatives of implicit functions
- ☒ D. Roots of polynomial equations

Question ID : 4410091240370
Option 1 ID : 4410094894897
Option 2 ID : 4410094894898
Option 3 ID : 4410094894900
Option 4 ID : 4410094894899
Status : Answered
Chosen Option : B