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Lockdown 3.0 Study Plan
Day 11

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1. The 92th Academy Oscar 2020 awards shall be taking place in which of the following cities?
A. Milwaukee
B. California
C. New York
D. Los Angeles
Ans. D
Sol.
• Los Angeles is the city where The 92th Academy Oscar 2020 awards shall be taking place.
• **Los Angeles** is the most populous city in **California** and second most populous city in the United States.
• The **President** of the **USA** is **Donald Trump**.

2. Which documentary won the Oscar Award for best documentary in 2020?
A. Free Solo
B. American Factory
C. Abacus
D. Amy
Ans. B
Sol.
• **The American Factory** is the Documentary that won the **Oscar Award** for **best documentary** in **2020**.
• Free solo won the best documentary award in 2019.
• The first award in this field was awarded in 1942.

3. Which one of them is imposed by the Central Government but is collected by the state government?
A. VAT
B. Income tax
C. Stamp Duty
D. None
Ans. C
Sol.
• Stamp duty is imposed by Central Government, but is collected by state government.
• Stamp duty is a tax that is levied on documents; this included the legal documents such as cheques, receipts, military commissions, marriage licenses and land transactions.
• Modern versions of this tax do not require an actual stamp no longer.

4. When is Indian Coast Guard Day celebrated?
A. 5 February
B. 1 February
C. 8 February
D. 12 February
Ans. B
Sol.
• Indian Coast Guard Day is celebrated every year on **1 February in India**.
• The Indian Coast Guard was formally established on **18 August 1978 by the Coast Guard Act, 1978** of the Parliament of India as an independent Armed force of India.
• The Interim Indian Coast Guard was established on **1 February 1977** to prevent smuggling of sea freight.
• It operates under the **Ministry of Defence**.

5. What is the general mechanism by which an enzyme acts?
A. increasing the energy of activation
B. reducing the energy of activation
C. decreasing the pH
D. increasing the pH
Ans. B
Sol.
• An enzyme acts by reducing the energy of activation.
• Enzymes are biological catalysts.
• The lower the activation energy for a reaction, the faster the rate.

6. Who founded the 'Swadeshamitram' newspaper in 19th century?
A. Santosh Singh
B. GS Aiyar
C. Taraknath Das
D. Ajit Singh
Ans. B
Sol.
The newspaper 'Swadeshamitram' was founded by GS Iyer in 1882.
• It was a tamil newspaper. Note that presently very famous newspaper '**The Hindu'** was also founded by GS Iyer.
• He served as editor and managing director of The Hindu from 1878 to 1898.

7. Who was the only female prime minister to get Bharat Ratna?

A. Usha Mehta
B. Indira Gandhi
C. Sarojini Naidu
D. Sucheta Kripalani
Ans. B
Sol.
Indira Gandhi was the first female to be awarded as Bharat Ratna. She was awarded Bharat Ratan in **1971**.
• She was also the first and only female Prime Minister of India.
• In 1959 she was elected as the president of Indian National Congress.
• The Emergency of 1975-77, Operation Blue Star, Garibi Hatao campaign etc. were major events of her prime minister ship.

8. Which of the following rivers is not a Himalayan river?
A. Sutlej
B. Ramganga
C. Kosi
D. Son
Ans. D
Sol.
Son River is not a Himalayan River, it is a Peninsular River of India.
* Himalayan Rivers are those rivers which originate from Himalayan Region or Ranges.
* Most of the Himalayan Rivers are antecedent origin river which means they form deep gorges, such as Indus, Sutluj, Kosi, etc.
* The Himalayan Rivers are **perennial** in nature which means they flow throughout the year.
* The Himalayan Rivers are classified under three broad categories in India. They are-
a) The Indus River System
b) The Ganga River System
c) The Brahmaputra River System

9. Alaknanda & Pindaki rivers confluence at which place?
A. Vishnuprayag
B. Nandaprayag
C. Karnaprayag
D. Rudraprayag
Ans. C
Sol.
The Panchprayags and Rivers which confluence in each prayag are as follow-
1. **Vishnuprayag-** Confluence of Alakhnanda and Dhauli Ganga.
2. **Nandprayag-** Confluence of Alakhnanda and Nadakini Rivers.
3. **Karnaprayag-** Confluence of Alakhnanda and Pinder Rivers.
4. **Rudraprayag-** Confluence of Mandakini and Alakhnanda Rivers.
5. **Devprayag-** Confluence of Alakhnanda and Bhagirathi Rivers.

10. Hoar Frost process is the opposite of which of the following processes?
A. Evaporation
B. Sublimation
C. Precipitation
D. Condensation
Ans. B
Sol.
The Hoar Frost process is the opposite of sublimation process.
* In Hoar Frost process, the water vapour is converted directly to solid ice droplets.
* A hoar frost forms in a similar process to that of dew, the difference being that ice crystals are deposited in hoarfrost as opposed to water in dew.

11. In the following question, each sentence has four parts marked P, Q, R and S. Choose the part of sentence with the error and mark as your answer. If there is no error, mark 'No error (S)' as your answer.
King penguins (P)/ are active throughout (Q)/ the long summer days. (R)/ No error (S)
A. P
B. Q
C. R
D. S
Ans. D
Sol.
The sentence is grammatically correct. Hence, option D is the correct answer.

12. In the following question, the given sentence has four parts marked P, Q, R and S. Choose the part of sentence with the error and mark as your answer. If

there is no error, mark 'No error (S)' as your answer.
Earth's deserts (P)/ is a land of extremes, (Q) /constantly pushing life to the limit. (R)/ No error (S)
A. P
B. Q
C. R
D. S
Ans. B
Sol.
'Extremes' is incorrect in the sentence. Rather it should be 'extreme temperature' to form a grammatically correct sentence.
Hence, option B is the correct answer.

13. Choose the correct synonym of the given word from the options given below.
DEPOSITION
A. Ascent
B. Employment
C. Impeachment
D. Coronation
Ans. C
Sol.
The meanings of the words are:
Deposition: the action of deposing someone, especially a monarch.
Ascent: a climb or walk to the summit of a mountain or hill.
Employment: the state of having paid work.
Impeachment: the action of calling into question the integrity or validity of something.
Coronation: the ceremony of crowning a sovereign or a sovereign's consort.
Hence, option C is the correct answer.

14. Complete the sentence with the most appropriate word.
A man is certain to be prosperous.
A. Diligent
B. Inactive
C. Indolent
D. Lethargic
Ans. A
Sol.
The blank needs an adjective that means 'hard-working'. 'Diligent' meaning 'having or showing care and conscientiousness in one's work or duties' is the apt fit for the blank.
Hence, option A is the correct answer.

15. **Direction:** Choose the most appropriate option to change the narration (direct / Indirect) of the given sentence.
She said to her friend, "Where did you go yesterday?"
A. She asked her friend where she went yesterday.
B. She asked her friend where she had gone the day before.
C. She asked her friend where she was going yesterday.
D. She asked her friend where had she gone the day before.
Ans. B
Sol.
The direct speech is in interrogative form. The reporting verb is in past tense and therefore the reported speech will change according to the rules. Reporting verb "said" will change to "asked". The reported speech is in simple present tense which will change to past perfect tense in the indirect speech. "Yesterday" will change to "the day before" and pronoun "you" will change to "she".
Hence, option B is the correct answer.

16. **Direction:** Select the most appropriate idiom (in the context) to fill in the sentence.
The government has decided to _____ GST on some items in order to help small traders.
A. crack down on
B. roll back
C. steer clear of
D. wash away
Ans. B
Sol.
Roll back = a reduction or decrease.
crack down on = to take severe measures.
Steer clear of = keep away from.
Wash away = to get rid of (something).
The given sentence talks about decrease in the tax rate of GST in order to help small traders.
Hence, option B is the correct answer.

17. Select the most appropriate meaning of the given idiom.
bite your tongue
A. talk for a long time
B. be impossible to be understood
C. get bruises in the mouth
D. stop yourself from saying something
Ans. D
Sol.
Bite your tongue is an idiom which means stop oneself from saying something or keep quiet.
Therefore, option (D) is the correct choice.

18. Select the wrongly spelt word.
A. Resplendant
B. Resistance
C. Resurrect
D. Receptacle
Ans. A
Sol. The correct spelling is Resplendent which means glorious or having great beauty.
Resistance means opposition.
Resurrect means return from the dead.
Receptacle is enlarged tip of a stem that bears the floral parts.
Therefore, out of all the options, option (A) is the correct answer.

19. In the sentence, identify the segment which contains the grammatical error.
It's high time we understand the value of time.A. it's high time
B. we understand
C. value
D. of time
Ans. B
Sol. Option B is grammatically incorrect. The expression "it is time/high time" is followed by past verb. So, it should be "understood" in option B..

20. Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.
Consuming carbohydrates excessively **is worsen for health**.A. is worse for health
B. is worst for health
C. is bad for health
D. No improvement
Ans. C
Sol.
This sentence does not involve a comparison. Therefore, comparative and superlative degrees of adjective "bad" will not be used. Only "bad" can be used. So, the sentence should be improved according to option C.
Hence option C is the correct answer.

21. Select the letter combination that is placed sequentially on the blank spaces of the letter series given below to complete the given series.
_bbc_acb_c_a_bb
A. cbabc
B. abcab
C. cabac
D. acbbc
Ans. C
Sol.
The sequence of series is – cbb/caa.
The complete series is cbb/caa/cbb/caa/cbb.
Hence, option C is correct.

22. Select the set in which the numbers are related in the same way as the numbers of the following set.
(88, 22, 16)
A. (99, 11, 81)
B. (77, 19, 17)
C. (33, 49, 45)
D. (27, 51, 16)
Ans. A
Sol.
Logic behind the number set-
(88, 22, 16)
(88/22) = 4
$4^2 = 16$
Similarly,
(99, 11, 81)
(99/11) = 9
$9^2 = 81$
Hence, option A is correct.

23. Arrange the following words in a logical and meaningful order.
1) Oman Rial
2) Kuwaiti Dinar
3) British Pound Sterling
4) Bahraini Dinar
5) Jordan Dinar

6) United State Dollar
A. 2, 4, 1, 5, 3, 6
B. 6, 4, 1, 5, 3, 2
C. 2, 1, 4, 5, 3, 6
D. 2, 4, 1, 3, 5, 6
Ans. A
Sol.
Values of Currencies in Decreasing Order,
2. Kuwaiti Dinar
4. Bahraini Dinar
1. Oman Rial
5. Jordan Dinar
3. British Pound Sterling
6. United State Dollar
Correct sequence is: 2, 4, 1, 5, 3, 6.
Hence, option A is correct.

24. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
18,32,50,72,?,128,162
A. 91
B. 87
C. 75
D. 98
Ans. D
Sol.
Given series follows the pattern given below:
$3^2+9=18$
$4^2+16=32$
$5^2+25=50$
$6^2+36=72$
$7^2+49=98$
$8^2+64=128$
$9^2+81=162$
Hence, the correct answer is option D.

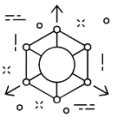
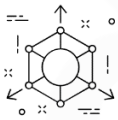
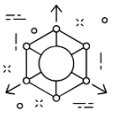
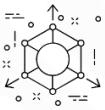
25. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
Swim, Swam, ?, Swimming, Swims
A. Swimmed
B. Swimt
C. Swimm
D. Swimmen
Ans. B
Sol.
Verb forms of Swim in English grammar-
V1- Swim
V2- Swam
V3- Swum
V4- Swimming
V5- Swims
Hence, missing term is Swum.

26. If GEM = NJZ then how will you code KID = ?
A. BOY
B. SKR
C. VRH
D. LOG
Ans. C
Sol. The place value of
G - 7 → 7 × 2 = 14 = M
E - 5 → 5 × 2 = 10 = J
M - 7 → 13 × 2 = 26 = Z
Similarly,
K - 11 → 11 × 2 = 22 = V
I - 9 → 9 × 2 = 18 = R
D - 4 → 4 × 2 = 8 = H
So, KID = VRH.
Hence, the correct option is C.

27. Choose the set of numbers that is similar to the following set.
(32, 16, 8)
A. (48, 24, 12)
B. (26, 13, 3)
C. (46, 23, 10)
D. (36, 14, 8)
Ans. A
Sol.
First number is twice of second number and second is twice of third number.
In option A, 48 is twice of 24 and 24 is twice of 12.
Hence, option (a) is correct.

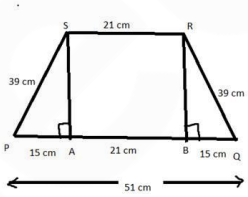
28. Select the letter combination that is placed sequentially on the blank spaces of the letter series given below to complete the given series.
_ _ ppq_p_p_qp
A. qqppq
B. pppqq
C. qpqpq
D. pqpqp
Ans. D
Sol.
The sequence is pqp.
The complete series is – pqp/pqp/pqp/pqp
The correct option is (d)

29. **Which two signs should be interchanged to make the following equation correct?**
40 ÷ 20 + 50 – 10 × 4 = 40
A. × and +
B. + and –
C. – and ÷
D. + and ÷
Ans. C
Sol.
According to the question,
If we interchange the – and ÷ sign the above equation become correct.
40 – 20 + 50 ÷ 10 × 4 (Applying BODMAS)
→ 40 – 20 + 5 × 4
→ 40 – 20 + 20
→ 60 – 20
→ 40
Hence, option C is correct answer.

30. In the following question, select the figure which is different from the other three figures.
A. 
B. 
C. 
D. 
Ans. C
Sol.
Option A contains 10 bubbles shape.
Option B contains 8 bubbles shape.
Option C contains 9 bubbles shape.
Option D contains 12 bubbles shape.
Hence, the option C is different from others.

31. If a = 500, b = 502 and c = 504, then the value of $a^3 + b^3 + c^3 - 3abc$
A. 15060
B. 12048
C. 18072
D. 17040
Ans. C
Sol.
Given, a = 500, b = 502 and c = 504
Using :
$a^3 + b^3 + c^3 - 3abc = \frac{1}{2}(a+b+c)[(a-b)^2 + (b-c)^2 + (c-a)^2]$
$a^3 + b^3 + c^3 - 3abc = \frac{1}{2}(500+502+504)[(500-502)^2 + (502-504)^2 + (504-500)^2]$
$= \frac{1}{2}(1506)[4+4+16] = (12)(1506) = 18072$

32. The lengths of the parallel sides of a trapezium are 51 cm and 21 cm, and that of each of the other two sides is 39 cm. What is the area (in cm^2) of the trapezium?
A. 1206
B. 1296
C. 1152
D. 1260
Ans. B
Sol.
Given that the lengths of the parallel sides of a trapezium are 51 cm and 21 cm, and that of each of the other two sides is 39 cm as shown in figure:

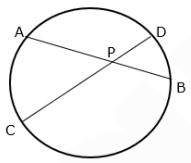


In right angled triangle PAS
Using Pythagoras theorem
$(PS)^2 = (PA)^2 + (AS)^2$
$\Rightarrow (39)^2 = (15)^2 + (AS)^2$
$\Rightarrow$
$AS = \sqrt{(39)^2 - (15)^2} = \sqrt{1521 - 225} = \sqrt{1296} = 36$ cm
Area of the trapezium = $\frac{1}{2}(sum\ of\ parallel\ sides) \times$ Height
$= \frac{1}{2} \times (72) \times 36 = 1296\ cm^2$

33. Taps A and B can fill a tank in 15 minutes and 10 minutes, respectively while tap C can empty the full tank in x minutes. If all three taps are opened together, the tank is filled completely in 8 minutes. Top C alone will empty $\frac{3}{8}^{th}$ part of the tank in:
A. 9 minutes
B. $8\frac{1}{2}$ minutes
C. 10 minutes

D. $10\frac{1}{2}$ minutes
Ans. A
Sol.
Time required by taps :
Tap A can fill = 15 minutes
Tap B can fill = 10 minutes
Tap C can empty = x minutes
LCM (15,10,x) = 30x
Efficiency of A = 30x/15 = 2x
Efficiency of B = 30x/10 = 3x
Efficiency of C = 30x/x = 30
Together they can do 2x + 3x - 30 = 5x - 30 units work .
Together, the tank is filled completely in 8 minutes.
Total capacity = 8(5x – 30) = 30x
40x – 240 = 30x
x = 24 hence total capacity = 24 × 30 = 720 unit
so $(3/8)^{th}$ part of the tank can be emptied by C in = (3/8) x 720 = 270 units
time = 270/30 = 9 minutes

34. Two chords AB and CD of a circle interest each other at P internally. If AP = 3.5 cm, PC = 5 cm, and DP = 7 cm, then what is the measure of PB?
A. 12 cm
B. 10.5 cm
C. 10 cm
D. 8 cm
Ans. C
Sol.
AP = 3.5 cm, PC = 5 cm, and DP = 7 cm



We know when chords intersect
AP × PB = DP × PC
3.5 × PB = 7 × 5
PB = $\frac{35}{3.5} = 10\ cm$

35. The value of $\tan^2 48^\circ - \text{cosec}^2 42^\circ + \text{cosec}(67^\circ + \theta) - \sec(23^\circ - \theta)$ is :
A. -2
B. -1
C. 0
D. 1
Ans. B
Sol.
$\tan^2 48^\circ - \text{cosec}^2 42^\circ + \text{cosec}(67^\circ + \theta) - \sec(23^\circ - \theta)$
$\tan^2 48^\circ - (1 + \cot^2 42^\circ) + \text{cosec}(67^\circ + \theta) - \sec(23^\circ - \theta)$
$\tan^2(90 - 48) - 1 - \cot^2 42^\circ + cosec(90^\circ - 67^\circ - \theta) - \sec(23^\circ - \theta)$
$cot^2 42^\circ - 1 - \cot^2 42^\circ + \sec(23^\circ - \theta) - \sec(23^\circ - \theta)$
= -1

36. The radius and height of a right circular cone are in the ratio 1 : (2.4). If its curved surface area is 2502.5, then what is its volume? (Take π = 22/7)
A. 13475 cm^3
B. 8085 cm^3
C. 8820 cm^3
D. 11550 cm^3
Ans. A
Sol.
Ratio of radius and height = 1 : 2.4
Let radius be 10x and height = 24x
or radius = 5x and height = 12x
then slant height l = $\sqrt{(5^2 + 12^2)} = 13x$
Curved surface area of cone = πrl = 2502.5
$\Rightarrow \frac{22}{7} \times (5x)(13x) = 2502.5$
$\Rightarrow x^2 = \left(\frac{7}{2}\right)^2 \ so\ x = \frac{7}{2}$
Volume of cone = $\frac{1}{3}\pi r^2 h = \frac{1}{3} \times \frac{22}{7} \times (5x)^2(12x) = \frac{1}{3} \times \frac{22}{7} \times 25 \times 12 \times \left(\frac{7}{2}\right)^3$
$= 13475\ cm^3$

37. One root of the equation $ax^2 + bx + c = 0$ (Where a, b and c are rational numbers) is $7 + 4\sqrt{3}$. Then find the value of $\frac{a^2 + b^2 - c^2}{a + b - c}$:
A. 14
B. -14
C. 7
D. -7
Ans. B
Sol.
If one root is $7 + 4\sqrt{3}$, then the other must be $7 - 4\sqrt{3}$

So, sum of the roots = $7 + 4\sqrt{3} + 7 - 4\sqrt{3} = 14$

and product of the roots = $(7 + 4\sqrt{3})(7 - 4\sqrt{3}) = 49 - 48 = 1$

So the equation $ax^2 + bx + c = 0$ will be –

x^2 – (Sum of the roots).x + (Product of the roots) = 0

$x^2 - 14x + 1 = 0$

So a = 1, b = -14 and c = 1

Now, the required

$$\frac{a^2+b^2-c^2}{a+b-c}$$

$$= \frac{1^2+(-14)^2-1^2}{1-14-1}$$

$$= -\frac{196}{14}$$

= -14

38. The value of 9 × [(9 – 4) ÷ {(8 ÷ 8 of 4) + (4 ÷ 4 of 2)}] is:

A. $\frac{15}{4}$

B. 20

C. $\frac{15}{2}$

D. 60

Ans. D

Sol.

9 × [(9 – 4) ÷ {(8 ÷ 8 of 4) + (4 ÷ 4 of 2)}]

= 9 × [(9 – 4) ÷ $\{\frac{1}{4} + \frac{1}{2}\}$]

= 9 × [5 ÷ $\frac{3}{4}$]

= 9 × $\frac{20}{3}$

= 60

39. The ratio of radius of the base and height of a solid right circular cylinder is 2 : 3. If its volume is 202.125 m^3, then its total surface area is:

(Take π = 22/7)

A. 192.5 cm^2

B. 115.2 cm^2

C. 154 cm^2

D. 168 cm^2

Ans. A

Sol.

r : h = 2 : 3

let radius= 2x and height = 3x

volume of cylinder = $\pi r^2 h = 202.125\ m^3$

hence $\frac{22}{7} \times 4x^2(3x) = 202.125$

$$x^3 = \frac{7^3 \times 5^3}{(20)^3} \Rightarrow x = \frac{7}{4}$$

Total surface area = 2πrh

$2 \times \frac{22}{7} \times 2x \times 5x = 2 \times \frac{22}{7} \times 10 \times \frac{7}{4} = 192.5\ cm^2$

40. The cost of diamond is directly proportional to square of its weight . By mistake Anand breaks this diamond in the ratio 3:2:5 due to which he suffers a loss of Rs. 6200. Find original value of Diamond?

A. 9000

B. 11000

C. 12000

D. 10000

Ans. D

Sol.

Price $\alpha\ (weight)^2$

Let Anand breaks diamond in three parts having weight as 3x ,2x and 5x

Price $\alpha\ (weight)^2$

Price of broken diamond = $(3x)^2 + (2x)^2 + (5x)^2 = 38x^2$

Total weight = 3x + 2x+ 5x = 10 x

Price $\alpha\ (weight)^2$

Price of diamond in original stage = 100 x^2

Loss = $100x^2 - 38x^2 = 62x^2$

According to question

$62x^2 = 6200$

$\Rightarrow x^2 = 100$

$\Rightarrow x = 10$

Hence Original value of Diamond = $100 \times (10)(10) = Rs.10000$

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