Lockdown 3.0 Study Plan Day 14

1. According to the law of gravitation, when an apple falls on ground from a tree the gravitational force applied by ?
A. Only apple move toward earth
B. Only earth move toward apple
C. Both move toward each other
D. None of above
Ans. C
Sol.
When an apple falls on ground, both earth and apple apply gravitational force on each other and **both move toward each other.**
• But according to the second law of motion, for a given force, acceleration is inversely proportional to the mass of an object, which led to movement of earth negligible due to it's huge mass.
• That's why it seems that apple is falling on ground, but actually both apple and ground move toward each other.

2. Aluminium, Calcium, lithium, platinum, tungsten etc. are examples of _____.
A. Paramagnetic material
B. Diamagnetic material
C. Ferromagnetic material
D. Ultramagnetic material
Ans. A
Sol.
Aluminium, Calcium, lithium, platinum, tungsten etc. are examples of are examples of **Paramagnetic** material.
• Paramagnetic material when placed in a magnetic field tends to **get weakly magnetized** in the direction of the magnetizing field.
• Paramagnetic materials have a permanent dipole moment or permanent magnetic moment.
• Paramagnetism is executed by all - **solids liquids and gases**.
• **Ferromagnetic** materials are those materials which when placed in a magnetic field get strongly magnetized in the direction of field. Ex. **iron, cobalt, alloys**, etc.

3. "The net magnetic flux through any closed surface is zero" the statement is referred as?
A. Lenz's Law
B. Avagadro's Law
C. Gauss's Law
D. law of inductance
Ans. C
Sol.
The net magnetic flux through any closed surface is zero is referred to as **Gauss law.**
• The law is also called "Absence of free magnetic poles".
• The differential form for Gauss's law for magnetism is: $\nabla \cdot \mathbf{B}=0$, where $\nabla \cdot$ denotes divergence, and B is the magnetic field.
• The law was given by Karl Friedrich Gauss, along with Wilhelm Welser, he built the **first electric telegraph in 1833**.

4. The .... is a geophysical theory that explains the origin of the Earth's main magnetic field?
A. Dipolar Effect
B. Dynamo Effect
C. Gauss's Law
D. Pole Effect
Ans. B
Sol.
The **dynamo effect** is a geophysical theory that explains the origin of the Earth's main magnetic field.
• The magnetic field of earth is thought to arise due to electrical currents produced by convective motion of metallic fluids (**molten iron and nickel**) in the outer core of the earth. This is **known as the dynamo effect.**
• The pole near the geographic north pole of the earth is called the north magnetic pole. Likewise, the pole near the geographic south pole is called south pole.
• Earth's North and South Magnetic Poles are also known as **magnetic dip poles**.

5. Oscar 2020 was conducted on _____ .
A. 1 Jan 2020
B. 1 Feb 2020
C. 5 Feb 2020
D. 9 Feb 2020
Ans. D
Sol.
• The 92nd Oscars were held on Sunday, February 9, 2020.

• The **Oscars 2020** are unusually **early** because the Academy narrowed the window between nominations and the ceremony from about six weeks to just under a month.
• Oscar awards are also known as academy awards.

6. In which field Oscar awards are distributed?
A. Cricket
B. Cinema
C. Artitecture
D. Culture
Ans. B
Sol.
• **Oscar awards** are distributed in the field of **Cinema**.
• This is the highest award in the field of Cinema and It is distributed every year.
• Oscar Awards started in 1929.

7. Who won the Oscar award for best director in 2020?
A. Alejandro
B. Damien Chazelle
C. Alfonso Cuaron
D. Boon Joon Ho
Ans. D
Sol.
• **Boon Joon Ho** won the **Best director** Oscar award 2020 for the movie **Parasite**.
• Alfonso Cuaron won the best director Oscar award in 2019.
• The first Best director was awarded in 1929.

8. Which actress has been given the best actress award in Oscar 2020?
A. Olivia Colman
B. Renee Zellwegger
C. Brie Larson
D. Emma stone
Ans. B
Sol.
• **Renee Zellwegger** won the best actress award in **Oscar 2020.**
• Olivia Colman won best actress in Oscar 2019.
• The first Oscar award for best actress was given in 1929.

9. The Kartarpur Corridor connects which two places?
A. Kartarpur and Amritsar
B. Kartarpur and Bhatinda
C. Kartarpur and Anantapur
D. Kartarpur and Gurdaspur
Ans. D
Sol.
• The will Kartarpur Corridor connects Gurdwara Darbar Sahib in **Pakistan's Kartarpur with Dera Baba Nanak shrine in India's Gurdaspur district.**
• The Corridor is popularly knows as 'Road to Peace'.
• The construction of the corridor will allow visa-free access to pilgrims from India.
• The kartarpur Gurudwara is located at the banks of Ravi River.

10. The Diwan - I - Insha was related, during Sultanate period, to which of the following?
A. Department of Agriculture
B. Department of Charity
C. Department of Arrears
D. Department of Correspondence
Ans. D
Sol.
• **The Diwan I Insha was related to Department of correspondence** during Sultanate Period.
• The head of this department was Dabir I Mumalik.
• All formal or confidential correspondence between the Sultan and the rulers of other states or subordinate chiefs, governors and officials was carried on by his department.

11. **Direction:** Select the word which means the same as the group of words given.
touching along the side or boundary
A. harmonious
B. inconspicuous
C. unpretentious
D. contiguous
Ans. D
Sol.
Harmonious means symmetrical.
Inconspicuous means visible or apparent.
Unpretentious means honest.

Contiguous means touching along the side or boundary.
Hence, option D is the correct answer.

12. **Direction:** Find a word that is the ANTONYM OF
PIQUANT
A. peppery
B. pungent
C. bland
D. interesting
Ans. C
Sol.
Let's first learn the meanings of the words:
Piquant = savoury or tasty. Therefore, bland is the correct antonym for it.
Pungent = strong.
Hence, option C is the correct answer.

13. **Direction:** Choose the most appropriate option to change the narration (direct / Indirect) of the given sentence.
"If the rains don't stop we will have to move the animals to another place," said the zoo official.
A. The zoo official said that if the rains didn't stop they would have to move the animals to another place.
B. The zoo official said that if the rains are not stopping they would have to move the animals to another place.
C. The zoo official will say that If the rains don't stop they would have to move the animals to another place.
D. The zoo official had been saying said that if the rains don't stop they would have to move the animals to another place.
Ans. A
Sol.
The given sentence is in direct form and we have to convert it into indirect form.Since, the reporting verb of the given sentence is in past tense and therefore the reported speech will undergo the following changes upon conversion:
• Present tense of the verb in reported speech gets converted into Past tense.
• 'Comma' is replaced with 'that'
• 'Do' is replaced with 'did' in past form.

• Pronoun 'We' is replaced with 'They.'
• Modal 'will' gets converted to 'would.'
Out of all the alternatives, only option A adheres to the given rules. Hence, option A is the correct choice.

14. Select the word which means the same as the group of words given.
One who studies human societies and their culture
A. pharmacologist
B. anthropologist
C. pathologist
D. astrobiologist
Ans. B
Sol.
Pharmacologist – one who is trained in science of drugs.
Anthropologist- one who studies human societies and their culture
Pathologist - one who specializes in medical diagnosis.
Astrobiologist – one who specializes in exobiology.
Hence, option B is the correct choice.

15. **Direction:** Select the segment which has an error.
Each film will be checked by a government-appointed censor board along public exhibition.
A. by a government-appointed censor board
B. will be checked
C. along public exhibition.
D. each film
Ans. C
Sol.
Along is the incorrect preposition which is used here. It should be replaced with preposition 'at' to make the sentence grammatically correct. Hence, option C is the correct answer.

16. Given below are four Jumbled sentences. Pick the option that gives their correct order.
A) There is a story about an ancient Indian sage who was called ugly names by a passerby.
B) The sage then said, "Well then, I have not accepted your offering" and walked away.

C) He finally asked the man, "If an offering is not accepted who does it belong to?" at which the man replied, "To the person who offered it."

D) The sage listened unperturbed till the man ran out of words.

A. ACDB

B. ADCB

C. CABD

D. DCBA

Ans. B

Sol.

The correct rearrangement is ADCB.

The first sentence is A which is the opening sentence of the story that introduces us to the subject 'A sage who was called names by passerby'.

Hence, option C and D can be eliminated. The second sentence will be D where the reaction of the Sage to the abuses is recorded.

Hence, option B is the correct answer.

17. Choose the most appropriate option to change the narration(direct/indirect) of the given sentence.

Ram said, "I cannot come at this time."A. Ram said that he could not come at that time.

B. Ram told me that he could not come at that time.

C. Ram told that could not come at that time.

D. Ram told him that could not come at this time.

Ans. A

Sol.

In indirect speech "says to" is converted to "tells" and "said to" is converted to "told". As in this question "said" is not followed by any object therefore, there will be no change in the reporting verb i.e. said. Here, subject "I" will be changed to "he" as per the rules of narration. "Cannot" is in present form, so it will be changed to "could not". In narration "this" is changed to "that" and "these" to "those" while changing a sentence from direct to indirect form. Hence, option A is the correct answer.

18. **Direction:** Select the segment which has an error.

It is estimated that most of the addict, a whopping 85%, in God's own country Kerala, are below 25 years of age.

A. most of the addict

B. a whopping 85%

C. are below 25

D. It is estimated that

Ans. A

Sol.

'Most of the' takes plural subject after it. Hence, 'addict' should be replaced with 'addicts'. Therefore, option A is the correct answer.

19. If 'a' means '÷', 'b' means '‾', 'c' means '×' and 'd' means '+' ; then find the value of: 18 a 2 d 10 b 5 c 3

A. 23

B. 4

C. 7

D. 11

Ans. B

Sol.

Letter	a	b	c	d
Meaning	÷	−	×	+

After putting the symbols,

$18 ÷ 2 + 10 − 5 × 3$ (applying BODMAS)
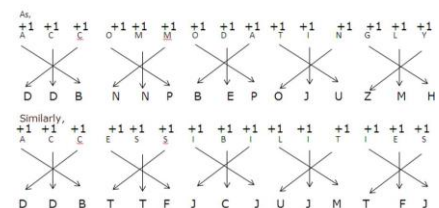
$⟹ 9 + 10 − 15$

$⟹ 19 − 15$

$⟹ 4$

Hence, option B is correct.

20. In a code language, 'ACCOMMODATINGLY' is written as 'DDBNNPBEPOJUZMH'. How will 'ACCESSIBILITIES' be written as in that language?

A. DDBTJCJUJMTFTFJ

B. DDBTTFJCJUJMTFJ

C. FJCJUJDDBTTMTFJ

D. MTFDDBTTFJCJUJJ

Ans. B

Sol.

Hence, the correct answer is option B.

21. 'Eggs' is related to 'Oology' in the same way as 'Virus' is related to '_____'.
A. Ontology
B. Zoology
C. Taxonomy
D. Virology
Ans. D
Sol.
As, Oology is the branch ornithology that deals with the study of Egg, in the same way Virology is the branch of Science that deals with the study of Virus.
Hence, the correct answer is option B.

22. Select the number-group in the options which is similar to the given number-group.
(8, 7, 75)
A. (12, 18, 96)
B. (6, 9, 69)
C. (5, 8, 19)
D. (11, 25, 143)
Ans. C
Sol.
As,
$(8+7)^2-150=15^2-150=225-150=75$
Similarly,
$(5+8)^2-150=13^2-150=169-150=19$
Hence, the correct answer is option C.

23. In the following question, select the related number from the given alternatives.
12 : 68 :: 21 :?
A. 49
B. 119
C. 117
D. 79
Ans. B
Sol.
As
12 : 68
4 x 3 = 12
4 x 17 = 68
21 : 119
7 x 3 = 21
7 x 17 = 119
Hence, option (C) is the correct answer.

24. Three of the following four words are alike in a certain way and one is different. Pick the odd word out.

A. valuable
B. Expensive
C. Big
D. Costly
Ans. C
Sol. Valuable, Expensive and costly have same meaning. But 'big' does not relate to them.
Hence, option (C) is the correct answer.

25. In the following question, select the related group of letters from the given alternatives.
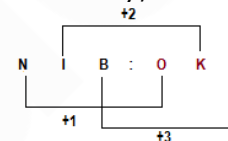PEN : QGQ :: NIB : ?
A. OKE
B. OKO
C. QND
D. QNC
Ans. A
Sol.
Pattern is:
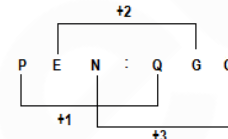
Similarly,

Hence, option (A) is the correct response.

26. Which letter will replace the question mark (?) in the following series?
A, D, G, J, M, ?
A. Q
B. P
C. O
D. N
Ans. B
Sol.
A +3 = D (Second Alphabet)
D+ 3 = G (third Alphabet)
G+3=J (Fourth Alphabet)
J+3=M (Fifth Alphabet)
M+3 = P (Sixth Alphabet in series)
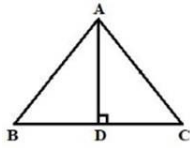Hence, option B is the correct answer.

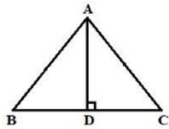27. In the given figure, ΔABC is an isosceles triangle, in which AB = AC, AD ⊥ BC,

BC = 6 cm and AD = 4 cm. The length of AB is:

A. 5 cm
B. 4 cm
C. 6 cm
D. 7 cm
Ans. A
Sol.

Given: ΔABC is an isosceles triangle, AB = AC, AD ⊥ BC
∴ AD is the median of the ΔABC (An altitude drawn to the base of the isosceles triangle from the vertex becomes the median and the angle bisector of the triangle)
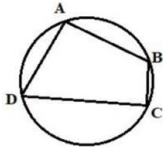∴ BD = BC/2 = 6/2 = 3 cm
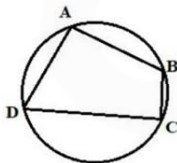Applying Pythagoras theorem in right ΔADB
$AB^2 = AD^2 + BD^2 = 4^2 + 3^2 = 25$
∴ AB = **5 cm**

28. In the figure, if ∠A = 100° then ∠C =?

A. 100°
B. 80°
C. 50°
D. 90°
Ans. B
Sol.

Since, ABCD is a cyclic quadrilateral and sum of opposite angles of a cyclic quadrilateral is always 180^0.
So, ∠A + ∠C = 180^0
∴ ∠C = 180^0 - 100^0 = **80^0**

29. Two cars A and B leave Delhi at 8:30 am. and at 9 a.m. for Shimla, respectively. They travel at the speeds of 40 km/h and 50 km/h respectively. How many kilometers away from Delhi will the two cars be together?
A. 45 km
B. 5 km
C. 200 km
D. 100 km
Ans. D
Sol.

Since, car A left half-an-hour early.
Speed (Car A) = 40 km/hr
Distance travelled in half-an-hour = 20 km
Carefully observe the diagram
Car A and B have to travel x km and (20 + x) km respectively to reach the common point in the same time.
∴ Time taken by car A to travel x km = Time taken by car B to travel (20 + x) km
⇒ x/40 = (x+20)/50
⇒ x = 80 km
∴ Required answer = 80 + 20 = **100 km**

30. In the given figure. MP is tangent to a circle with centre A and NQ is a tangent to a circle with centre B . If MP = 15 cm, NQ = 8 cm, PA = 17 cm and BQ = 10 cm, then AB is:
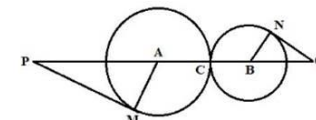
A. 23 cm
B. 13.5 cm
C. 28 cm
D. 14 cm
Ans. D
Sol.
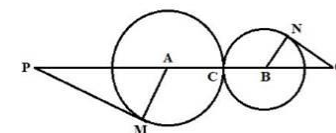
Here, AM ⊥ PM and NB ⊥ NQ (A tangent to a circle forms a right angle with the circle's radius, at the point of contact

Applying Pythagoras theorem in right ΔPMA
$AM^2 = PA^2 - PM^2 = 17^2 - 15^2 = 64$
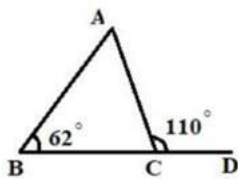∴ AM = 8 cm
Applying Pythagoras theorem in right ΔQNB
$NB^2 = BQ^2 - NQ^2 = 10^2 - 8^2 = 36$
∴ NB = 6 cm
Since, AM = AC (Radii of circle with center A) and NB = CB (Radii of circle with center B)
∴ AB = AC + CB = AM + NB = 8 + 6 = **14 cm**

31. In the given figure, the measure of ∠BAC is:

A. 56º
B. 58º
C. 62º
D. 48º
Ans. D
Sol.
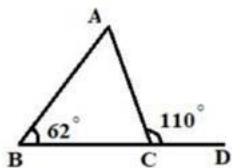
Using Exterior angle property of a triangle:
∠BAC + ∠ABC = ∠ACD
∠BAC + 62⁰ = 110⁰
∴ ∠BAC = **48⁰**

32. The coefficient of y in the expansion of $(2y - 5)^3$, is:

A. 50
B. -30
C. 150
D. -150
Ans. C
Sol.
Here, applying the formula: $(a - b)^3 = a^3 + (-b)^3 + 3(a)^2(-b) + 3a(-b)^2$
$(2y - 5)^3 = 8y^3 - 125 - 60y^2 + 150y$
∴ Coefficient of y = **150**

33. Find the mode of the set of numbers:
1,2, 3, 3, 5, 3, 2, 1, 2, 3, 5
A. 2
B. 3
C. 1
D. 5
Ans. B
Sol.
Mode is the number which appears most often in a set of numbers.
In the given set of number 3 is the most occurring number.
Hence B is the correct number.

34. Find the mode of the set of numbers:
81,22, 93, 23, 55,93, 22, 81, 82, 93, 55
A. 81
B. 22
C. 55
D. 93
Ans. D
Sol.
Mode is the number which appears most often in a set of numbers.
In the given set of number 93 is the most occurring number.
Hence D is the correct number.

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