Lockdown 2.0 Study Plan Day 10

1.Which are the two main components of syngas?
A. Carbon Dioxide and Sulphur
B. Sulphur and Hydrogen
C. Nitrous and Sulphur oxides
D. Hydrogen and Carbon Monoxide
Ans. D
Sol.
● **Hydrogen and Carbon Monoxide** are two main components of syngas.
● Syngas is produced as a result of **gasification** of a carbon-containing fuel.
● The gasification process is used to convert any material that has carbon to longer hydrocarbon chains.
● Syngas is also an intermediate in creating synthetic petroleum to use as a lubricant or fuel.
● Syngas are used in production of wide varieties of **fertilizers, chemicals** etc.

2.What is the role of split ring in an electric motor?
A. It converts mechanical energy to electric energy
B. It transfers power between rotating and stationary structures
C. It reduces the unnecessary sound in the motor
D. It reverses the direction of current in the coil
Ans. D
Sol.
Split ring reverses the direction of current in the coil.
● The split ring in the electric motor is also known as a **commutator**.
● It consists of a cylindrical shell which contains two insulated splits.
● It is used in **DC machines.**

3.'Politics of Opportunity' book which is recently launched was released by_____.
A. Phagu Chauhan
B. Kiran Desai
C. S Gurumurthi
D. Bibek Debroi
Ans. C
Sol.
'Politics of Opportunity' book is recently launched on 28 Dec, 2019, it was released by **S Gurumurthy.**

● S Gurumurthi is a senior political analyst.
● The book written by **R P N Singh** throws light on the subject related to the rise of regional parties and Centre -States relation.
● **RNP Singh** is a former **officer** of the **Intelligence Bureau**.

4.BIMSTEC was formed in which year?
A. 1994
B. 1997
C. 2000
D. 2003
Ans. B
Sol.
BIMSTECH was formed in **1997**.
● It stands for **Bay of Bengal Initiative for Multi-sectoral Technical and Economic Co-operation.**
● BIMSTECH includes **seven** countries, these are –
Bangladesh
Bhutan
India
Nepal
Sri Lanka
Myanmar
Thailand
● BIMSTECH works on **14 principles** of areas of cooperation.

5.The 2030 Agenda for Sustainable Development includes how many sustainable development goals?
A. 10
B. 15
C. 17
D. 19
Ans. C
Sol.
The 2030 Agenda for Sustainable Development includes **17 sustainable development goals**.
● It is adopted by United Nations in **2015**.
● These sustainable development goals includes areas like - water, energy, climate, oceans, urbanization, transport, science and technology, the Global Sustainable Development Report (GSDR), partnerships and Small Island Developing States.
● It is a group of **17 goals with 169 targets and 304 indicators**.

6.The unit of pole strength is?
A. Am^2 B. Am
C. Am^{2}s   D. A^2/m
Ans. B
Sol.
The SI unit of **pole strength is Am**.
• The SI unit of **magnetic moment is Am**

• **Pole strength** is a quantity corresponding to the amount of magnetic flux emanating from a given magnetic pole.
• The Pole strength of a bar magnet can be measured by moving it along an 'infinite' wire and carefully measuring the amount of current that is created.

7.Which Himalayan River originates from Bara Lacha Pass?
A. Indus
B. Jhelum
C. Chenab
D. Ravi
Ans. C
Sol.
Chenab River originates from Bara lacha Pass of Zaskar Range.
* The Chenab River is formed by the confluence of two rivers, Chandra and Bhaga.
* Salal Dam, Baglihar Dam, Dul Hasti Hydroelectric Plant, Pakal Dul Dam etc are major projects located on Chenab.
* It enters the plain area near **Akhnur** in Jammu and Kashmir.

8.Which is the the largest west flowing river?
A. Narmada
B. Tapti
C. Sabarmati
D. Periyar
Ans. A
Sol.
Narmada is the largest west flowing river.
* Narmada River originates from Maikal Range near Amarkantak, in Madhya Pradesh.
* Orsang, Barna, Kolar, Hiran are the tributaries of Narmada River.
* The total length from its source in **Amarkantak** to its estuary in the **Gulf of Khambhat** is 1,310 km.

9.The 73rd Constitutional Amendment Act, 1992, included Panchayati Raj in the Indian Constitution from Article _____.
A. 243 to 243 (J)
B. 243 to 243 (M)
C. 243 to 243 (O)
D. 243 to 243 (Z)
Ans. C
Sol.
• **The 73rd Constitutional Amendment Act, 1992, included Panchayati Raj in the Indian Constitution from Article 243 to 243(O).**
• It added a new Part in Constitution, i.e., **Part IX.**
• It provided for three tier Panchayati Raj System.
• State election commission was formed to conduct elections of Panchayati Raj. There is a provision of the reservation of seats for SCs and STs at every level of Panchayat.

10.The carbon-based material used in modern day pencils is _____.
A. Silicon
B. Lead
C. Coal
D. Graphite
Ans. D
Sol.
In pencils Graphite is generally used wrapped in a wooden frame.
* **Modern Day pencils** are Mechanical pencils which are based on Lead which is not a carbon based material. In these pencils lead is pushed through a hole at the end. They use special leads that have precise diameter for the pencil they use, and can be of different darkness like standard graphite pencils can.
* **Caron pencils** are made up of mixture of clay and lamp black. They are darker then pencils but smoother than charcoal pencils.
* **Charcoal pencils** are used in arts.

11.Famous as Ayesha to family and friends, this princess married Sawai Man Singh II Bahadur and was known as _____ in the world.
A. Maharani Durga Devi

B. Rani Vijaya Devi
C. Maharani Gayatri Devi
D. Rani Sita Devi
Ans. C
Sol.
* **Maharani Gayatri Devi was famous as Ayesha to family and friends and she married Sawai Man Singh II**.
* Gayatri Devi became the maharani of Jaipur, her father was Maharaja of Cooch Behar in West Bengal.
* She contested and won for MP in Lok Sabha in 1962. She continued as an MP from 1967 to 1971 as a member of Swatantra Party, originally formed by C Rajagopalachari.
* In 1967 the Swatantra party joined hands with Jan Sangh that was led by Bhairon Singh Shekhawat. The alliance won a large number of seats in the 1967 election.

12.Select the correctly spelt word.
A. employeed
B. rehersal
C. veterinary
D. seperable
Ans. C
Sol.
Option C has the correctly spelt word. "Veterinary" refers to 'of or relating to veterinarians or veterinary medicine'
Correct spelling of other words along with their meanings:
Employed: Having your services engaged for; or having a job especially one that pays wages or a salary
Rehearsal: a practice session in preparation for a public performance
Separable: Capable of being divided or dissociated

13.Select the wrongly spelt word.
A. tamarind
B. tresure
C. truthful
D. turmoil
Ans. B
Sol.
Option B has the wrongly spelt word. The correct spelling is treasure which means accumulated wealth in the form of money or jewels etc
Meaning of other words:

Truthful: Expressing or given to expressing the truth
Turmoil: A violent disturbance

14.Select the most appropriate word for the given group of words.
the science dealing with X-rays and other high-energy radiation, especially for the diagnosis and treatment of disease.
A. nephrology
B. neurology
C. pathology
D. radiology

Ans. D
Sol.
Nephrology - the branch of medicine that deals with the physiology and diseases of the kidneys.
Neurology -the branch of medicine or biology that deals with the anatomy, functions, and organic disorders of nerves and the nervous system.
'Pathology' is the study of 'Diseases'.
Radiology -the science dealing with X-rays and other high-energy radiation.
Hence, option D is the correct choice.

15.Select the most appropriate meaning of the given idiom.
In the same boat
A. in disgrace
B. in the same situation
C. in a superior position
D. at the centre of attention
Ans. B
Sol.
The phrase 'in the same boat' means being in the same difficult situation as others. Hence, option B is correct.

16. Select the most appropriate synonym of the given word.
REPLETE
A. occupied
B. full
C. calm
D. restful
Ans. B
Sol.
Replete means filled or well-supplied with something.(भरा पूरा) Full means satiated or

well supplied and hence, it is the correct synonym of the given word.
Occupied means busy and active
Calm means at peace.
Restful means having a quiet and soothing quality.
Therefore, option (B) is the correct answer.

17. 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.
The scientists found that (P)/ leopards tend to hoist prey (Q)/ that are between half and one-and-a-half times it's own weight. (R)/ No error (S)
A. P
B. Q
C. R
D. S
Ans. C
Sol.
It's is a contraction of "it is" or "it has". 'Its' is a possessive determiner we use to say that something belongs to or refers to something. Hence, 'it's' must be replaced with 'its' to form a grammatically correct sentence. Therefore, option C is the correct answer.

18. 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.
If you describe someone as a maverick, (P)/ you mean that he is unconventional and independent (Q)/ and do not think or behave in the same way as other people. (R)/ No error (S)
A. P
B. Q
C. R
D. S
Ans. C
Sol.
The subject (he) in the sentence is singular, therefore, 'do not' must be replaced with 'does not' to form a

grammatically correct sentence. Hence, option C is the correct answer.

19. In the following question, there are six parts marked S1, S6, P, Q, R and S. The position of S1 and S6 are fixed. Some parts of the sentence have been jumbled up. Rearrange these parts and choose the proper sequence from the given options.
(S1) Once when a lion, the king of the jungle, was asleep, a little mouse began running up and down on him.
(P) This soon awakened the lion, who placed his huge paw on the mouse, and opened his big jaws to swallow him
(Q) I shall never repeat it and I shall never forget your kindness
(R) "Pardon, O King!" cried the little mouse
(S) "Forgive me this time and who knows, I may be able to do you a good turn one of these days!"
(S6) The lion was so tickled by the idea of the mouse being able to help him that he lifted his paw and let him go.
A. PRQS
B. SQPR
C. QSPR
D. QPRS
Ans. A
Sol.
The sentence P should follow S1 as it tells what happened when the little mouse was running up and down on the lion.
Out of the given options, only option A contains P as the successive sentence, thereby, making it the correct answer.

20. **Choose the most appropriate option to change the narration (direct/indirect) of the given sentence.**
She said, "What a pleasant weather!" A. She said it was a pleasant weather.
B. She said that it was a pleasant weather.
C. She exclaimed that it was a pleasant weather.
D. She exclaimed that what was a pleasant weather.
Ans. C
Sol.
As the above said statement is in exclamatory form. 'Said' will be changed

to exclaimed as the sentence has exclamatory sign(!) at the end. But there is no exclamatory word like Bravo/Fi/Ugh. So formation of the above sentence will be -subject + exclaimed + that + pronoun + helping verb + object. As the reported verb is in present tense, it will be converted to simple past tense and 'was' will be used as the helping verb. Hence the correct answer is option C.

21.Select the letter-cluster that can replace the question mark (?) in the following series.
CXB, HUI, MRP, ROW, ?
A. WLD   B. VKD
C. WLZ   D. VKC
Ans. A
Sol.
Logic is-

Hence, the correct answer is option A.

22.In a certain code language, WARDROBE is written as YXVYXHJV How will ACCURATE be written as in that language?
A. BZHPXTBV
B. CZHPVTBV
C. CZGPXTBV
D. DZGPXTBV
Ans. C
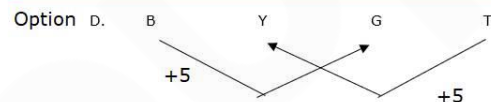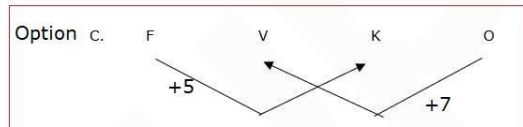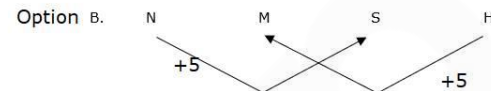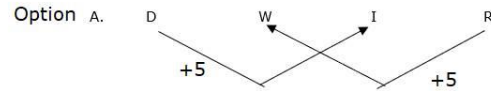**Sol.**
Pattern is-
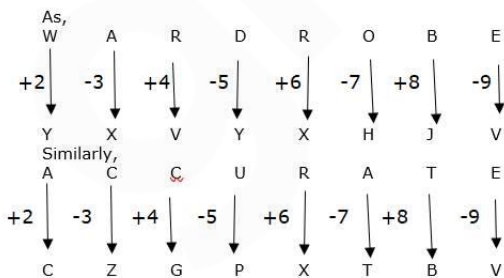
Hence, the correct answer is option C.

23.Four letter-clusters have been given, out of which three are alike in some manner, while one is different. Select the odd letter-cluster.
A. DWIR
B. NMSH
C. FVKO
D. BYGT
Ans. C
Sol.

Hence, the correct answer is option C.

24.Select the option in which the words share the same relationship as that shared by the given pair of words.
Clock : Time
A. Anemometer : Strains
B. Taseometer : Wind
C. Balance : Scale
D. Ammeter: Current
Ans. D
Sol.
Relationship is- Measuring Instrument: Quantity
As, Clock measures time.
Similarly,
Ammeter measures Current.
Hence, the correct answer is option D.

25.Amit is the brother of Sonia. Jyoti is the sister of Nikita. Sonia is the daughter of Satish's father. Nikita is the daughter of Kavinder. Jyoti is the mother of Amit. Mukesh is Nikita's only sister's husband, How is Satish related to Kavinder?
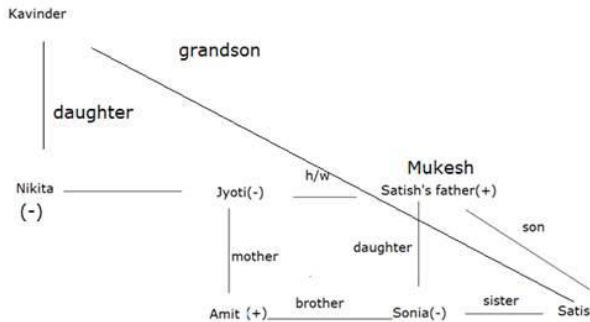A. Brother
B. Son-in-law
C. Grandson
D. Son
Ans. C

Sol.
Venn-diagram can be drawn as given below-

From the above figure, its clear that Satish is the grandson of Kavinder.
Hence, the correct answer is option C.

26.Select the option which has same relationship as the number set given below.
(23, 30, 51)
A. (20, 41, 69)
B. (8, 69, 95)
C. (26, 39, 78)
D. (11, 45, 55)
Ans. C

Sol.
Pattern is:
As, 23 × 3 – 39 = 30
30 × 3 – 39 = 51
Similarly, 26 × 3 – 39 = 39
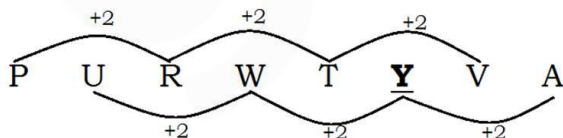39 × 3 – 39 = 78
Hence, the correct answer is option C.

27.Which letter will replace the question mark (?) in the following series?
P, U, R, W, T, ?, V, A,
A. W
B. Y
C. X
D. Z
Ans. B
Sol.

Here 1st , 3rd , fifth and seventh no. are following a certain pattern and going up with 2 places.
Same pattern is followed by second, fourth and sixth numbers.

Hence, option (B) is the correct answer.

28.Which of the following is exactly divisible by 6?
A. 4325672
B. 5643252
C. 96543111
D. 465466
Ans. B
Sol.
We know that a number is divisible by 6 if it is divisible by both 2 and 3.
Here 5643252 is clearly divisible by 2 as the last digit (2) is divisible by 2.
Also the sum of digits 5 + 6 + 4 + 3 + 2 + 5 + 2 = 27 which is divisible by 3 so the number is also divisible by 3.
Hence the number is divisible by 6.

29.Vivek can do a certain work in 14 days. Vishal is 75% more efficient than Vivek. How many days will Vishal alone take to do the same work?
A. 8 days
B. 9 days
C. 10 days
D. 6 days
Ans. A

Sol.
Now Vishal is 75% more efficient than Vivek.
$$\frac{Vivek}{Vishal} = \frac{100}{175} = \frac{4}{7}$$
Ratio of efficiency = 4 : 7
We know the ratio of efficiency is inversely proportional to time
Ratio of time = $7 : 4$
Now Vivek can do work in 14 days.
So $\frac{7}{4} = \frac{14}{x}$
Hence x = 8 days
Then Vishal can do the same work in 8 days.

30.The pie-chart given here shows the country's expenditure on various sports during a particular year. Study the pie-chart and answer the question given below.

The expenditure on hockey is what percent more than that of basketball?
A. 40%
B. 25%
C. 30%
D. 35%
Ans. C
Sol.
The expenditure on hockey = 65°
The expenditure on basketball = 50°
Required Percentage = $\frac{65-50}{50} \times 100 = \frac{15}{50} \times 100 = 30\%$

31.Two pipes A and B can fill a tank in 18 minutes and 24 minutes respectively. If both the pipes are opened simultaneously, then after how much time should pipe B be closed so that the tank is full in 12 minutes?
A. 6 minutes
B. 9 minutes
C. 8 minutes
D. 5 minutes
Ans. C

Sol.
A = 18 minutes and B = 24 minutes
LCM (18,24) = 72
Efficiency of A = $\frac{72}{18} = 4 \; unit$
Efficiency of B = $\frac{72}{24} = 3 \; unit$
Together they can fill in 1 min = 7 units
The tank is filled in 12 units
Then A worked for whole 12 minutes ;
Units filled by A = 12 × 4 = 48 units
Units filled by B = 72 − 48 = 24 units
B can fill it in = $\frac{24}{3} = 8 \; min$

32.If $x^4 + x^{-4} = 2599$, then one of the values of $x - x^{-1}$, where x > 0, is equal to:
A. 9
B. 7

C. 5
D. 8
Ans. B
Sol.
Here
$$\left(x^4 + \frac{1}{x^4}\right) = 2599$$
Now adding and subtracting 2 from the above equation :
$$\left(x^4 + \frac{1}{x^4} + 2\right) = 2599 + 2$$
$$\Rightarrow \left(x^2 + \frac{1}{x^2}\right)^2 = 2601$$
$$hence \; \left(x^2 + \frac{1}{x^2}\right) = 51$$
now subtracting 2 from both sides we get :
$$\left(x^2 + \frac{1}{x^2} - 2\right) = 51 - 2 = 49$$
$$\Rightarrow \left(x - \frac{1}{x}\right)^2 = 49$$
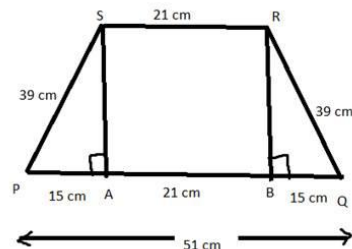$$\Rightarrow \left(x - \frac{1}{x}\right) = 7$$

33.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 cm²) 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 =
$$\frac{1}{2}(sum\ of\ parallel\ sides) \times Height$$
$$= \frac{1}{2} \times (72) \times 36 = 1296\ cm^2$$

34.3 men and 5 women together can complete a work in 6 days, whereas 4 men and 9 women together can do it in 4 days. How many women are required to do the same work in 7 days?

A. 14   B. 12
C. 15   D. 10
Ans. B
Sol.
Let the efficiency of men be M and women be W
Total work done by men and women = 3M + 5W
They work for 6 days so total work
(3M + 5W) 6
Now the next equation for total work will be :
(4M + 9 W) 4
Solving the two equations we get:
(3M + 5W) 6 = (4M + 9 W) 4
18 M + 30 W = 16 M + 36 W
2M = 6W
M = 3W $\Rightarrow \frac{M}{W} = \frac{3}{1}$
So total work = (3× 3 + 5× 1)6 = 84 units
Now this work is done in 7 days
Women required to do 84 units work =
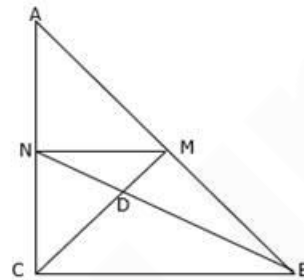$\frac{84}{7} = 12$

35. In ΔABC, ∠C = 90°. M and N are the mid-points of sides AB and AC, respectively. CM and BN intersect each other at D and ∠BDC = 90°. If BC = 8 cm, then the length of BN is:
A. 4√6 cm
B. 6√6 cm
C. 6√3 cm
D. 8√3 cm
Ans. A
Sol.

Here, M and N are the mid point of the sides AB and AC
MN || BC also MN = (1/2)BC
MN = 8/2 = 4 cm
Also Δ NDM and Δ BDC are similar .
$$\frac{NM}{BC} = \frac{4}{8} = \frac{1x}{2x} = \frac{ND}{DB}$$
Also ΔCDB ~ ΔNCB
So, NB/CB = 3x/8 = 8/2x
Hence, $6x^2 = 64$
$x^2 = 64/6$
$\Rightarrow x = (8/\sqrt{6})$
We have to find the value of BN = 1x + 2x = 3x = 3 × (8/√6) = 24/√6 = 4√6 cm