

# Lockdown 2.0 Study Plan

## Day 2

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1. Gudi Padwa or 'Chaitra Shukla Pratipada' is mainly celebrated in which state?

- A. Rajasthan
- B. Gujarat
- C. Maharashtra
- D. Uttar Pradesh

2. The study of Bryophytes is known as \_\_\_\_\_.

- A. Saurology
- B. Pomology
- C. Paleontology
- D. Bryology

3. Which artery gives blood supply to the brain?

- A. Coronary artery
- B. Common carotid artery
- C. Subclavian artery
- D. Brachiocephalic artery

4. Which of the following chemicals is used to confer banana flavour in foods?

- A. Octyl Acetate
- B. Methyl Acetate
- C. Isoamyl Acetate
- D. Phenyl Acetate

5. Which gas percentage is checked in vehicle pollution test?

- A. Carbon Monoxide
- B. Sulphur dioxide
- C. Argon
- D. Other Hydrocarbons

6. In which year neutron discovered by James Chadwick?

- A. 1932
- B. 1935
- C. 1840
- D. 1962

7. Which symbol represents resistance?

- A. R
- B. °C
- C. lx
- D. Ω

8. Who wrote the book "Tarikh-i-Firoz Shahi"?

- A. Ibn Battuta
- B. Ziauddin Baruni
- C. Firdausi
- D. Amir Khosrow

9. Which was the first Mughal building in pure marble?

- A. Taj Mahal
- B. Itmad-ud-Daula's tomb
- C. Humayun's Tomb
- D. None of these

10. Hitler was born in \_\_\_\_\_.

- A. Germany
- B. France
- C. Austria
- D. Poland

In the following question, the sentence is given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

11. She is one of the best \_\_\_\_\_ I know.

- A. Teachers
- B. Student
- C. Doctor
- D. Lawyer

**Select the most appropriate option to fill in the blank.**

12. Highways are a catalyst for economic growth but private \_\_\_\_\_ in this sector has been termed 'tardy' as investors do not appear to be interested in putting their money in long-term projects.

- A. contract
- B. operation
- C. transaction
- D. investment

Select the most appropriate option to fill in the blank.

13. All human beings must learn to live in \_\_\_\_\_ with nature.

- A. admiration



- B. pleasure
- C. harmony
- D. kindness

Choose the option which best expresses the meaning of the idiom/phrase given below.

14. "High on the hog"
- A. To go to bed or go to sleep
  - B. To study for a test
  - C. To live in a luxurious or costly way
  - D. To have something secured

Choose the option which best expresses the meaning of the idiom/phrase given below.

15. "Cut to the chase"
- A. To start talking about the important aspects of something
  - B. To conclude from obvious fact
  - C. To clean solid lines
  - D. To be evil tempered

Choose the option which best expresses the meaning of the idiom/phrase given below.

16. "Smell a rat"
- A. To show signs of cowardice
  - B. To smell the presence of a rat
  - C. To suspect that something is wrong about a situation
  - D. To become polite

Select the synonym of the given word.

17. ACCURATE
- A. precise
  - B. truthful
  - C. condensed
  - D. pacify

**Direction:** Identify the best way to improve the underlined part of the given sentence. if there is no improvement required, select 'no improvement'

18. My friend did not understand the story. She asked me for explain it her.
- A. to explaining it for her.
  - B. to explain it to her
  - C. can I explain that to her

- D. no improvement

**Direction:** Identify the best way to improve the underlined part of the given sentence. if there is no improvement required, select 'no improvement'

19. The author is not well known. Little bit people have heard of him.
- A. Few people
  - B. no improvement
  - C. A few person
  - D. A little bit of people

**Direction:** Identify the best way to improve the underlined part of the given sentence. if there is no improvement required, select 'no improvement'

20. When we were on holiday in Kerala, we were visiting much beautiful tea terraces and spice gardens.
- A. are visit a few
  - B. no improvement
  - C. visited any
  - D. visited many

21. Select the figure that will come next in the following figure series.



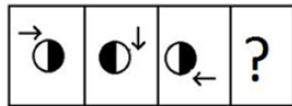
- A.
- B.
- C.
- D.

22. Select the figure that will come next in the following figure series.



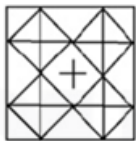
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- A.
- B.
- C.
- D.

23. From the given options, select the one that is embedded in the following figure.



- A.
- B.
- C.
- D.

24. How many triangles are there in the following figure?



- A. 29
- B. 31

- C. 33
- D. 18

25. In a code language, NEEDLE is written as MFDEKF. How will HAMMER be written in the same language?

- A. GBLNFT
- B. GBLNDS
- C. GALNDS
- D. IBLNDS

26. In the following question, select the odd number pair from the given alternatives.

- A. 7 : 48
- B. 11 : 120
- C. 13 : 170
- D. 5 : 24

27. Which two signs should be interchanged to make the following equation correct?

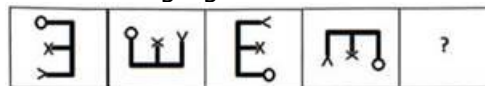
$$18 + 24 - 6 \times 6 \div 3 = 39$$

- A. ÷ and +
- B. ÷ and -
- C. x and +
- D. + and -

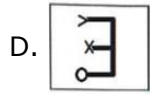
28. If 18 (9) 3 and 36 (30) 5, then what is the value of A in 19 (A) 18?

- A. 33
- B. 57
- C. 75
- D. 96

29. Select the figure that will come next in the following figure series.



- A.
- B.
- C.



30. Arrange the following words in a logical and meaningful order (according to population).

- 1) Andhra Pradesh
- 2) Madhya Pradesh
- 3) Arunachal Pradesh
- 4) Uttar Pradesh
- 5) Himachal Pradesh

- A. 4-2-1-3-5
- B. 4-1-2-3-5
- C. 4-2-1-5-3
- D. 4-1-2-5-3

31. If  $8A736A$  is divisible by 11, then the value of  $A$  is

- A. 5
- B. 4
- C. 3
- D. 9

32. A mixture contains spirit and water in the ratio of  $3 : 2$ . If it contains 3 litres more spirit than water, the quantity of spirit in the mixture is

- A. 12 litres
- B. 10 litres
- C. 9 litres
- D. 8 litres

33. Two persons  $A$  and  $B$  are paid a total of Rs 2,040 per week by their employer. If  $B$  is paid 140 per cent of the sum paid to  $A$ , then how much is  $A$  paid per week?

- A. Rs 750
- B. Rs 820
- C. Rs 850
- D. Rs 800

34. Pipes  $A$  and  $B$  are emptying pipes and can empty a tank in 6 hours and 16 hours, respectively.  $C$  is a filling pipe. All the three pipes were opened together. They took 80 minutes to empty  $\frac{5}{18}$  of the tank. Pipe  $C$  alone can fill the tank in:

- A. 36 hours
- B. 42 hours
- C. 48 hours
- D. 40 hours

35.  $A$  can do 50% of the job in 16 days,  $B$  can do  $\frac{1}{4}$ th of the job in 24 days. In how many days can they do  $\frac{3}{4}$ th of the job working together?

- A. 24
- B. 9
- C. 21
- D. 18

36. A person rows a distance of  $3\frac{3}{4}$  km

upstream in  $1\frac{1}{2}$  hours and a distance of 13 km downstream in 2 hours. How much time (in hours) will the person take to row a distance of 90 km in still water?

- A. 20
- B. 18
- C. 24
- D. 15

37. If  $2\cos^2\theta + 3\sin\theta = 3$ , where  $0^\circ < \theta < 90^\circ$ , then what is the value of  $\sin^2 2\theta + \cos^2 \theta + \tan^2 2\theta + \operatorname{cosec}^2 2\theta$ ?

- A.  $\frac{35}{6}$
- B.  $\frac{29}{6}$
- C.  $\frac{35}{12}$
- D.  $\frac{29}{3}$

38. In  $\Delta ABC$ ,  $\angle C = 90^\circ$  and  $D$  is a point on  $CB$  such that  $AD$  is the bisector of  $\angle A$ . If  $AC = 5$  cm and  $BC = 12$  cm, then what is the length of  $AD$ ?

- A.  $\frac{10}{3}$  cm
- B.  $\frac{5\sqrt{13}}{6}$  cm
- C.  $\frac{5\sqrt{13}}{3}$  cm



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D.  $\frac{20}{7}$  cm

39. If the radius of a right circular cylinder is decreased by 10%, and the height is increased by 20%, then the percentage increase/decrease in its volume is:

- A. decrease by 1.8%
- B. decrease by 2.8%
- C. increase by 2.8%
- D. increase by 1.8%

40. The curved surface area of a hemisphere with radius 7 cm is :

(Take  $\pi = \frac{22}{7}$ )

- A. 385 cm<sup>2</sup>
- B. 462 cm<sup>2</sup>
- C. 308 cm<sup>2</sup>
- D. 616 cm<sup>2</sup>

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###ANSWERS###

1. Ans. C.

• **CHAITRA SHUKLA PRATIPADA OR GUDI PADWA.** Gudi Padwa, the first Holy festival which marks the beginning of the New Year, new month and new day for the Hindus falls on Chaitra Shukla Pratipada. (8th April 2016) It is known as Gudhi Padwa (in Maharashtra), Ugadi (in Karnataka, Andhra Pradesh).

2. Ans. D.

- **Paleontology** refers to study of fossils.
- **Pomology** refers to study of fruits.
- **Saurology** refers to study of lizards.
- **Bryology** refers to the study of Bryophytes.

3. Ans. B.

- **The carotid arteries** are major blood vessels in the neck that supply blood to the brain, neck and face. There are two carotid arteries, one on the right and one on the left.

- In the neck, each carotid artery branches into two divisions: the internal carotid artery supplies blood to the brain and the external carotid artery supplies blood to face and neck.

4. Ans. C.

Isoamyl Acetate is used in **banana flavouring**.

- It is colourless liquid and has fruit like odour, is present naturally and also produced synthetically.

- It is an ester formed from isoamyl alcohol and acetic acid with chemical formula **C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>**.

- Note that this is also widely used in the aircraft industry for stiffening and wind proofing fabric flying surfaces.

- It is also **released by honey bee's sting**.

5. Ans. A.

- \* **Carbon Monoxide is the chief pollutant** checked in Vehicle pollution test, as it contribute severely to the air pollution.

- \* It is produced by partial combustion of fuel.

- \* Puc certificate is a mandatory requirement as per Indian government under the Central Motor Vehicles Rule, 1989.

- \* Though carbon dioxide and nitrous oxides are also been checked but chiefly the carbon monoxide.

6. Ans. A.

**James Chadwick** discovered the neutrons in 1932.

- **Neutrons** are **charge less particles** and present in the nucleus of an atom.

- **Neutrons** have approx. same mass as that of protons that is **1.6726 x 10<sup>-24</sup>**

- The number of neutrons is called the neutron number and can be found by subtracting the proton number from the atomic mass number.

7. Ans. D.

- **The symbol of resistance is  $\Omega$ .** It is symbol of unit of resistance that is Ohm. It is named after German physicist Georg Simon Ohm.

- Resistance is the ability to resist electric current in a material.

- **The resistance of a wire is directly proportional to its length and inversely proportional to its cross-sectional area.**

8. Ans. B.

- **The book 'Tarikh-i-Firoz Shahi' was written by Ziauddin Baruni.** This book was an interpretation of the history of the Delhi Sultanate up to the then-present Firoz Shah Tughlaq.

- Ziauddin Baruni also wrote one other important book named 'Fatwa I Jahandari'.

9. Ans. B.

- **Itmad-ud-Daula's tomb** is considered to be the first Mughal building in pure marble.

- It is a Mughal mausoleum in **Agra, Uttar Pradesh**.

- It is a tomb constructed by NoorJahan in memory of her father who came to Akbars court from Persia.

- It was constructed in the time of Jehangir.



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- The tomb of Itimad-ud-Daulah is often regarded as a draft of the Taj Mahal.

10. Ans. C.

- Hitler was born in Austria and was raised in Linz.

- He was born on 20 April 1889.

- He moved to Germany in 1913 and joined the German Army in World War I.

- He rose to power as Chancellor of Germany in 1933 and later Führer in 1934.

- He invaded Poland in Sept 1939 which was ignition spark of World War II.

11. Ans. A.

After the phrase 'one of the...', a plural noun is used. Hence teachers is the only suitable choice for this blank.

12. Ans. D.

The second part of this sentence suggests that this sentence has something to do with "investment" because of the mention of the word "investors". The other three options do not fit the context. Therefore D is the right answer.

13. Ans. C.

Out of all the options provided, only option C fits in the context. Harmony means 'in concordance or symphony.'

Admiration = appreciation.

Pleasure = joy.

Kindness = considerate.

Thus, option C is the correct choice.

14. Ans. C.

The idiom 'high on the hog' means 'to prosper or otherwise live very well'.

For example: They've been living high on the hog ever since David won the lottery.

Therefore, option C is the correct answer.

15. Ans. A.

The idiom 'cut to the chase' means 'to talk about or deal with the important parts of a subject and not waste time with things that are not important'.

For example: Hi everyone, we all know why we are here today, so let's cut to the chase.

Therefore, option A is the correct answer.

16. Ans. C.

The idiom 'smell a rat' means 'begin to suspect trickery or deception'.

For example: When he died, investigators were called in and soon smelt a rat.

Therefore, option C is the correct answer.

17. Ans. A.

Accurate means conforming exactly or almost exactly to a fact or to a standard or performing with total accuracy.

Precise means exact or correct.

Truthful means honest.

Pacify means try to establish peace.

Condensed means make more concise; concentrate.

Therefore, out of all the options provided in the given question, option (A) is the correct answer.

18. Ans. B.

The sentence carries prepositional error. Before verb 'explain' we will use infinitive 'to.' The correct sentence will be: My friend did not understand the story. She asked me to explain it to her. Hence, option B is the correct answer.

19. Ans. A.

"Few people" means more than one person; not many people; inconsiderate in number. "A few" means some which can be taken into consideration. Option D is completely wrong as we do not use little for a countable noun. Therefore, option A is the correct answer.

20. Ans. D.

The sentence is in simple past tense. Therefore, in place of 'were visiting', we will use 'visited'. Much is used for uncountable noun and hence it should be substituted with 'many' for beaches (countable noun). Hence, option D is the correct choice.

21. Ans. D.

In the above figure, the box and the (+) sign are moving  $45^\circ$  in clock wise direction

and the dot (.) sign is moving  $45^\circ$  in anti clock wise direction.

Hence, option (D) is the correct answer.

22. Ans. A.

The arrow is moving in the clockwise direction in the first two figure and the circle on the second figure is the mirror

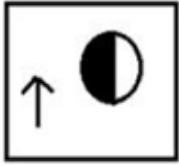


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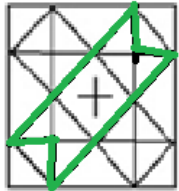
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image of the circle in first figure. Therefore, the right figure is:



Hence, option A is the correct answer.  
23. Ans. B.



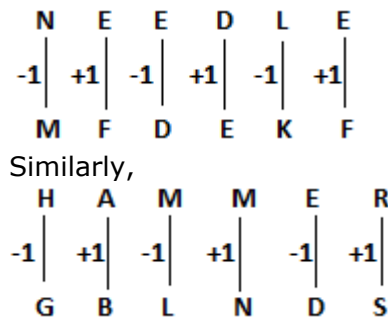
Here, it is clear that the shape given in the option (A)

Hence, option B is the correct answer.  
24. Ans. B.



The triangles formed in the above figure- **AGB, AGF, ABH, FGH, BGH, BAF, BHF, AFH, BNO, BOC, COD, DOP, BOD, DJK, DIE, EIK, DEK, FHN, FLM, MLN, FLN, KJP, KJR, JRP, JPQ, RPQ, KQP, KRQ, JKQ, DKP, BFN.**

The number of triangles is - 31.  
Hence, option (B) is the correct response.  
25. Ans. B.



Hence, the correct response is option (B).  
26. Ans. C.  
 $7^2 - 1 = 48$

$11^2 - 1 = 120$   
 $13^2 + 1 = 170$  (odd number pair)  
 $5^2 - 1 = 24$

Hence, option (C) is odd one out.

27. Ans. B.

Interchange '÷' and '-'

$18 + 24 \div 6 \times 6 - 3 = 39$

$18 + 4 \times 6 - 3 = 39$

Hence, option (B) is the correct answer.

28. Ans. B.

$\rightarrow (18 \div 6) \times 3 = 9$

$\rightarrow (36 \div 6) \times 5 = 30$

$\rightarrow (19 \div 6) \times 18 = 19 \times 3 = 57$

Hence, the correct option is B.

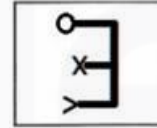
29. Ans. B.

E is changing its position in clockwise direction.

Alternatively the positions of v and o is changing.

X remains the same in each subsequent figure.

So, according to the pattern the next figure will be-



Option B is correct.

30. Ans. C.

Correct order is-

4) Uttar Pradesh

2) Madhya Pradesh

1) Andhra Pradesh

5) Himachal Pradesh

3) Arunachal Pradesh

Correct order is- 4-2-1-5-3

Hence, the correct answer is option C.

31. Ans. D.

For divisibility by 11, Difference of sum of digits at odd places and sum of digits at even places should be either 0 or a multiple of 11.

Hence,  $(8+7+6) - (A+3+A) = 18 - 2A$  should be multiple of 11.

$18 - 2A = 0$  or  $A = 9$  (possible)

$18 - 2A = 11$  or  $A = 7/2$  (A is an integer, so impossible)

32. Ans. C.

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Given ratio between spirit and water = 3 : 2

Difference between their ratio = 1R and the difference in their quantity = 3 litres

∴ Quantity of spirit = 3R = 3 × 3 = 9 litres

33. Ans. C.

Let A be get Rs 100

Then, salary of B = Rs 140

Total salary of A and B = 100 + 140 = 240

According to question:

240 = 2040

Hence 1 unit =  $\frac{2040}{240} = \frac{51}{6}$

In one week A was getting Rs 100

So total amount A gets =  $\frac{51}{6} \times 100 = \text{Rs } 850$

34. Ans. C.

If pipe A, B and C are opened together ,

they took 80 minutes to empty  $\frac{5}{18}$  of the tank.

We know that 80 minutes =  $1\frac{1}{3} \text{ hrs} = \frac{4}{3} \text{ hrs}$

So tank emptied by pipe A and B in  $\frac{4}{3} \text{ hrs} = -\frac{4}{3} \left[ \frac{1}{6} + \frac{1}{16} \right] = -\frac{4}{3} \left[ \frac{8+3}{48} \right] = \frac{-11}{36}$  of the tank

Here negative sign only shows that tank is emptied by Pipe A and

B.

Tank emptied by pipe A, B and C in  $\frac{4}{3} \text{ hrs} = -\frac{5}{18} = \frac{-10}{36}$  of the tank.

Tank filled by pipe C in 80 minutes =  $-\frac{10}{36} - \left( -\frac{11}{36} \right) = \frac{1}{36}$  of the tank

Tank filled by pipe C in 60 minutes =  $\frac{1 \times 60}{36 \times 80} = \frac{1}{48}$  of the tank

Hence Pipe C alone can fill the tank in 48 hours.

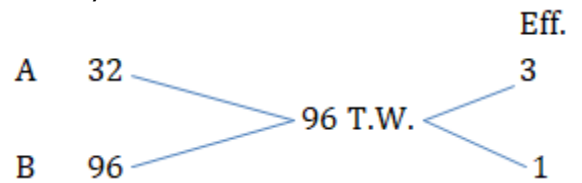
35. Ans. D.

Time taken by A to complete 50% work = 16 days

Time taken by A to complete 100% work = 32 days

Similarly

Time taken by B to complete 100% work = 96 days



(A + B) one day's work = (3 + 1) = 4 unit. Required

$$= \frac{96}{3+1} \times \frac{3}{4} = 18 \text{ days.}$$

36. Ans. A.

Let speed of boat in still water = x km/hr

Speed of stream = y km/hr

Now, Speed of rowing during upstream = (x-y) Km/hr

Speed of rowing during downstream = (x+y) km/hr

Given that a person rows a distance of  $3\frac{3}{4}$

km upstream in  $1\frac{1}{2}$  hours

Speed of rowing during upstream =  $\frac{15}{\frac{3}{2}} = 2.5 \text{ km/hr}$

$$\Rightarrow x - y = 2.5 \dots\dots\dots(1)$$

Also, the same person rows a distance of 13 km downstream in 2 hours

Speed of rowing during downstream =  $\frac{13}{2} = 6.5 \text{ km/hr}$

$$\Rightarrow x + y = 6.5 \text{ km/hr} \dots\dots\dots(2)$$

Adding (1) and (2)

$$\Rightarrow 2x = 9$$

$$\Rightarrow x = 4.5 \text{ km/hr}$$

Hence speed of rowing in still water = 4.5 km/hr

Now, he has to cover a distance of 90 km.

$$\text{Hence, Time required} = \frac{90}{4.5} = 20 \text{ hr}$$

37. Ans. A.

$$2\cos^2\theta + 3\sin\theta = 3$$

$$\text{Put } \theta = 30^\circ$$



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$$2 \times \frac{3}{4} + 3 \times \frac{1}{2} = 3$$

Hence  $\theta = 30^\circ$  satisfy the equation.

Required,

$$\sin^2 2\theta + \cos^2 \theta + \tan^2 2\theta + \operatorname{cosec}^2 2\theta$$

$$= \sin^2 60^\circ + \cos^2 30^\circ + \tan^2 60^\circ + \operatorname{cosec}^2 60^\circ$$

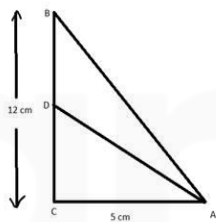
$$= \frac{3}{4} + \frac{3}{4} + 3 + \frac{4}{3}$$

$$= \frac{3}{2} + 3 + \frac{4}{3}$$

$$= \frac{9+18+8}{6} = \frac{35}{6}$$

38. Ans. C.

Given that In  $\Delta ABC$ ,  $\angle C = 90^\circ$  and D is a point on CB such that AD is the bisector of  $\angle A$



In right angled  $\Delta ABC$

Using Pythagoras Theorem

$$\Rightarrow (AB)^2 = (AC)^2 + (BC)^2$$

$$\Rightarrow (AB)^2 = (5)^2 + (12)^2 = 169$$

$$\Rightarrow AB = \sqrt{169} = 13 \text{ cm}$$

Now using Angle bisector theorem , we can write

$$\frac{BD}{CD} = \frac{AB}{AC}$$

$$\Rightarrow \frac{BD}{CD} = \frac{13}{5}$$

$$\Rightarrow \frac{BD}{CD} = \frac{13}{5}$$

Hence  $BD:DC = 13:5$  &  $BC = 12$  cm

$$\Rightarrow DC = \frac{5}{18} \times 12 = \frac{10}{3} \text{ cm}$$

In right angled triangle ACD

Using Pythagoras Theorem

$$\Rightarrow (AD)^2 = (CD)^2 + (AC)^2$$

$\Rightarrow$

$$(AD)^2 = \left(\frac{10}{3}\right)^2 + (5)^2 = \frac{100}{9} + 25 = \frac{325}{9}$$

$$\Rightarrow AD = \sqrt{\frac{5 \times 5 \times 13}{3 \times 3}} = \frac{5\sqrt{13}}{3} \text{ cm}$$

39. Ans. B.

Volume of cylinder =  $\pi r^2 h$

A.T.Q.

Radius of decreased by 10%,

Then, new radius =  $0.9r$

Height is increased by 20% then new height =  $1.2h$

New volume =  $\pi(0.9r)^2 \times 1.2h$

$$= 0.81 \times 1.2 \times \pi r^2 h$$

$$= 0.972 \times \pi r^2 h$$

$$\frac{\pi r^2 h - 0.972 \pi r^2 h}{\pi r^2 h} \times 100$$

% change =

$$= 0.028 \times 100 = 2.8\% \text{ decreased.}$$

40. Ans. C.

We know that curved surface area of a

$$\text{hemisphere} = 2\pi r^2$$

Given radius( $r$ ) = 7 cm

Hence curved surface area of a hemisphere

$$= 2 \times \frac{22}{7} \times 7 \times 7 = 308 \text{ cm}^2$$



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