21-Days Study Plan Day-5

1. The number of parliamentary seats (Lok Sabha) of Chandigarh is _____ .
A. 1   B. 6
C. 11   D. 15
Ans. A
Sol.
• Number of parliamentary seats(Lok sabha) of Chandigarh is 1.
• Chandigarh is the union territory as well as capital of Punjab and Haryana.
• Lok sabha has 550 total seats out -of which 530 are from the Indian states, 20 from the union territories.

2. The name of the Laccadive, Minicoy and Amindivi islands was changed to Lakshadweep by an act of Parliament in –
A. 1973   B. 1971
C. 1970   D. 1972
Ans. A
Sol.
The name of the Laccadive, Minicoy and Amindivi islands was changed to Lakshadweep by an act of Parliament in 1973. The Laccadive subgroup had been known earlier as the "Cannanore Islands" after the coastal town of Cannanore (Kannur).

3. To become a member of the Rajya Sabha a person should be at least _____ years old.
A. 18   B. 30
C. 36   D. 24
Ans. B
Sol. Following is the age crieteria for some of the posts:
Minimum age for election as MP (Lok Sabha)-25 years
Minimum age for election as MLA-25 years
Minimum age for election as MP (Rajya Sabha)-30 years
Minimum age for election as MLC-30 years
Upper age limit for appointment as a judge of Supreme Court-65 years

4. Article 41 of the Indian Constitution "Right to work, to education and to public assistance in certain cases" deals with?
A. the Union Government
B. the directive principles of state policy
C. the State Government
D. the fundamental rights of the Indian Citizen
Ans. B
Sol. Article 41 is a part of the Directive principles of state policy (DPSP). These directives are non-justiciable meaning one can't go to court for their implementation. However, their very mention in the constitution gives it a moral weightage and direction which no government can afford to ignore.

5. English is the official language of _____
A. Chhattisgarh   B. Meghalaya
C. Assam   D. Goa
Ans. B
Sol. English is the official language of Meghalaya. Other than Meghalaya Sikkim, Arunachal Pradesh, Nagaland and Mizoram have English as the official language. The Official languages have been listed in the 8th schedule of Constitution of India. Through 92nd Constitutional amendment 2003, 4 new languages – Bodo, Maithili, Dogri, and Santali – were added to the 8th Schedule of the Indian Constitution.

6. What is the salary per month of the President of India?
A. Rs 5,00,000   B. Rs 1,00,000
C. Rs 7,50,000   D. Rs 50,000
Ans. A
Sol.
• The scale of president has been increased more than 200%, which will lift the President's salary from the current Rs.1.5 lakh a month to Rs. 5 lakh.
• In addition, he receives other perks and allowances such as palace for residence, holiday retreats, travel expenses, education expenses and post-retirement benefits such as the pension.

7. Which country's constitution is the world's longest?
A. United States of America
B. China   C. India
D. Great Britain
Ans. C

Sol. The Indian constitution is the longest constitution (at 1,46,385 words) and one of the most amended constitutions in the world. At its commencement, it had 395 articles in 22 parts and 8 schedules.

8. Which article specifies Imposition of President's Rule in States?
A. Article 356   B. Article 343
C. Article 51A   D. Article 80
Ans. A
Sol. Article 356 of Indian constitution specifies Imposition of President's Rule in States. President's rule is imposed on the state whose constitutional body has failed or during period of war and external aggression. The state's governor issues the proclamation, after obtaining the consent of the President of India. During president's rule central government executives take over the state government executives.

9. **Read the following passage and fill in each blank with words chosen from options given.**
A giant 71-meter Buddha statue, believed to be _____ (1) world's largest, has been reopened to tourists in the southwest China's Sichuan province after _____ (2) a six-month examination as part of _____ (3) repair plan. The statue, which _____ (4) outside the city of Leshan, had developed cracks and some damage on its chest and abdomen, according _____ (5) the management committee of the Leshan Buddha scenic area.
Select the most appropriate option to fill in blank No.1
A. an   B. a
C. the   D. some
Ans. C
Sol.
The noun "world" always comes with the definite article "the". So the blank should be filled with "the". Hence option C is correct.

10. **Select the most appropriate option to fill in blank No.2**
A. experiencing   B. undergoing

C. feeling   D. submit
Ans. B
Sol.
The gerund must be used when a verb comes after a preposition. "After" is a preposition and "undergoing" is the gerund that goes with "examination". Hence option B is correct.

11. **Select the most appropriate option to fill in blank No.3**
A. it's   B. hers
C. its   D. her
Ans. C
Sol.
The subject of the sentence is "statue" and the blank needs a possessive pronoun. "Its" is the correct pronoun here. Hence option C is correct.

12. **Select the most appropriate option to fill in blank No.4**
A. assemble   B. stand
C. sited   D. sits
Ans. D
Sol.
A singular subject of the clause (she, Bill, car) takes a singular verb (is, goes, shines), whereas a plural subject takes a plural verb. Here the subject "statue" is singular so the verb must be singular. "Sits" is the singular form. "Sited" is inappropriate because we need a verb of the simple present tense here. Hence, option D is correct.

13. **Select the most appropriate option to fill in blank No.5**
A. towards   B. to
C. toward   D. near
Ans. B
Sol.
"According to something" is a popular phrase used in English. So the blank should be filled with "to". Hence, option B is correct.

14. **Read the following passage and fill in each blank with words chosen from options given.**
The effects _____ (1) urban pollution are real and must be addressed. A renewed international effort must be

_____ (2) to recognize and address this problem, whilst placing strong political priority on _____ (3) the necessary resources and funds to preserve historical sites _____ (4) the world. Humanity must act to preserve its history and _____ (5) the sustainability of its urban environments.

Select the most appropriate option to fill in blank No.1
A. as   B. of
C. above   D. with
Ans. B
Sol.
"Effects" take the preposition "of" with it. So the blank should be filled with "of". Hence option B is correct.

15. **Select the most appropriate option to fill in blank No.2**
A. end   B. ready
C. complete   D. made
Ans. D
Sol.
"Be" is followed by a V_3 form of a verb. "Made" is a V_3 form of a verb. Hence option D is correct.

16. **Select the most appropriate option to fill in blank No.3**
A. secure   B. secured
C. securing   D. secures
Ans. C
Sol.
The gerund must be used when a verb comes after a preposition. "On" is a preposition and "securing" is a gerund. Hence option C is correct.

17. **Select the most appropriate option to fill in blank No.4**
A. around   B. everywhere
C. nearby   D. about
Ans. A
Sol.
"Around the world" is a popular phrase used in English. So the blank should be filled with "around". Hence option A is correct.

18. **Select the most appropriate option to fill in blank No.5**
A. reassess   B. reuse
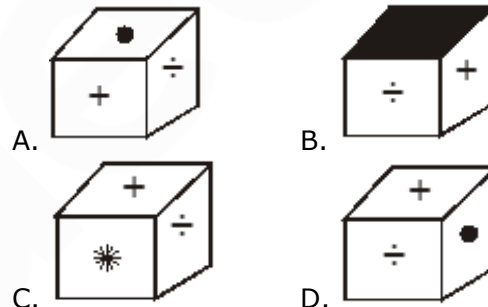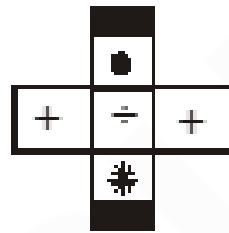
C. reused   D. review
Ans. A
Sol.
Reassess means to consider or assess again, in the light of new or different factors. There is a need to reconsider the sustainability of our resources for our future generation. Hence option A is correct.

19. **Which of the following answer figure cannot be made by folding the given question figure.**
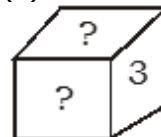**Question Figure:**

A.   B.

C.   D.

Ans. B
Sol. From the given dice opposite surfaces are :
+ ↔ +,
● ↔ ✴ , and
÷ ↔ ▮
Since opposite faces can never be on adjacent sides.
Hence, option B is correct.

20. Below given is a standard dice. Which numbers will replace the question marks (?).
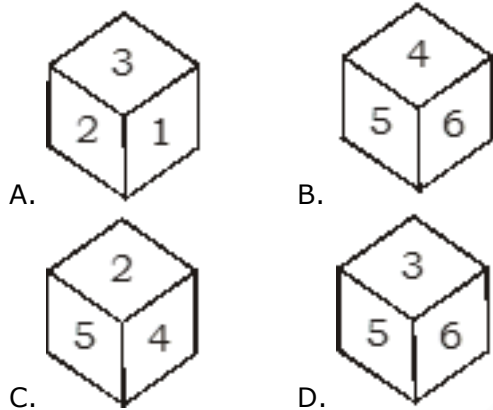

A. 4 and 2   B. 2 and 5
C. 1 and 6   D. 2 and 1

Ans. D
Sol.
Given dice is a standard dice, therefore opposite surfaces are 1 ⟷ 6, 3 ⟷ 4 and 2 ⟷ 5. Since, opposite faces can never be an adjacent side.
Hence, option D is the correct response.

21. Which of the following is not a standard dice.

A.   B.

C.   D.

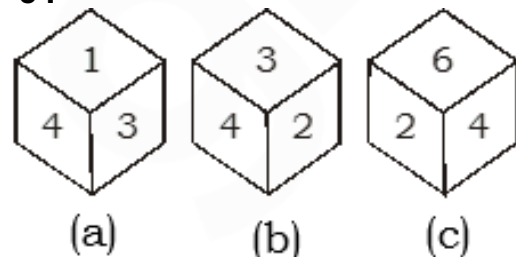Ans. C
Sol. In a standard dice the opposite faces are as follows:
1 ⟷ 6
2 ⟷ 5
3 ⟷ 4
Since, the opposite faces cannot be on adjacent sides.
Therefore, in option (C) - '2' and '5' are on adjacent surfaces, therefore it cannot be a Standard Dice.
Hence, option C is correct.

22. **Below three positions of a dice are given. Which number is opposite of '6'.**

A. 3   B. 5
C. 2   D. 4
Ans. A
Sol. In the positions 'a' and 'c', fix the common surface '4' and move in a clockwise direction. Thus opposite faces are-
4 1 3
5 2 6
So, the opposite surface of '6' is '3'.
Hence, option A is correct.

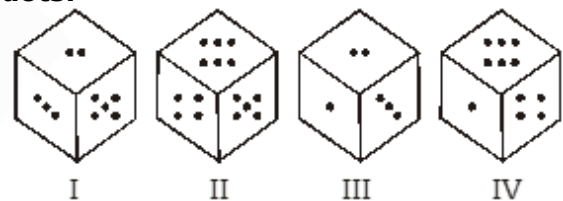23. **Below three positions of a dice are given. Which number is opposite of '3'.**
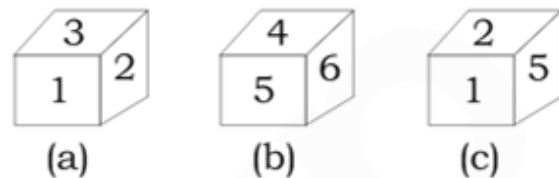
A. 6   B. 4
C. 5   D. 2
Ans. C
Sol. In the positions a and c common surfaces are '1' and '2', so clearly '3' and '5' are opposite surfaces.
Hence, option C is correct.

24. **Below four positions of a dice are given. How many dots will come opposite to the surface having two dots.**

A. 1   B. 5
C. 4   D. 6
Ans. D
Sol. In the positions, I and II, fix the common surface five dots and then move in clockwise direction.
5 3 2
5 4 6
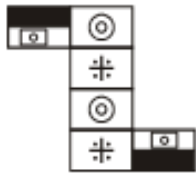So, six dots surface will be on the opposite surface of two dots surface.
Hence, option D is correct.

25. **Which answer figure will be obtained after folding the given question figure.**
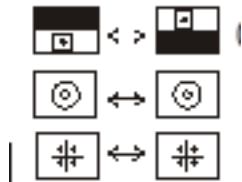**Question Figure:**

A.

B.

C.

D.

Ans. D

Sol. From the given open dice opposite surfaces are:

Two opposite surfaces can never be adjacent surfaces.

Hence, option D is correct.

26. The angle of elevation from the observer's eye to the top of a tower is 45º when the observer is 40m away from the bottom of the tower. If the observer's eye is at a height of 1.8m from the ground, find the height of the tower is:

A. 40 m   B. 38.2 m

C. $20\sqrt{2}$ m   D. 41.8 m

Ans. D

Sol.
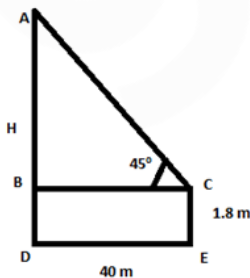
Let AB be H.

So, tan 45º = H/40

Or, H = 40 m

Hence, the height of the tower = (40+1.8) m = 41.8 m

27. From a particular point on the ground, the angle of elevation of the top of the building is 60 degrees. If the building is 400-meter-high, find the distance from the same point to the foot of the building?

A. 267.90 m   B. 216.78 m

C. 230.94 m   D. 210.98 m

E. 234.78 m

Ans. C

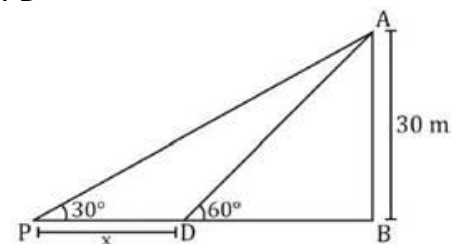Sol. Let AB be the building.

⇒ ∠ACB = 60°. AB = 400 m

⇒ AB/BC = tan60°

⇒ 400/BC = √3

⇒ BC = 400/√3

⇒ BC = 230.94 m

28. A man standing at a point P is watching the top of a tower, which makes an angle of elevation of 30 °. The man walks some distance towards the tower and then his angle of elevation of the top of the tower is 60 °. If the height of tower is 30m, then the distance he moves is

A. 22 m   B. $22\sqrt{3}$ m

C. 20 m   D. $20\sqrt{3}$ m

Ans. D

Sol.

$$BD = \frac{30}{\tan 60°} = \frac{30}{\sqrt{3}}$$

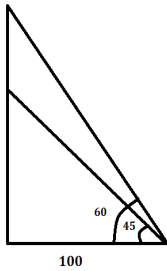$$PB = \frac{30}{\tan 30°} = 30\sqrt{3}$$

$$x = PB - BD = 30\sqrt{3} - \frac{30}{\sqrt{3}}$$

$$x = \frac{60}{\sqrt{3}} = 20\sqrt{3}$$

29. The angle of elevation of an unfinished building from a point 100 m away from its base is 45 °. How much higher the tower be raised so that its angle of elevation from the same point will be 60°? Give an approximate answer.

A. 73m   B. 57m
C. 87m   D. 89m

Ans. A

Sol.

Tanθ = perpendicular/base
Let the increase in height be 'a'.
Tan45 ° = 100/base
Base = 100m
Tan60 ° = (100 + x)/base
⇒100√3 = 100 + x
⇒ x = 100(√3 – 1)
⇒ x = 100 × (1.732 – 1) ≈ 73 m

30. The upper part of a tree broken over by the wind makes an angle of 60° with the ground. The distance between the root and the point where the top of the tree touches the ground is 25 metres. What was the height (in metres) of the tree?

A. 84.14   B. 93.3
C. 98.25   D. 120.24

Ans. B
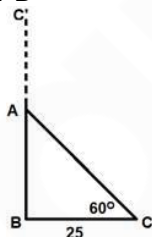
Sol.
In Δ ABC,

$$\tan 60° = \frac{AB}{BC}$$

$$\sqrt{3} = \frac{AB}{25}$$

$$AB = 25\sqrt{3} \text{ m}$$

$$AC = \sqrt{\left(25\sqrt{3}\right)^2 + 25^2} = \sqrt{1875 + 625}$$

= 50 m
Height of the tree
BC'

$$= 50 + 25\sqrt{3} \; (since AC = AC')$$

$$= 50 + 25 \times 1.732$$

= 50+43.3
= 93.3 m

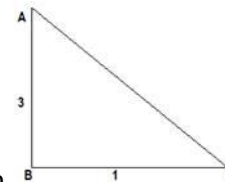31. In an ΔABC, AB : BC = 3 : 1 and ΔABC is right-angled at B. Find the value of sin C + cot A:

A. 3(1+√10)/√10   B. 3(1-√10)/√10
C. 3(1+√10)/√5   D. 3(1-√10)/√5

Ans. A

Sol. Trigonometric Identities are ratio of sides so we can assume the sides to be of

3 & 1 units length.
⇒ $AC^2 = AB^2 + BC^2$
⇒ 9+1
⇒ 10
⇒ ∴ AC =√10
⇒ Sin C =3/√10 , cot A =3
⇒ ∴ sin C + cot A = 3/√10 + 3 = 3(1+√10)/√10

32. A sailor saw the top of a lighthouse from an angle of elevation of 45°. If the lighthouse tower is 250m tall then approximately how far is the sailor from the top of the lighthouse?

A. 150m   B. 200m
C. 250m   D. 350m

Ans. D

Sol. $\tan 45^0$ = Height of tower/ Distance of sailor from the bottom of the lighthouse
Height of tower = Distance of sailor from the bottom of the lighthouse
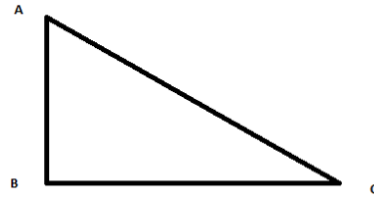Height of tower = 250m

Distance from top of the tower = $[2(250)^2]^{1/2}$
Distance from top of the tower = 353.55m

33. A ladder is kept against a wall at an angle of 30° with the ground. The height of the wall is 14 m. Find the length of the ladder:

A. 20 m   B. 14/√3 m
C. 21√3 m   D. 28 m
E. 14 m
Ans. D
Sol. Corresponding figure:

A ladder is kept against a wall at an angle of 30 ° with the ground. The height of the wall is 14 m.
So, AB = 14 m, ∠ACB = 30°
From the ΔABC,
sinθ = AB/AC
⇒ AC = AB/sinθ
⇒ AC = 14/(1/2)
⇒ AC = 28 m
∴ The length of the ladder = 28 m.

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