

PART-I PHYSICS

1. It is warmer to have two thin blankets than to have a single thick blanket because-
 - (a) thick blanket cannot give more warmth
 - (b) two blankets allow more heat to pass through them
 - (c) air between the two blankets is a good conductor of heat
 - (d) air between the thin blankets does not allow heat to pass through it since it is a bad conductor

 2. A distance-
 - (a) Is always positive
 - (b) Is always negative
 - (c) May be positive as well as negative
 - (d) Is neither positive nor negative

 3. A moving charge produces -
 - (a) neither electric field nor magnetic field
 - (b) electrostatic field only
 - (c) magnetic field only
 - (d) both magnetic and electrostatic field

 4. If the lower part of a convex lens is blackened then the image formed will be
 - (a) incomplete
 - (b) complete
 - (c) of lower intensity
 - (d) both (b) and (c)
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Rough work

5. Which of the statements given below is correct?
- (a) In winter the winds flow from the land to the ocean
 - (b) In summer the winds flow from the land towards the ocean.
 - (c) A cyclone is formed by a very high-pressure system with very high-speed winds revolving around it
 - (d) The coastline of India is not vulnerable to cyclones

Rough work

PART-II CHEMISTRY

6. Acids are formed when
- (a) metals combine with oxygen
 - (b) oxides of nonmetals dissolve in water
 - (c) metals react with water
 - (d) bases dissolve in water
7. Hydrochloric acid can be neutralized by
- (a) nitric acid (b) sulphuric acid (c) citric acid (d) sodium hydroxide
8. A soap solution is
- (a) acidic (b) alkaline (c) neutral (d) None
9. In a neutralization reaction, an acid reacts with a base to give
- (a) another acid (b) another base
 - (c) another acid and another base (d) a salt and water
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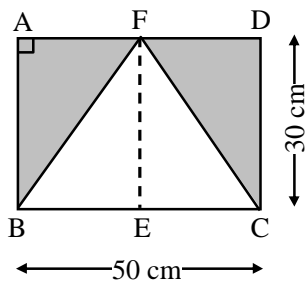
Rough work

PART-IV MATHEMATICS

16. The area of a rectangular field is 6597 m^2 and its length is 36 m . A boy runs around the field. How much distance will he cover in 10 rounds?
- (a) 4385 m (b) 4420 m
(c) 4160 m (d) 5210 m

17. The area of a square and a rectangle are equal. If the side of the square is 80 cm and breadth of the rectangle is 25 cm , find the length of the rectangle?
- (a) 256 m (b) 512 m
(c) 128 m (d) 400 m

18. Calculate the area of shaded region in the given figure(in sq. cm)



- (a) 750 (b) 150 (c) 25 (d) 100

Rough work

19. Simplify :

$$\frac{8 \times 3^2 \times 12^4}{(4 \times 3)^4 \times (2 \times 3)^2}$$

- (a) 2 (b) 3 (c) 4 (d) 8

20. $\frac{x}{2} = \frac{x}{3} + 1$ Solve for x.

- (a) 4 (b) 3 (c) 2 (d) 6

21. Jugal had 24 pages to write. By evening he had completed 25% of his work. How many pages were left?

- (a) 18 (b) 9 (c) 20 (d) 48

22. In a final year exam, Aman scored 378 out of 600. What was his percentage marks?

- (a) 60 (b) 63 (c) 80 (d) none of these

23. The ages of Rahul and Arun are in ratio of 5:7. Four years later the sum of their ages will be 56 years. What is difference of their ages?

- (a) 4 (b) 8 (c) 6 (d) none of these

Rough work

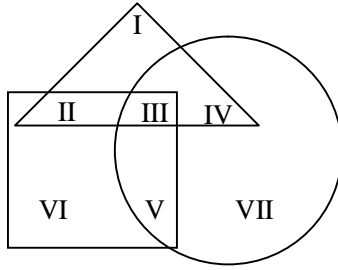
24. The perimeter of a triangle is $7x - 10$. One of the sides is $x - 6$, and another is $3x + 2$. Find the third side.

- (a) $3x-6$ (b) $x-2$ (c) $3x+2$ (d) none of these

25. A man cycles to his office from his house at speed of 5km/hr and reaches 10min late. If he cycles at a speed of 6 km/hr , he reaches 10 min early. What is distance between his office and house?

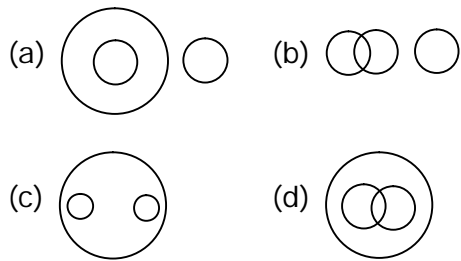
- (a) 10 km (b) 8 km (c) 12 km (d) none of these

Rough work



- (a) II (b) I (c) IV (d) III

29. Choose from the four diagrams given below, the one that illustrates the relationship among Languages. French, German.



30. Which of the following years is not a leap year?

- (a) 1600 (b) 1000
(c) 800 (d) 1200

31. Doctor : Medicine :: Teacher : ?

- (a) Class (b) Student
(c) College (d) Lecture

Rough work

32. How many numbers there from 6 to 90, which are divisible by 5 and either unit digit or tenth digit or both include 5?

- (a) 7 (b) 8 (c) 10 (d) 9

33.

2	10	11	15
9	8	5	20
7	9	?	10
6	9	11	15

- (a) 17 (b) 20 (c) 15 (d) 21

34. _ bbca _ bcca _ ac _ a _ cb

- (a) abcba (b) acbab (c) bacab (d) bcaab

35. If 'FIRE' is coded for a secret message to be teleprinted as 'E H Q D'. How should the answer 'DONE' be relayed?

- (a) D M O E (b) C N M D (c) D L N C (d) D N PE

36. If '□' means '×', '▢', means '-', '▣' means '+', '▤' means '÷' '↗' means '=' and '↖' means '>' then which one of the answers is not correct ?

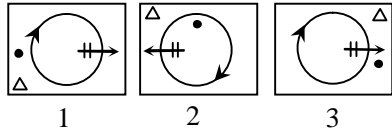
- (a) $10 \square 5 \square 2 \square 8 \square 4 \nearrow 6 \square 8$
 (b) $10 \square \square 3 \square 3 \square 5 \square 9 \nwarrow 6 \square 2$
 (c) $10 \square 7 \square 6 \square 3 \square 8 \nwarrow 4 \square 4$
 (d) $10 \square 6 \square 2 \square 7 \square 5 \nwarrow 10 \square 4 \square 9$

Rough work

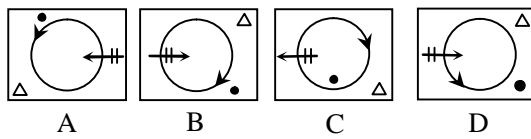
37. The minimum number of colours required to paint all the sides of a cube that no two adjacent faces may have the same colours is -

- (a) 1 (b) 2 (c) 3 (d) 4

38. Problem figures



Answer Figures



39. 'Parliament' is related to 'Great Britain' in the same way as 'Congress' is related to-

- (a) Japan (b) India (c) U.S.A. (d) Netherlands

40. 'Mountain' is related to 'Valley' in the same way as 'Enemy' is related to-

- (a) Cruel (b) Stranger (c) Country (d) Friend

Rough work