



Class 7

<mark>중 ເ</mark>∎ 98153-55955 | 90413-54955

Pinnacle EduCare www.pinnacloeducare.com

Gurunanak Colony, Sangrur, Punjab.

INSTRUCTIONS

Duration: 1 Hour

Maximum Marks: 240

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

Things NOT ALLOWED in EXAM HALL: Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these, then keep them at a place specified by invigilator at your own responsibility.

I.General Instructions

- 1. This Booklet is your question paper. Don't break the seal of booklet until the invigilator instructs to do so.
- 2. The answer sheet (ORS) is provided to you separately which is a machine readable optical response sheet. You have to mark your answers in the ORS by darkening bubbles as per your answer choice, by using black or blue ball point pen.
- 3. This question paper contains three sections as follows:
 - a) Section A contains total 10 questions (Q. No. 1 to 10) of Mental Ability.
 - b) Section B contains total 20 questions (Q. No. 11 to 30) of Mathematics.
 - c) Section C contains total 30 questions (Q. No. 31 to 60) under 3 parts, which are Physics, Chemistry, Biology.
- 4. Rough spaces are provided for rough work inside the question paper. No additional sheets will be provided for rough work.
- 5. If you are found involved in cheating or disturbing others, then your ORS will be cancelled.

II.Filling of OMR Sheet

- 1. Ensure matching of OMR sheet with the Question paper before you start marking your answers on OMR sheet.
- On OMR sheet, darken the appropriate bubble with black/blue pen for each character of your Enrollment No. and your Name, Test Code and other details at the designated places.
- 3. Think wisely before darkening bubble as there is negative marking for wrong answer. Answer once marked by pen can't be cancelled.
- 4. Don't put any stain on ORS and hand it over back properly to the invigilator.

III.Marking Scheme

- 1. All the questions of each Part have only one correct answer.
- 2. If darken bubble is RIGHT answer: 4 Marks.
- 3. If darken bubble is WRONG answer: -1 Marks (Minus One Mark).
- 4. If no bubble is darkened in any question: No Marks.



Please follow



JEE MAINS & ADVANCE RESULT 2023





Opp. Kidzee School. Dr. DP Singla Road, Guru Nanak Colony, Sangrur, Punjab.

JEE ADV AIR

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What Makes Pinnacle Unique?

1 Bes	t Faculty Team	
2 Hi-1	Tech Classrooms	
3 Cus	tomized Study material	
4 Pers	sonal Attention	
5 Unli	imited Doubt Sessions	
6 Bes	t Testing Methodology	

Lecture Recording Lab	

Student Performance and Analysis Report Revision

Classes & Self Study Zones



Rich Library & Researched Study Modules

e)	1	55
	2	3		
-				

Online Testing Lab (CBT)



Extra Support to weaker students



CCTV

Campus



Objective + Subjective



Biometric Attendance

Classroom Program

Comprehensive Classroom Lectures

All classes at Pinnacle are conducted by highly qualified and experienced faculty members, mostly IITians. Each chapter is started at the grass root level and is dealt to an extent which is the requirement of competitive examinations, with an aim of enabling the students to develop a comprehensive view of the whole chapter with a thorough understanding.



Doubt 4

Clearance



"If you ask a question, you may apprear fool for some time, but if you don't, you'll remain a fool for whole life."System at Pinnacle encourages all students to ask their doubts and questions.

Regular Tests Online and Offline

As JEE Mains and Advanced have gone completely online and NEET is in the pipeline, we have launched a dedicated online testing platform where students can practise over CBT (Computer Based Tests). The combination of online and offline testing modes based on latest JEE/NEET patterns ensure that students are at par with the recent changes. Students and check their test reports and performance analysis via a unique online login ID. Their results are also communicated to parents via SMS.



Addressing the Board Exam



Pinnacle has a very distinct methodology for preparing the students for competitive examinations while in full synchronization with Board Exams as well. Board level tests are conducted alongside the regular JEE/NEET tests and the copies are graded at very meticulous level by teachers. Students receive methodological tips so as to perform excellent in the board Exams as well.











Section – A Mental Ability

1. Complete the series

3,6,18,72,360,.....

- (a) 1296
- (b) 2160
- (c) 2254
- (d) 4329
- 2. Arrange the given words in Alphabetical order and choose the one that comes in the 2^{nd} position.
 - (a) Restrict
 - (b) Rocket
 - (c) Robber
 - (d) Random
- 3. In a certain code 678 means 'Study very hard', 347 , means 'hard work pays' and 246 means 'study and work'. Which of the following is the code for 'very'?
 - (a) 4
 - (b) 6
 - (c) 7
 - (d) 8
- 4. If the day before yesterday was Thursday, when will be Sunday?
 - (a) Today
 - (b) Two days after today
 - (c) Tomorrow
 - (d) Day after tomorrow
- 5. If A stands for +, B stands for -, C stands for ×, then what is the value of (10 C4) + (4 C 4) B 6 = ?
 - (a) 60
 - (b) 56

- (c) 50
- (d) 20
- 6. Sobha was facing East, She walked 20 metres. Turining left she moved 15 metres and then turning right moved 25 metres. Finally, she turned right and moved 15 metres more. How far is she from her starting point?
 - (a) 25 metres
 - (b) 35 metres
 - (c) 50 metres
 - (d) 45 metres
- 7. Which answer figure will complete the pattern in the question figure?



PSAT (2025-26)



8. What is the number of rectangles in the following figure?





- (b) 7
- (c) 8
- (d) 9
- 9. How many meaningful words can be formed with the letters EAML?
 - (a) 1
 - (b) 3
 - (c) 4
 - (d) 2
- 10. In a month of 31 days, the third Wednesday falls on the 15th. What will be the last day of that month?
 - (a) Fifth Thursday
 - (b) Fifth Wednesday
 - (c) Fourth Sunday
 - (d) Fifth Friday





- 11. Find the value of x if $\frac{1-x}{6} + \frac{2x}{3} \frac{1-7x}{4} = 2\frac{1}{6}$
 - (a) 0
 - (b) 1
 - (c) 2
 - (d) 3
- 12. Which of the following represents a rational number between $\frac{2}{3}$ and $\frac{1}{11}$?
 - 51
 - (a) ¹³²
 - 1
 - (b) **66** 55
 - 66 (c)
 - 131
 - 132 (d)
- 13. If a and b are odd natural numbers, then which of the following is even
 - (a) a + b
 - (b) a + b + 1
 - (c) ab
 - (d) ab + 2 2^{m+n}
- 14. If $\overline{2^{n-m}} = 16$ and $a = 2^{1/10}$ then
 - $\frac{(a^{2m-n+p})^2}{(a^{m-2n+2p})} =$
 - (a) $2^{3/5}$
 - (b) $\sqrt[5]{8}$
 - (c) Both a & b
 - (d) 1
- 15. A dice was thrown 14 times as follows:



Then mean score was

- (a) 2.5
- (b) 2
- (c) 4
- (d) 3
- 16. Which of the following statements is false?
 - (a) $(-1)^n = -1$, if n is an odd integer
 - (b) For any natural number a, $a^0 = 1$
 - (c) If $4 \times 8^n = 2^5$, then n = 1
 - (d) None of these
- 17. By which congruency property, the two triangles connected by following figure are congruent.



- (a) SAS property
- (b) SSS property
- (c) RHS property
- (d) ASA property
- 18. If the number 2345p60q is exactly divisible by 3 and 5, then the maximum value of p + q is
 - (a) 12
 - (b) 13
 - (c) 14
 - (d) 15
- 19. If A = 3x + 6 and B = $2x^2 + 3x + 4$, then the degree of A × B is _____
 - (a) 3
 - (b) 4

- (c) 2
- (d) 1
- 20. If the base of an isosceles triangle be (x + 3) cm, equal sides are (x + 2) cm and the perimeter of the triangle is 13 cm, then find the non equal side of the triangle.
 - (a) 3 cm
 - (b) 4 cm
 - (c) 5 cm
 - (d) 6 cm
- 21. If the angles of a triangle straight are in the ratio 2 : 3 : 4, then the greatest angle is
 - (a) 20°
 - (b) 40°
 - (c) 100°
 - (d) 80°
- 22. If 2A = 3B = 4C, then A: B : C = ?
 - (a) 2:3:4
 - (b) 4:3:2
 - (c) 6:4:3
 - (d) 3:4:6
- 23. If lines XY and MN intersects as shown below and a : b = 3 : 2. Find c.



- (b) 54°
- (c) 90°
- (d) 144°
- 24. If a b = 2 then $a^2 + 2b 4$ in terms of b is
 - (a) $b^2 6b + 4$
 - (b) $b^2 + 4b$
 - (c) $b^2 + 6b$

- (d) $b^2 + 6b 4$
- 25. The cost of carpeting a room 18 metre with a carpet 75 cm width at Rs. 4.50 per metre is Rs. 810. The breadth of the room is (k 0.5) metre. Find the value of k/8.
 - (a) 0.5
 - (b) 2
 - (c) 1
 - (d) 0.25
- 26. Reena climbs up 5 stairs every second and then climbs down 2 stairs over the next second. How many seconds will she take to climb 60 stairs?
 - (a) 39 seconds
 - (b) 40 seconds
 - (c) 45 seconds
 - (d) 42 seconds
- 27. Find the area of the rectangle whose length is 65 cm and width is half of three less than the length.
 - (a) 1525 cm^2
 - (b) 2125 cm^2
 - (c) 2015 cm^2
 - (d) 3225 cm^2
- 28. If M and N are two coprimes. Then which of the following would be true?
 - (a) LCM $(M, N) = M \times N$
 - (b) HCF (M, N) = 1
 - (c) Both a & b
 - (d) None of these
- 29. Find the unit place of $(2022)^{2021}$
 - (a) 2
 - (b) 4
 - (c) 6
 - (d) 8
- 30. If two triangles have their corresponding angles equal, then they are always congruent.
 - (a) True
 - (b) False
 - (c) Cannot be determined
 - (d) None

Section – C Science

31. Observe the given circuit diagrams (X and Y) and identify the correct statement.



- (a) Circuit Y is a series circuit.
- (b) Bulb 2 in circuit X will glow, even when the bulb 1 is fused, and switch S₁ is closed.
- (c) In circuit Y, bulb 3 will glow if only switch S_2 is closed.
- (d) Both circuits X and Y are parallel circuits.
- 32. The word "AMBULANCE" was incorrectly mentioned on the vehicle. But on seeing the image of the same it was seen correctly due to (a) Reflection

 - (b) Refraction
 - (c) Scattering
 - (d) Lateral shift
- 33. In which circuit the bulbs will glow brightly?



- (a) In circuit P only
- (b) In circuit Q only
- (c) In both circuits P and Q, the bulbs will glow with equal brightness
- (d) Neither P nor Q
- 34. Why is it hotter over the top of a fire than at the same distance on the sides?

- (a) Due to convection of heat
- (b) Due to conduction of heat
- (c) Due to radiation of heat
- (d) Due to conduction, convection and radiation of heat
- 35. Choose the statement which is not correct in the case of an electric fuse.
 - (a) Fuses are inserted in electric circuits of all buildings.
 - (b) There is a maximum limit on the current which can safely flow through the electric circuits.
 - (c) There is minimum limit on the current which can safely flow in the electric circuits.
 - (d) If a proper fuse is inserted in a circuit it will blow off it current exceeds the safe limit.
- 36. If an object is placed at a distance of 0.5 m in front of a plane mirror, the distance between the object and the image formed by the mirror will be
 - (a) 2 m
 - (b) 1 m
 - (c) 0.5 m
 - (d) 0.25 m
- 37. On a Fahrenheit scale
 - (a) Boiling point of water is 212°C F
 - (b) The temperature will be equal to that on the Celsius scale at -40° C
 - (c) The difference between the upper fixed point and the lower fixed point is divided into 180 equal parts
 - (d) All of the above
- 38. If a car travels 5 km in 20 minutes. Express the speed in m/s ?
 - (a) 1.66 m/s

PSAT (2025-26)

Sample Paper

- (b) 0.25 m/s
- (c) 5.16 m/s
- (d) 4.16 m/s
- 39. You are provided with a convex mirror, a concave mirror, a convex lens and a concave lens. You can get an inverted image from
 - (a) Both concave lens and convex lens.
 - (b) Both concave mirror and convex mirror.
 - (c) Both concave mirror and convex lens.
 - (d) Both convex mirror and concave lens.
- 40. With increase in temperature, atmospheric pressure _____

(a) Increase

- (a) increase
- (b) Decrease
- (c) Remains constant
- (d) Can decrease or increase
- 41. $CuSO_4 + Fe \rightarrow FeSO_4 + Cu$ during this reaction change of color occurs as
 - (a) Blue to pale green
 - (b) Blue to black
 - (c) White to blue
 - (d) White to black
 - 42. The gas which smells like rotten eggs is
 - (a) CO₂ (b) NO₂
 - (c) SO_2 (d) H_2S
- 43. Which of the following makes the soil basic?
 - (a) Growing of crops
 - (b) Decaying of organic matter
 - (c) Excessive use of nitrogen fertilizer
 - (d) Irrigation through rivers
- 44. If a drop of ammonia solution is added to turmeric paste, the color of paste will change to
 - (a) Green (b) Red
 - (c) Pink (d) Remains same

- 45. Which of the following bases cannot be used as antacids
 - (a) Sodium carbonate
 - (b) Magnesium hydroxide
 - (c) Sodium hydrogen carbonate
 - (d) None of the above
- 46. Which of the following acid is present in Amla?
 - (a) Formic acid
 - (b) Acetic acid
 - (c) Ascorbic acid
 - (d) Lactic acid
- 47. Stainless steel is an alloy of iron with
 - (a) Zinc
 - (b) Aluminum
 - (c) Chromium & nickel
 - (d) Chromium & copper
- 48. For making potato fries, you slice the potatoes (process 1) and deep fry it in oil (process 2). What type of changes are the two processes?

	type of changes are the two processes.				
	Process A	Process B			
	(a) Chemical change	Physical Change			
	(b) No change	Physical Change			
	(c) Physical change	Chemical Change			
	(d) Chemical change	Chemical Change			
49.	Silk worms feed on leaves of				

- (a) Neem tree
 - (b) Mango tree
 - (c) Mulberry tree
 - (d) Oak tree
- 50. Why does the metallic pan used for cooking has a plastic or wooden handle?
 - (a) Metal is a bad conductor of heat
 - (b) Plastic & wood are good conductors of heat
 - (c) Plastic and wood are bad conductor of heat

Sample Paper

- (d) Plastic & wood handles are light weight
- 51. The most common and simple carbohydrate is
 - (a) Galactose
 - (b) Fructose
 - (c) Maltose
 - (d) Glucose
- 52. Which part of the leaf signifies the root system present in that plant?
 - (a) Leaf petiole
 - (b) Leaf lamina
 - (c) Leaf venation
 - (d) Leaf colour
- 53. Ginger is modification of
 - (a) Stem
 - (b) Leaves
 - (c) Root
 - (d) Fruit
- 54. Which food items do you suggest to include in the
 - diet of a person suffering from bleeding of gums? (a) Amla
 - (b) Guava
 - (c) Both a and b
 - (d) Milk
- 55. Which organ of human body excretes carbon dioxide?
 - (a) Lungs
 - (b) Skin
 - (c) Liver
 - (d) All of these
- 56. Birds can fly because
 - (a) Of their strong muscles and light bones
 - (b) Their bones are hollow and they have wings
 - (c) Both a and b
 - (d) None of these

- 57. Some organisms like earthworms breathe through their skin by absorbing oxygen from the water that their skin has absorbed. In which one of these habitats would earthworm be found?
 - (a) Dry soil
 - (b) Dry soil with dead leaves
 - (c) Damp soil
 - (d) Damp soil with dead leaves
- 58. Who am I? I have three pair of jointed legs for locomotion. I have wings to fly. I have tracheal respiratory system for respiration.
 - (a) Cockroach
 - (b) Duck
 - (c) Pigeon
 - (d) Flying fish
- 59. Which is the correct sequence of the following digestive juices as they get mixed with food ?
 - (1) Saliva
 - (2) Gastric juice
 - (3) Intestinal juice
 - (4) Bile juice
 - (a) 1 4 2 3
 - (b) 1 2 3 4
 - (c) 1 2 4 3
 - (d) 1 4 3 − 2
- 60. Submerged hydrophytes exchange gases through
 - (a) Lenticels
 - (b) Stomata
 - (c) General body surface by diffusion
 - (d) Chloroplasts

1	b	21	d	41	а
2	а	22	С	42	d
3	d	23	d	43	С
4	С	24	С	44	b
5	С	25	С	45	а
6	d	26	а	46	С
7	С	27	С	47	b
8	d	28	С	48	С
9	b	29	а	49	С
10	d	30	b	50	С
11	b	31	С	51	d
12	а	32	d	52	С
13	а	33	C	53	а
14	С	34	а	54	С
15	а	35	C	55	а
16	d	36	b	56	С
17	b	37	d	57	d
18	b	38	d	58	а
19	а	39	С	59	С
20	C	40	b	60	C

ANSWER KEY