Pinnacle EduCare

Dream it • Do it

JEE / NEET / Olympiads / NTSE / Boards

P-TQE 2022

Pinnacle Talent Quest Exam

For Classes 5th to 10th

(Stage-2)

Pinnacle Talent Quest Exam

SAMPLE TEST PAPER

Class 6th

INSTRUCTIONS

Duration: 2 Hours

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 30 questions (Q. No. 1 to 30),10 each of Physics, Chemistry & Biology, which have only one correct answer.
   b) Section - B contains total 10 questions (Q. No. 31 to 40) of Mathematics, which have only one correct answer.
   c) Section - C contains total 20 questions (Q. No. 41 to 60) of Mental Aptitude.
   Part-1: This part contains 10 Logical Puzzles which have only one correct answer.
   Part-2: This part contains 10 Mathematical Puzzles, which have the answer from 000 to 999.
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.
2. 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.
5. While attempting integer type questions, integer has to be marked in the following manner. For example, if the answer is 8, it has to be attempted as 008, if the answer is 59, it has to be attempted as 059.

III.Marking Scheme

Questions (1-50)
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 the instructions

Questions (51-60)
1. All the questions have integer type answer from 000 to 999.
2. If darken bubble is RIGHT answer: 4 Marks.
3. There is no negative marking in this section.
4. If no bubble is darkened in any question: No Marks.

Establishing Milestones in Sangrur

Pinnacle Classroom Program produced toppers in JEE-Main, JEE-Advance, Pre-Medical & NTSE

JEE MAINS & ADVANCE RESULTS

JEE MAINS RESULT 2022

AIR 1805 — Vishal Garg — JEE-Main | 99.80 Percentile
AIR 1752 — Gagan Singla — JEE-Main | 99.81 Percentile
Monit Chawla — JEE-Main | 98.56 Percentile
Bhavansh Singla — JEE-Main | 98.43 Percentile
Vaibhav Mehta — JEE-Main | 98.37 Percentile
Krish Kumar — JEE-Main | 97.27 Percentile
Gurleen Saini — JEE-Main | 97.00 Percentile

JEE MAINS/Adv. RESULT 2021

Kartikay Ahuja — IIT-Roorkee — JEE-Advance AIR 3675 | JEE-Main %ile 99.42

Tanish Chugh — IIT - BHU — JEE-Advance AIR 7533 | JEE-Main %ile 98.52
Savneet Kaur — IIT - Jammu — JEE-Main AIR 10552 | JEE-Main %ile 98.69
Deepak Gupta — PEC-Chd — JEE-Advance AIR 10274 | JEE-Main %ile 99.47
Disha Aggarwal — PEC-Chd — 98.59 %ile
Nakul Garg — 98.58 %ile
Harneet Kaur — 97.93 %ile
Karan Bansal — DTU - Delhi — 97.59 %ile
Divyam Jain — PEC-Chd — 97.56 %ile

JEE MAINS/Adv. RESULT 2020

Sanchit Garg — AIR 1092 JEE-Advance — IIT Roorkee — AIR 679 JEE-Main | 99.94 Percentile
Yadwinder — AIR 1785 JEE-Advance — IIT Ropar — AIR 1670 JEE-Main | 99.86 Percentile
Tejinder Singh — IIT-Ropar — JEE-Main AIR 7737 | %ile 98.80
Rajat Garg — DTU-Delhi — AIR 3518 JEE-Main | 99.69 Percentile
Rahul Garg — NIT-Allahabad — AIR 3809 JEE-Main | 99.66 Percentile
Karan Chhabra — IIIT-Allahabad — AIR 6210 JEE-Main | 99.45 Percentile
Pratham Garg — PEC-Chd — JEE-Main | 99.03
Mohit Tuteja — PEC-Chd — JEE-Main | 98.16

MEDICAL RESULTS

Aarchi — MBBS, AIMS - Mohali
Arshdeep — MBBS, GMC -Patiala
Harmandeep Kaur — MBBS, SGRD Amritsar
Satvir Kaur — MBBS, GMC -Amritsar
Ishatpreet Singh — AIR 1 SNST 2020 — IISER - Mohali
Gitika — AIR 336 — AIIMS Delhi Nursing
Hitakshi — AIR 30 — B.Ph.T. PGIMER, Cdg

ADV. OLYMPIADS

Parth Garg — IOQM & IOQA
Paawan Khurana — IOQM
Vishal Garg — IOQC & IOQA
Krrish Jindal — IOQA

KVPY

Nitish Singla — Rank - 532
Vishal Garg — Rank - 937

NTSE

NTSE Scholar 38 — Rank Punjab — Region Topper — Anmoldeep Kaur
NTSE 161 — Rank Punjab — Jashandeep

SST OLYMPIAD

Dhruv Gaba — IR - 104
Dyumn Johar — IR - 200

IMO RESULTS   *IR INTERNATIONAL RANK

Aashi — IR - 8
Pulkit Kansal — IR - 21
Pranavi Singla — IR - 365
Vrishti Mittal — IR - 472
Pratham Goyal — IR - 608
Dhruv Gaba — IR - 654
Bhavik Kansal — IR - 660
Maanvi — IR - 1282

NSO RESULTS   *IR INTERNATIONAL RANK

Vrishti Mittal — IR - 13
Pulkit Kansal — IR - 67
Aashi — IR - 97
Pranavi Singla — IR - 127
Dhruv Gaba — IR - 133
Dhruv Mehta — IR - 208
Bhavik Kansal — IR - 208
Prithvi Garg — IR - 239
Divyana Bansal — IR - 240
Drishti — IR - 262
Mishti Gupta — IR - 342
Arshit Goyal — IR - 374
Pratham Goyal — IR - 492

CBSE RESULTS CLASS 12th

Harneet Kaur — 99%
Jasleen Kaur — 97.6%
Vaibhav Mehta — 97%
Anmoldeep Kaur — 97%
Devinder — 96.6%
Gagan Singla — 96%
Tanish Chugg — 95.6%
Disha Aggarwal — 95.6%
Nakul Garg — 95.6%
Yash Goyal — 95.6%
Ishika — 95.6%
Rudra Verma — 95%
Vishal Garg — 95%
Arshita — 94.2%
Lavish — 94%
Nitish Singla — 94%
Anmol Bhardwaj — 95.6%
Shivam Singla — 93.4%
Shiv Bajaj — Maths- 97
Krish Kumar — Maths- 95
Yatish Goyal — Maths- 95
Ayushi — Maths- 95
Risham Goyal — Maths- 94
Nitish Singla — Chemistry-99
Piyanchal — Chemistry-95
Monit Chawla — Chemistry-92
Davish Jindal — Physics-91

CBSE RESULTS CLASS 10th

Disha — 98.6%
Kashish Bansal — 98.2%
Khushpreet Kaur — 98.2%
Sneha — 98%
Naman Jain — 98%
Anwesha Goyal — 97.8%
Prithavi Garg — 97.4%
Davish Singla — 97.2%
Rishabhdeep Singh — 97%
Sahil Bansal — 97%
Lakshay Ahuja — 96.2%
Hiterth Garg — 95.6%
Bhavik Kansal — 95.6%
Kashish Goyal — 95%
Divyansh Bansal — 94.8%
Madhav Goyal — 94.4%
Jayant Goyal — 94.2%
Parul Garg — 94%
Arshit Goyal — Maths- 100
Angel Goyal — Maths- 98
Mishti Gupta — Maths- 97
Mehak Kalra — Maths- 94
Armanjit Singh — Maths- 94
Arshdeep Singh — Science- 96
Arunima Jindal — Science- 96
Brahmjot Kaur — Science- 95
Ishita Rani — Science- 94

What Makes **Pinnacle** Unique?

1. **Best Faculty Team**
2. **Hi-Tech Classrooms**
3. **Customized Study material**
4. **Personal Attention**
5. **Unlimited Doubt Sessions**
6. **Best Testing Methodology**

Lecture Recording Lab

Revision Classes & Self Study Zones

Online Testing Lab (CBT)

Smart & AC Classrooms

Objective + Subjective

Student Performance and Analysis Report

Rich Library & Researched Study Modules

Extra Support to weaker students

CCTV Campus

Biometric Attendance

Classroom Program

1 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 **Clearance** 2

"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.

3 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** 4

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.

Pinnacle
EduCare
Dream it • Do it
JEE / NEET / Olympiads / NTSE / Boards

Engineering
JEE Main & Adv.

Medical
NEET

Foundation
VIII, IX, X, NTSE, Olympiads

Subjective
Boards

Section – A
Science

This section contains **30 Multiple Choice Questions**. Each question has four options out of which **ONLY ONE** is correct.

1. The climate of a place depends on
    (a) latitude
    (b) altitude
    (c) distance from the sea
    (d) all of these
2. Fennec adapt to the desert climate with the help of
    (a) long ears
    (b) being nocturnal in nature
    (c) both (A) & (B)
    (d) none of these
3. The basic unit of speed is:
    (a) km/min
    (b) m/min
    (c) km/h
    (d) m/s
4. Which of the following relations is correct?
    (a) Speed = Distance × Time
    (b) $\text{Speed} = \dfrac{Dis\tan ce}{Time}$
    (c) $\text{Speed} = \dfrac{Time}{Dis\tan ce}$
    (d) $\text{Speed} = \dfrac{1}{Dis\tan ce \times Time}$
5. A weak current can be detected by replacing electric bulb in an electric tester with :
    (a) LED
    (b) A coil wound over a compass needle
    (c) CFL
    (d) Both (A) and (B)
6. In lateral inversion:
    (a) Image is upside down
    (b) Image bends laterally
    (c) Left of an object appears right of an image
    (d) Image gets inverted
7. Which of these does not conduct electricity?
    (a) Brass spoon
    (b) Silver jewellery
    (c) Steel tumbler
    (d) Plastic jug
8. An electric cell can generate electric current in a:
    (a) Open circuit
    (b) Closed circuit
    (c) Both of these
    (d) None of these
9. The process of returning back of light ray from a shining surface is called:
    (a) Reflection
    (b) Refraction
    (c) Inversion
    (d) Lateral inversion
10. Evaporation of water from the soil surface is due to heat from:
    (a) Sun
    (b) Earth
    (c) Moon
    (d) Fire
11. Maximum-minimum thermometer are used to measure
    (a) humidity
    (b) maximum and minimum temperature
    (c) rainfall
    (d) wind
12. Humidity is measured by using
    (a) Thermometer
    (b) Rain gauge
    (c) Hygrometer
    (d) All of these
13. Rain gauge is used to measure
    (a) humidity
    (b) rainfall
    (c) temperature
    (d) all of these
14. The process of changing water into ice is called
    (a) Sublimation
    (b) Evaporation
    (c) freezing
    (d) precipitation
15. The process of falling down of water in the form of rain, snow or hail is called
    (a) Sublimation
    (b) Evaporation
    (c) Condensation
    (d) Precipitation
16. How much water is lost approximately through transpiration by wheat plants that give one kilogram of wheat ?
    (a) 5 litres
    (b) 50 litres
    (c) 500 litres
    (d) 5000 litres
17. Water freezes at___to a solid state called snow or ice
    (a) 0°C
    (b) –1C^0
    (c) 1°C
    (d) 100°C
18. A tester is used to check the conduction of electricity through two liquids, labelled A and B. It is found that the bulb of the tester glows

brightly for liquid A while it glows very dimly for liquid B. You would conclude that
- (a) liquid A is a better conductor than liquid B.
- (b) liquid B is a better conductor than liquid A.
- (c) both liquids are equally conducting
- (d) conducting properties of liquid cannot be compared in this manner.

19. Silicon is a :
- (a) Conductor
- (b) Insulator
- (c) Semiconductor
- (d) Superconductor

20. Water occurs in the atmosphere in how many forms?
- (a) One
- (b) Two
- (c) Three
- (d) Four

21. What will happen when diaphragm relaxes and curves upwards?
- (a) Air is forced out of the lungs
- (b) The rib cage goes up and outward
- (c) The volume of the thoracic cavity increases
- (d) Air pressure inside the thoracic cavity decreases

22. When we inhale, we breathe in air into the lungs. What do we breathe out when we exhale?
- (a) Only oxygen gas
- (b) Only hydrogen gas
- (c) Air that has more oxygen than inhaled air
- (d) Air that has more carbon dioxide than inhaled air

23. Which one of the following structures closes the respiratory passage during ingestion of food?
- (a) Larynx
- (b) Epiglottis
- (c) Hard palate
- (d) Soft palate

24. The covering of lungs is called
- (a) Pericardium
- (b) Pleural membrane
- (c) Perichondrium
- (d) Peritoneum

25. The narrowest and most numerous tubes of lungs are termed as
- (a) Bronchus
- (b) Alveoli
- (c) Bronchioles
- (d) Hilum

26. Which of the following will lead to a reduction in the availability of ground water ?
- (a) Plantation
- (b) Rain water harvesting
- (c) Constructing more lakes
- (d) Building accrete rods

27. Cotton bolls are which part of the plant?
- (a) Flower
- (b) Fruit
- (c) Stem
- (d) Root

28. Earth worm takes oxygen from the soil through:
- (a) Lungs
- (b) Gills
- (c) Moist skin
- (d) Spiracles

29. Oxygen and carbon dioxide are replaced in nature through:
- (a) Photosynthesis
- (b) Respiration
- (c) Both (A) and (B)
- (d) None of these

30. Sugar is obtained from
- (a) sugarcane
- (b) beetroot
- (c) Both a and b
- (d) none

Section – B
Mathematics

This section contains **20 Multiple Choice Questions**. Each question has four options out of which **ONLY ONE** is correct.

31. Solve : $2^{x+1} = 8^x$
- (a) 1
- (b) 3
- (c) $\dfrac{-1}{3}$
- (d) $\dfrac{1}{2}$

32. Which of the following is not equal to y^6?
- (a) $[y^{2/3}]^9$
- (b) $\left[\sqrt{y^6} \right]^2$

(c) $\sqrt[3]{y^{18}}$

(d) $\left[y^{1/3} \right]^{12}$

33. $16^{\frac{5}{2}} \div 16^{\frac{1}{2}} = ?$

 (a) 250

 (b) 256

 (c) 255

 (d) 200

34. Find the value of p so that $\left(\frac{4}{5}\right)^3 \div \left(\frac{4}{5}\right)^{-3} = \left(\frac{4}{5}\right)^{3p}$.

 (a) 3

 (b) 0

 (c) 2

 (d) 1

35. The value of $3\sqrt[3]{2} \times 7\sqrt[3]{6} \times 5\sqrt[3]{18}$

 (a) 545

 (b) 500

 (c) 630

 (d) 400

36. The value of $\left(\frac{x^{a^2}}{x^{b^2}}\right)^{\frac{1}{a+b}} \cdot \left(\frac{x^{b^2}}{x^{c^2}}\right)^{\frac{1}{b+c}} \cdot \left(\frac{x^{c^2}}{x^{a^2}}\right)^{\frac{1}{c+a}}$ is

 (a) 0

 (b) 1

 (c) 2

 (d) 3

37. Given that $-0.3k + 2.1 = 0.4k$, the value of k =

 (a) 21

 (b) 7

 (c) 3

 (d) -1

38. If $\frac{1}{7} + \frac{x}{7} = 3$, then the value of x =

 (a) 20

 (b) 7

 (c) 3

 (d) 1

39. Three-fourths of a number is 60 more than its one-third. The number is

 (a) 108

 (b) 84

 (c) 144

 (d) 116

40. If 20 is added to four times a certain number, the result is 5 less than five times the number. The number is

 (a) 10

 (b) 15

 (c) 20

 (d) 25

Section – C
Mental Ability

This section contains **10 Multiple Choice Questions**. Each question has four options out of which **ONLY ONE** is correct.

Logical Puzzles

Directions (Q.No. 8 to 12): Study the following information carefully and answer the questions given below:

Six members of a family – P, Q, R, S, T and V – pursue one of the given professions, *viz*. Psychologist, Manager, Advocate, Jeweler, Doctor, and Engineer, but not necessarily in the same order.

(i) The Doctor is the grandfather of V who is a Psychologist.

(ii) S, who is the Manager, is married to P.

(iii) R, who is the Jeweler, is married to the Advocate.

(iv) Q is mother of T land V.

There are two married couples in the family

41. What is the profession of T?
    (a) Manager   (b) Doctor   (c) Advocate   (d) Engineer

42. Who are the two couples in the family?
    (a) PS and RQ   (b) PQ and RS   (c) PT and ST   (d) PR and QS

43. Akshay is 16th from the left end in a row of boys and Vijay is 18th from the right end. Avinash is 11th from Akshay towards the right end and 3rd from Vijay towards the right end. How many boys are there in the row?
    (a) 41   (b) 42   (c) 40   (d) 48

Directions (Q.No. 14 to 15): Study the following information carefully and answer the questions given below:

'A + B' means 'A is son of B'.

'A × B' means 'A is daughter of B'.

'A ÷ B' means 'A is wife of B'.

'A – B' means 'A is father of B'.

44. If 'A ÷ B + C – D × E', which of the following is true?

    (a) B is sister of D   (b) B is son of E   (c) C is brother of A   (d) D is mother of A

45. What will come in place of question mark to establish the relation that 'B is grandson of E'?

    A + B ? C × D ÷ E

    (a) -   (b) +   (c) ×   (d) None of these

46. In a row of trees, one tree is fifth from either end of the row. How many trees are there in the row?

    (a) 8   (b) 10   (c) 9   (d) 11

47. If × stands for 'addition', < stands for 'subtraction', + stands for 'division', > stands for 'multiplication', – stands for 'equal' to, ÷ stands for 'greater than', and = stands for 'less than', state which of the following is true?

    (a) $5 \times 3 < 7 \div 8 + 4 \times 1$ (b) $3 \times 4 > 2 - 9 + 3 < 3$ (c)$5 > 2 + 2 = 10 < 4 \times 8$ (d) $3 \times 2 < 4 \div 16 > 2 + 4$

48. Study the diagram below and identify the region representing youth who are employed but not educated.
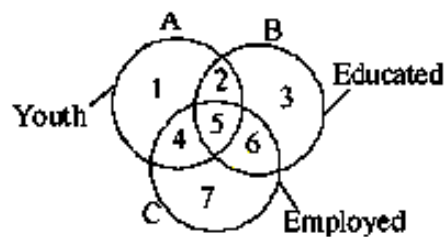
    (a) 4 only   (b) 1, 4, 7   (c) 4, 7   (d) 4, 5, 6

Directions (Q.no. 19 to 20): Five persons sitting in a row. One of the two persons at the extreme ends is intelligent and other one is fair. A fat person is sitting to the right of a weak person. A tall person to the left of the fair person and the weak person is sitting between the intelligent and the fat person.

49. Tall person is at which place counting from right?

    (a) First   (b) Second   (c) Third   (d) Fourth

50. Which of the following persons is sitting at the center?
   (a) Intelligent   (b) Fat   (c) Fair   (d)Weak

Mathematical puzzles

51. A monkey wants to climb a 100 meter high tree. Every minute it jumps 5 meter but the next minute it slips 3 meter. After how many minutes will the monkey reach the top of the tree?

52. You have 8 black socks, 14 white socks and 18 grey socks in your drawer. The room is completely dark and you have no source of artificial light. What is the minimum number of socks that you'll have to pick up to ensure that you have a correct pair (a pair of same coloured socks)?

53. How many squares are there in the 6X4 grid shown below (Each individual grid has dimensions 1X1)
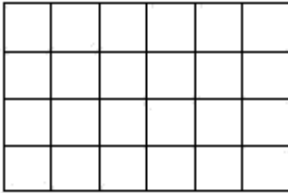
54. A shopkeeper came up with a unique scheme to increase his sales. He offered to give 1 toffee in return for 7 toffee wrappers. If you have 200 such wrappers, how many toffees can you eat using them?

55. A 48 page newspaper is made of 12 large sheets of paper such that the sheets are kept one above the other and then folded in half. As a result, the first sheet contains pages 1, 2, 47, 48. If a sheet containing page number 33 is missing, then find the sum of other missing pages?

56. Each child in a family has at least 2 brothers and 2 sisters. Let the family has smallest possible number of children satisfying the above mentioned constraint. Each child in the family meet each other and every child shakes hand with other child only once. How many handshakes will be there?

57. Last year in a soccer knockout tournament 63 matches were played in all. The participating team are divided into pairs and played against each other and the team losing a match got knocked off and the remaining teams are paired up again. How many teams participated in the tournament?

58. If you write numbers from 1 to 1000, which digit have you written maximum number of times?

59. There is a car parked below. Can you identify the parking number of that car?
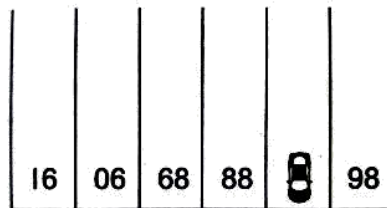
60. Find number of triangles in the given figure

ೞೕೕೞೕೕೞೕ

SPACE FOR ROUGH WORK

ೞೕೕೞೕೕೞೕ
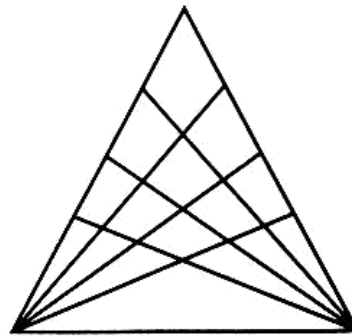
SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK