

## APTITUDE PRACTICE TEST 1

Student Placement Office, IIT Kanpur

Time : 35 minutes

1. In a regular week, there are 5 working days and for each day, the working hours are 8. A man gets Rs. 2.40 per hour for regular work and Rs. 3.20 per hours for overtime. If he earns Rs. 432 in 4 weeks, then how many hours does he work for ?

- A. 160
- B. 175
- C. 180
- D. 195

**Direction (for Q. No. 2):** The question given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

2. In a cricket team, the average age of eleven players is 28 years. What is the age of the captain?

- I. The captain is eleven years older than the youngest player.
- II. The average age of 10 players, other than the captain is 27.3 years.
- III. Leaving aside the captain and the youngest player, the average ages of three groups of three players each are 25 years, 28 years and 30 years respectively.

- A. Any two of the three
- B. All I, II and III
- C. II only or I and III only
- D. II and III only
- E. None of these

3. In a two-digit, if it is known that its unit's digit exceeds its ten's digit by 2 and that the product of the given number and the sum of its digits is equal to 144, then the number is:

- A. 24
- B. 26
- C. 42
- D. 46

4. Find a positive number which when increased by 17 is equal to 60 times the reciprocal of the number.

- A. 3
- B. 10
- C. 17
- D. 20

5. Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?

- A. 2 years
- B. 4 years
- C. 6 years
- D. 8 years

**Direction (for Q. No. 6):** The question given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

6. What is the present age of Tanya?

- I. The ratio between the present ages of Tanya and her brother Rahul is 3 : 4 respectively.
- II. After 5 years the ratio between the ages of Tanya and Rahul will be 4 : 5.
- III. Rahul is 5 years older than Tanya.

- A. I and II only
- B. II and III only
- C. I and III only
- D. All I, II and III
- E. Any two of the three

7. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

- A. 2700
- B. 2900
- C. 3000
- D. 3100

8. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

- A. No profit, no loss
- B. 5%
- C. 8%
- D. 10%
- E. None of these

**Direction (for Q. No. 9):** The question given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.

Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.

Give Answer (E) if the data in both Statements I and II together are necessary to answer the question.

9. A man mixes two types of rice (X and Y) and sells the mixture at the rate of Rs. 17 per kg. Find his profit percentage.

I. The rate of X is Rs. 20 per kg.

II. The rate of Y is Rs. 13 per kg.

- A. I alone sufficient while II alone not sufficient to answer
- B. II alone sufficient while I alone not sufficient to answer
- C. Either I or II alone sufficient to answer
- D. Both I and II are not sufficient to answer
- E. Both I and II are necessary to answer

10. An industrial loom weaves 0.128 metres of cloth every second. Approximately, how many seconds will it take for the loom to weave 25 metres of cloth?

- A. 178
- B. 195
- C. 204
- D. 488

11. A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

- A. 4 days
- B. 6 days
- C. 8 days
- D. 12 days

12. If  $\log 27 = 1.431$ , then the value of  $\log 9$  is:

- A. 0.934
- B. 0.945
- C. 0.954
- D. 0.958

13. If  $\log_{10} 2 = 0.3010$ , the value of  $\log_{10} 80$  is:
- A. 1.6020
  - B. 1.9030
  - C. 3.9030
  - D. None of these
14. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr completes one round in 8 minutes, then the area of the park (in sq. m) is:
- A. 15360
  - B. 153600
  - C. 30720
  - D. 307200
15. The slant height of a right circular cone is 10 m and its height is 8 m. Find the area of its curved surface.
- A.  $30\pi \text{ m}^2$
  - B.  $40\pi \text{ m}^2$
  - C.  $60\pi \text{ m}^2$
  - D.  $80\pi \text{ m}^2$
16. A man wants to sell his scooter. There are two offers, one at Rs. 12,000 cash and the other a credit of Rs. 12,880 to be paid after 8 months, money being at 18% per annum. Which is the better offer?
- A. Rs. 12,000 in cash
  - B. s. 12,880 at credit
  - C. Both are equally good
  - D. [NIL]
17. The banker's discount of a certain sum of money is Rs. 72 and the true discount on the same sum for the same time is Rs. 60. The sum due is:
- A. Rs. 360
  - B. Rs. 432
  - C. Rs. 540
  - D. Rs. 1080
18. A man standing at a point P is watching the top of a tower, which makes an angle of elevation of  $30^\circ$  with the man's eye. The man walks some distance towards the tower to watch its top and the angle of the elevation becomes  $60^\circ$ . What is the distance between the base of the tower and the point P?
- A. 43 units
  - B. 8 units
  - C. 12 units
  - D. Data inadequate

- E. None of these

**Direction (for Q. No. 19): Insert the missing number.**

19. 8, 7, 11, 12, 14, 17, 17, 22, (...)
- A. 27  
B. 20  
C. 22  
D. 24

**Directions (Q 20 – 22):** Use the following table to answer the following questions.

Major	Males (in thousands)	Females (in thousands)	Employed in Field (in thousands)	Employed in Another Field (in thousands)
Science	512.8	647.2	212.4	568.6
Computer science	126.7	37.3	95.2	45.3
Math	23.6	20.4	5.9	23.5
Psychology	58.0	194.7	18.4	144.4
Engineering	143.6	39.4	117.2	28.0

20. According to the data in the table, what percent of engineering graduates are unemployed?

- a) 15.3%  
b) 20.7 %  
c) 23.9 %  
d) 37.8 %  
e) 64.0 %

21. Which major has the highest percent of graduates employed in their field?

- a) Science  
b) Computer Science  
c) Math  
d) Psychology  
e) Engineering

22. If women account for 40% of the science graduates employed in their field, what is the approximate ratio among science graduates of women employed in their field to men employed outside their field?

- a) 1:4  
b) 7:25  
c) 1:2  
d) 14:25  
e) 2:3

**Directions (for Q. 23 – 24):** These questions are based on the following information.

**Eight scientists A, B, C, .D, E, F, G, and H of three different field of Astrophysics, robotics**

Nanotechnology are attending international Science summit. They are from three different countries India, the USA, China. No two scientists from the same country are in the same field. The following information is known about them.

There are at least two scientists from each field and from each country.

I. A, D and F are from the same field. D is from the USA.

II. Only B and F are scientists from China. Neither B nor F is a Nanotechnology scientist.

III. E is a scientist in Robotics and he is from India.

IV. G and H are from the same country and it is not India, G is a scientist in Nanotechnology.

V. There are exactly three Indian scientists.

23. Who is the Indian Astrophysicist?

- a) E
- b) A
- c) C
- d) D
- e) None of these
- f) Cannot be determined

24. Who is the robotics scientists from USA?

- a) B
- b) E
- c) G
- d) H
- e) None of these
- f) Cannot be determined

**Directions (Q. 25 – 30): Use the following information to answer all the questions.**

A panel of music historians ranked eight contemporary songwriters – Jackson, King, Lennon, Mitchell, Nicks, Prince, Simon, and Wonder – according to their relative impact on the evolution of the popular song form. No other songwriters were considered, and there were no ties in the final ranking. The ranking of the songwriters met the following conditions:

Nicks was ranked higher than Lennon but lower than Simon.

Prince was ranked lower than both Mitchell and Jackson.

Wonder was ranked lower than Nicks.

Jackson was ranked higher than Simon.

Nicks was ranked higher than King.

25. Which one of the following could represent the ranking of songwriters, listed from highest to lowest?

- (A) Jackson, Simon, King, Mitchell, Prince, Nicks, Lennon, Wonder
- (B) Jackson, Simon, Prince, Nicks, Mitchell, Wonder, Lennon, King
- (C) Mitchell, Simon, Jackson, Prince, Nicks, Lennon, Wonder, King
- (D) Mitchell, Jackson, Simon, Nicks, King, Wonder, Lennon, Prince
- (E) Mitchell, Jackson, Prince, Simon, Lennon, Wonder, Nicks, King

26. Each of the following could be true EXCEPT:

- (A) Wonder was ranked higher than King.
- (B) Lennon was ranked higher than King.
- (C) Mitchell was ranked lower than Lennon.
- (D) Prince was ranked lower than Simon.
- (E) King was ranked higher than Simon.

27. If Simon was ranked fourth, which one of the following must be true?

- (A) Prince was ranked third.
- (B) Jackson was ranked first.
- (C) Wonder was ranked sixth.
- (D) Nicks was ranked sixth.
- (E) Lennon was ranked last.

28. If Prince was ranked fourth, each of the following could be true EXCEPT:

- (A) Nicks was ranked fifth.
- (B) Lennon was ranked seventh.
- (C) Mitchell was ranked second.
- (D) Jackson was ranked third.
- (E) Wonder was ranked sixth.

29. Which one of the following must be true?

- (A) At least two songwriters were ranked lower than Mitchell.
- (B) At least two songwriters were ranked higher than Simon.
- (C) At least two songwriters were ranked higher than Nicks.
- (D) At least two songwriters were ranked lower than Wonder.
- (E) At least three songwriters were ranked higher than Prince.

30. If the condition that Nicks was ranked higher than Lennon but lower than Simon is replaced with the condition that Nicks was ranked lower than both Lennon and Simon, and if all other conditions remain in effect, which one of the following must be true?

- (A) Lennon was ranked no lower than fifth.
- (B) Lennon was ranked no higher than third.
- (C) Simon was ranked no higher than third.
- (D) Nicks was ranked no lower than fifth.
- (E) Simon was ranked no lower than fourth.