

GATE General Aptitude (GA) Questions:

1. Questions 1-20 carry one mark each,

Total Questions: 40

2. Questions 20-40 carry two marks each.

Questions carrying one mark each.Q.1 If $3 \leq X \leq 5$ and $8 \leq Y \leq 11$ then which of the following options is TRUE?

(A) $\frac{3}{5} \leq \frac{x}{y} \leq \frac{8}{5}$

(B) $\frac{3}{11} \leq \frac{x}{y} \leq \frac{5}{8}$

(C) $\frac{3}{11} \leq \frac{x}{y} \leq \frac{8}{5}$

(D) $\frac{3}{5} \leq \frac{x}{y} \leq \frac{8}{11}$

Ans: B

Q.2 The Headmaster _____ to speak to you.

Which of the following options is incorrect to complete the above sentence?

(A) is wanting

(B) wants

(C) want

(D) was wanting

Ans: C

Q.3 Mahatama Gandhi was known for his humility as

(A) he played an important role in humiliating exit of British from India.

(B) he worked for humanitarian causes.

(C) he displayed modesty in his interactions.

(D) he was a fine human being.

Ans: CQ. 4 All engineering students should learn mechanics, mathematics and how to do computation.

I

II

III

IV

Which of the above underlined parts of the sentence is not appropriate?

(A) I

(B) II

(C) III

(D) IV

Ans: D

Q.5 Select the pair that best expresses a relationship similar to that expressed in the pair:
water: pipe::

- (A) cart: road (B) electricity: wire
(C) sea: beach (D) music: instrument

Ans: B

Q.6 A number is as much greater than 75 as it is smaller than 117. The number is:

- (A) 91 (B) 93 (C) 89 (D) 96

Ans: D

Q.7 The professor ordered to the students to go out of the class.

I II III IV

Which of the above underlined parts of the sentence is grammatically incorrect?

- (A) I (B) II (C) III (D) IV

Ans: B

Q.8 Which of the following options is the closest in meaning to the word given below:

Primeval

- (A) Modern (B) Historic
(C) Primitive (D) Antique

Ans: C

Q.9 Friendship, no matter how _____ it is, has its limitations.

- (A) cordial
(B) intimate
(C) secret
(D) pleasant

Ans: B

Q.10 Select the pair that best expresses a relationship similar to that expressed in the pair:
Medicine: Health

- (A) Science: Experiment (B) Wealth: Peace
(C) Education: Knowledge (D) Money: Happiness

Ans: C

Q.11 Which one of the following options is the closest in meaning to the word given below?

Nadir

- (A) Highest (B) Lowest (C) Medium (D) Integration

Ans: B

Q.12 Complete the sentence:

Universalism is to particularism as diffuseness is to_____.

- (A) specificity (B) neutrality (C) generality (D) adaptation

Ans: A

Q.13 What will be the maximum sum of 44, 42, 40,.....?

- (A) 502 (B) 504 (C) 506 (D) 500

Ans: C

Q.14 Were you a bird, you_____in the sky.

- (A) would fly (B) shall fly (C) should fly (D) shall have flown

Ans: A

Q.15 Choose the grammatically **INCORRECT** sentence:

- (A) He is of Asian origin.
(B) They belonged to Africa.
(C) She is an European.
(D) They migrated from India to Australia.

Ans: C

Q.16 They were requested not to **quarrel** with others.

Which one of the following options is the closest in meaning to the word **quarrel**?

- (A) make out (B) call out (C) dig out (D) fall out

Ans: D

Q.17 In the summer of 2012, in New Delhi, the mean temperature of Monday to Wednesday was 41°C and of Tuesday to Thursday was 43°C. If the temperature on Thursday was 15% higher than that of Monday, then the temperature in °C on Thursday was

- (A) 40 (B) 43 (C) 46 (D) 49

Ans: C

Q.18 Complete the sentence:

Dare_____mistakes.

- (A) commit (B) to commit (C) committed (D) committing

Ans: A

Q.19 Choose the grammatically **CORRECT** sentence:

- (A) Two and two add four.
- (B) Two and two become four.
- (C) Two and two are four.
- (D) Two and two make four.

Ans: D

Q.20 **Statement:** You can always give me a ring whenever you need.

Which one of the following is the best inference from the above statement?

- (A) Because I have a nice caller tune.
- (B) Because I have a better telephone facility.
- (C) Because a friend in need is a friend indeed.
- (D) Because you need not pay towards the telephone bills when you give me a ring.

Ans: C

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Questions carrying two mark each.

Q. 21 Velocity of an object fired directly in upward direction is given by $V = 80 - 32t$, where t (time) is in seconds. When will the velocity be between 32 m/sec and 64 m/sec?

- (A) $(1, 3/2)$ (B) $(1/2, 1)$
 (C) $(1/2, 3/2)$ (D) $(1, 3)$

Ans: C

Q.22 In a factory, two machines M1 and M2 manufacture 60% and 40% of the autocomponents respectively. Out of the total production, 2% of M1 and 3% of M2 are found to be defective. If a randomly drawn autocomponent from the combined lot is found defective, what is the probability that it was manufactured by M2?

- (A) 0.35 (B) 0.45 (C) 0.5 (D) 0.4

Ans: C

Q.23 Following table gives data on tourists from different countries visiting India in the year 2011.

Country	Number of Tourists
USA	2000
England	3500
Germany	1200
Italy	1100
Japan	2400
Australia	2300
France	1000

Which two countries contributed to the one third of the total number of tourists who visited India in 2011?

- (A) USA and Japan
 (B) USA and Australia
 (C) England and France
 (D) Japan and Australia

Ans: C

Q.24 If $|-2X + 9| = 3$ then the possible value of $|-X| - X^2$ would be:

- (A) 30 (B) -30 (C) -42 (D) 42

Ans: B

Q.25 All professors are researchers
Some scientists are professors

Which of the given conclusions is logically valid and is inferred from the above arguments:

- (E) All scientists are researchers
(F) All professors are scientists
(G) Some researchers are scientists
(H) No conclusion follows

Ans: C

Q.26 X and Y are two positive real numbers such that $2X + Y \leq 6$ and $X + 2Y \leq 8$. For which of the following values of (X, Y) the function $f(X, Y) = 3X + 6Y$ will give maximum value?

- (A) $(4/3, 10/3)$
(B) $(8/3, 20/3)$
(C) $(8/3, 10/3)$
(D) $(4/3, 20/3)$

Ans: A

Q.27 If $|4X - 7| = 5$ then the values of $2|X| - |-X|$ is:

- (A) 2, 1/3 (B) 1/2, 3 (C) 3/2, 9 (D) 2/3, 9

Ans: B

Q.28 Following table provides figures (in rupees) on annual expenditure of a firm for two years - 2010 and 2011.

Category	2010	2011
Raw material	5200	6240
Power & fuel	7000	9450
Salary & wages	9000	12600
Plant & machinery	20000	25000
Advertising	15000	19500
Research & Development	22000	26400

In 2011, which of the following two categories have registered increase by same percentage?

- (A) Raw material and Salary & wages
- (B) Salary & wages and Advertising
- (C) Power & fuel and Advertising
- (D) Raw material and Research & Development

Ans: D

Q.29 A firm is selling its product at Rs. 60 per unit. The total cost of production is Rs. 100 and firm is earning total profit of Rs. 500. Later, the total cost increased by 30%. By what percentage the price should be increased to maintained the same profit level.

- (A) 5
- (B) 10
- (C) 15
- (D) 30

Ans: A

Q.30 Abhishek is elder to Savar.
 Savar is younger to Anshul.

Which of the given conclusions is logically valid and is inferred from the above statements?

- (A) Abhishek is elder to Anshul
- (B) Anshul is elder to Abhishek
- (C) Abhishek and Anshul are of the same age
- (D) No conclusion follows

Ans: D

Q.31 Find the sum of the expression

$$\frac{1}{1+2} + \frac{1}{2+3} + \frac{1}{3+4} + \dots + \frac{1}{80+81}$$

- (A) 7
(C) 9

- (B) 8
(D) 10

Ans: B

Q. 32 Out of all the 2-digit integers between 1 and 100, a 2-digit number has to be selected at random. What is the probability that the selected number is not divisible by 7?

- (A) 13/90 (B) 12/90 (C) 78/90 (D) 77/90

Ans: D

Q.33 After several defeats in wars, Robert Bruce went in exile and wanted to commit suicide. Just before committing suicide, he came across a spider attempting tirelessly to have its net. Time and again, the spider failed but that did not deter it to refrain from making attempts. Such attempts by the spider made Bruce curious. Thus, Bruce started observing the near-impossible goal of the spider to have the net. Ultimately, the spider succeeded in having its net despite several failures. Such act of the spider encouraged Bruce not to commit suicide. And then, Bruce went back again and won many a battle, and the rest is history.

Which one of the following assertions is best supported by the above information?

- (A) Failure is the pillar of success.
(B) Honesty is the best policy.
(C) Life begins and ends with adventures.
(D) No adversity justifies giving up hope.

Ans: D

Q.34 A tourist covers half of his journey by train at 60 km/h, half of the remainder by bus at 30 km/h and the rest by cycle at 10 km/h. The average speed of the tourist in km/h during his entire journey is

- (A) 36 (B) 30 (C) 24 (D) 18

Ans: C

Q.35 The current erection cost of a structure is Rs. 13,200. If the labour wages per day increase by 1/5 of the current wages and the working hours decrease by 1/24 of the current period, then the new cost of erection in Rs. is

- (A) 16,500 (B) 15,180 (C) 11,000 (D) 10,120

Ans: B

Q.36 What is the chance that a leap year, selected at random, will contain 53 Saturdays?

- (A) 2/7 (B) 3/7 (C) 1/7 (D) 5/7

Ans: A

Q.37 Statement: There were different streams of freedom movements in colonial India carried out by the moderates, liberals, radicals, socialists, and so on.

Which one of the following is the best inference from the above statement?

- (A) The emergence of nationalism in colonial India led to our Independence.
- (B) Nationalism in India emerged in the context of colonialism.
- (C) Nationalism in India is homogeneous.
- (D) Nationalism in India is heterogeneous.

Ans: D

Q.38 The set of values of p for which the roots of the equation $3x^2+2x+p(p-1) = 0$ are of opposite sign is:

- (A) $(-\infty, 0)$
- (B) $(0, 1)$
- (C) $(1, \infty)$
- (D) $(0, \infty)$

Ans: B

Q.39 A car travels 8 km in the first quarter of an hour, 6 km in the second quarter and 16 km in the third quarter. The average speed of the car in km per hour over the entire journey is

- (A) 30
- (B) 36
- (C) 40
- (D) 24

Ans: C

Q.40 Find the sum to n terms of the series $10+84+ 734 + \dots$

- (A) $\frac{9(9^n + 1)}{10} + 1$
- (B) $\frac{9(9^n - 1)}{8} + 1$
- (C) $\frac{9(9^n - 1)}{8} + n$
- (D) $\frac{9(9^n - 1)}{8} + n^2$

Ans: D

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