

Impetus Whole Placement Test Paper

ARITHMETIC ABILITY:

DIRECTIONS for the question 1, 2: Read the information given below and answer the question that follows.

Five friends, viz. Shan, Monu, Jai, Karan and Bunty are living in five different cities named Karanpur, Jaipur, Vizanagar, Barnala and Patiala, not necessarily in that order.

Their salaries are 7 Lacs, 8 Lacs, 9 Lacs, 11 Lacs, 13 Lacs (INR per annum), in no particular order. Further, the following information is given about them:

- I. Karan, who does not live in Barnala, earns a salary that is a prime number multiple of 1 Lac.
- II. Monu made a call to one of his four mentioned friends who lives in Patiala and who earns a perfect square multiple of 1 Lac in salary.
- III. Jai's salary is 1 Lac more than the average salary of Karan and Shan
- IV. Monu lives in the city, which has the shortest name amongst the above cities.

Q1. Who stays in Patiala?

- a. Shan
- b. Monu
- c. Bunty
- d. Jai

ANS: d

Explanation:

Monu called a friend, who gets Rs. 9 lakh as his salary is a perfect square multiple of 100000 and stays in Patiala.

Bunty stays in Patiala.

Q2. If Karan lives in Vizanagar, then what is the average salary of the persons living in Barnala and Karanpur?

- a. 9

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- b. 10
- c. 12
- d. Data insufficient
- e. None of these

ANS: c

Explanation:

From the given information, we can summarize the data in the following table:

Karan Jai Shan Bunty Monu

Salaries: 7 or 13 11 13 or 7 9 8

Cities: K/V B/K/V B/K/V Patiala Jaipur

Where K, V and B stands for Karanpur, Vizanagar and Barnala respectively.

If Karan, lives in Vizanagar, then Jai and Shan must be staying at Karanpur and Barnala, not necessarily in that order. Their average salary in any case will be Rs. 12 lakhs or 9 lakhs. So, the data is insufficient.

Q3. Last Sunday, every customer who visited the CENTRA MALL was given a gift coupon, on every purchase worth Rs. 1000, with a unique six-digit code written on it. Each code was such that-

- (i). The first digit was non-zero.
- (ii). All the six digits were distinct.
- (iii). The 1st and the 6th digits added up to 9 and so do the 2nd and 5th digits, and also the 3rd and 4th digits.

A gift was given to a customer who had two coupons with codes such that the numbers formed using the first three digits of each code were the reverse of each other.

The number of coupons distributed could not have been more than

- a. 504
- b. 729
- c. 432

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- d. 648
- e. None of The above

ANS: c

Explanation:

The six-digit number on the coupon will look like

x y z 9 - z 9 - y 9 - x

Once we select the first, second and third digits of the number, the remaining three digits get fixed.

The first digit can be chosen out of 1, 2, 3, ...9 in 9 ways.

Then, the second digit can be selected in $(10 - 2) = 8$ ways and the third digit in $(10 - 4) = 6$ ways.

Hence, the maximum possible number of such six digit number is $9 \times 8 \times 6 = 432$.

Q4. If $x + y = 1$, then what is the value of $(x^3 + y^3 + 3xy)$?

- a. 1
- b. 2
- c. 9
- d. 0
- e. None of these

Q5. A worker is kept on a contract for 100 days to make some toys. On any of these 100 days he does not make more than 20 toys. If on any day, he makes more than 12 toys, then he makes at most 6 toys each on the next two days. What is the maximum possible number of toys that he can make over the period of 100 days?

- a. 1109
- b. 1208
- c. 1100
- d. 1076
- e. None of these

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ANS: d

Explanation:

If the worker makes more than 12 toys on any day then in three days period he can make a maximum of $20 + 6 + 6 = 32$ toys.

On the other hand he could have made 36 toys over this span by making 12 toys each day.

So to achieve the maximum he must not make more than 12 toys on any day except possibly the last day.

So, maximum number of toys he could have made = $99 \times 12 + 20 = 1208$

Q6. From a bag containing 242 balls, one ball weighs 19.9 grams and all the other weigh 19.5 grams each. Using a simple balance where balls can be kept on either pan, what is the minimum weighs required to identify the defective ball?

- a. 3
- b. 4
- c. 5
- d. 7
- e. none of the above

ANS: a

Explanation:

By dividing the total balls in three parts and putting two parts on the simple balance we can find which of the three parts has ball of different weight. Again divide this part into further three parts and put two parts on the simple balance. From here again we can find the part having ball with different weight. Again this part can be divided into three parts and so on. So $3^5 = 243$ i.e up to 243 balls can be checked within 5 weighings.

Q7. A square and a regular hexagon have the same area. Find the ratio of the perimeter of the square to the perimeter of the hexagon.

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- a. $\sqrt{3} : 2$
- b. $1 : 2$
- c. $4\sqrt{3} : 4\sqrt{4}$
- d. $4\sqrt{4} : 4\sqrt{3}$

ANS: d

Q8. From a point P, the tangents PQ and PT are drawn to a circle with centre O and radius 2 units. From the centre O, OA and OB are drawn parallel to PQ and PT respectively. The length of the chord TQ is 2 units. Find the measure of the AOB.

- a. 30°
- b. 90°
- c. 60°
- d. 120°
- e. None of these

ANS: e

Explanation:

Since, $OQ = TQ = 2$ units, therefore Triangle OTQ is equilateral.

$$TDQ = 60^\circ$$

Since, PQ is tangent to the circle, so $OQP = 90^\circ$

Since, PQ is parallel to OA so $AOQ = 90^\circ$

For the same reason $BOT = 90^\circ$

$$AOB = 360^\circ - (\text{Angle TOQ} + \text{Angle AOQ} + \text{Angle BOT}) = 120^\circ$$

Q9. From a list of four comics, four friends discuss their favourite comics. At least 2 friends vote for Mandrake, not more than 3 vote for Mammaji, 1 votes for Alibaba and 2 vote for Tom & Jerry. If two friends have exactly voted for 2 different comics each, and 2 friends for exactly 3 different comics each, then how many votes did Mandrake get?

- a. 2
- b. 3
- c. 4

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- d. Cannot say
- e. None of these

ANS: a

Explanation:

There are a total of 10 votes, of which exactly 3 go to Alibaba and Tom & Jerry together.,

The remaining 7 are distributed between Mandrake and Mammaj

Maximum votes that Mandrake can get is 4 (since there are only 4 comics) and maximum votes that Mammaji can get are 3.

Q10. If Monu and Jai live in cities with names starting with consecutive alphabets, then who lives in Vizanagar?

- a. Shan
- b. Monu
- c. Buntty
- d. Karan

ANS: d

Explanation:

Monu lives in Jaipur, so Jai must be living at Karanpur.

Since Karan is not staying at Barnala, he must be staying at Vizanagar.

VERBAL ABILITY:

DIRECTIONS for the question 11 to 12: Arrange the sentences marked A, B, C, D and E form a logical paragraph.

Q11.

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A. To the joy of tens of millions of cricket fans, it established itself as the only team in this era to consistently challenge- and not infrequently master - Australia both at home and away.

B. In fact, since the turn of the millennium India has transformed itself in to an all-round cricketing power capable of winning on varying conditions anywhere.

C. Over the last decade, Australia and India have set up Test crickets most absorbing rivalry.

D. Every champion needs a counterpoint: legacies, defined referentially, drawn from the dynamics between word-beater and contender.

E. India, thanks to its natural style of calm, aggressive cricket, its distinctive ability to play at the level of the opposition, and the confluence of some of the finest cricketers in the contemporary game, fulfilled this role of contender.

- a. EDCAB
- b. DCABE
- c. CDEBA
- d. CDEAB

ANS: c

Explanation:

The paragraph talks about Kumble, his achievements and his retirement. The sentence E is clearly the last sentence here. Hence we have only two options : option 2 or option 4. Now the sentences B and C are related as C gives the reason why Kumble was under-rated. D further continues with the point in C. Hence the option 4, ABCDE is the correct answer.

Q12.

A. The precision with which the crucial operation was executed has unequivocally demonstrated ISROs capability to take up the more complex deep space missions as distinct from numerous near-earth missions in the past.

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B. The achievement has put India in the exclusive club of space-faring nations that have ventured beyond the sphere of the earth's gravitational influence.

C. That ISRO brought this off in its first attempt is all the more commendable.

D. The successful critical man oeuvre on November 8 that put Chandrayaan-I in an orbit around the moon marked the completion of the most important phase of the Indian lunar mission.

E. The rest of the mission involves only standard orbit man oeuvres, the likes of which the Indian Space Research Organization (ISRO) is quite used to, and the performance of the on-board scientific instruments during the mission life of two years.

- a. BCADE
- b. DEABC
- c. CDABE
- d. EDCBA

ANS: b

Explanation:

D) opens the sequence by introducing the completion of the last phase of the mission, Chandrayan. E follows closely talking about the rest of the mission. A praises the precision with which the mission was completed and B talks about the achievement adding to India's pride. C completes the sequence with ...ISRO....this (ventured beyondinfluence.

DIRECTIONS for the question 13: Each of these questions has a text portion followed by four alternative summaries. Choose the option that best captures the essence of the text.

Q13. Some decisions will be fairly obvious no brainers. Your bank account is low, but you have a two-week vacation coming up and you want to get away to some place warm to relax with your family. Will you accept your in-laws offer of free use of their Florida beachfront condo? Sure. You like your employer and feel ready to

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move forward in your career. Will you step in for your boss for three weeks while she attends a professional development course? Of course.

- a. Some decisions are obvious under certain circumstances. You may, for example, readily accept a relatives offer of free holiday accommodation . or step in for your boss when she is away.
- b. Easy decisions are called no-brainers because they do not require any cerebral activity Examples such as accepting free holiday accommodation abound in our lives.
- c. Some decisions are no-brainers. You need not think when making them. Examples are condo offers from in-laws and job offers from bosses when your bank account is low or boss is away
- d. Accepting an offer from in-laws when you are short on funds and want a holiday is a no-brainer. Another no-brainer is taking the bosss job when she is away.

ANS: c

Explanation:

The passage talks about certain decisions being so obvious and explicit that one does not have to think twice before making them. The author reinforces this through an example. All options except 3 focus attention on the example and mislead the information generated.

DIRECTIONS for the question 14, 15: Select the pair of words, which exhibits the same relationship between each other as the given capitalized pair of words.

Q14. SEETHE : ANGER : :

- a. chortle : distress
- b. snarl : confusion
- c. fidget : uneasiness
- d. waddle : embarrassment

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ANS: c

Explanation:

Analogy of degree-Higher to lower. Seethe is a more intense form of anger just as fidget of uneasiness.

Q15. SIMMER : BOIL : :

- a. glide : drift
- b. drizzle : downpour
- c. gambol : play
- d. stagnate : flow

ANS: b

Explanation:

Analogy of degree-Higher to lower. Simmer is a higher intensity word than boil. Similarly drizzle and downpour are similar meaning words but with varying intensity.

DIRECTIONS for question 16 to 20: Read the following passage carefully and answer the questions given below it. Certain words have been printed in bold to help you locate them while answering some of the questions.

If proof were needed that the organized sector of the Indian economy is globalised, look no further than the reaction of firms to the economic slowdown. What began as a knee-jerk reaction of Jet Airways, which issued marching orders to 800 employees and then retracted following an adverse reaction, has now morphed into a strategic plan by companies to keep their heads above the rising waters. This strategy is predicted on the need to cut costs and protect profit margins as far as possible rather than look to increasing revenue in what is turning out to be a slowing market.

Auto majors such as Tata Motors, Ashok Leyland and Mahindra & Mahindra have begun to cut back production and reduce man -hours at their plants across India in a bid

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to prevent inventory pile-up and tailor output to falling demand. It will not be long before auto component vendors follow suit, followed by firms across the product spectrum.

Organized industry is learning to cope with the downside of a business cycle that first manifested itself last year in the wake of rising raw material and energy prices, and in the lagged effects of high interest rates on consumer demand. In the last quarter of 2007 -08 industry and manufacturing growth rates both slipped to around 5 per cent against 8.6 per cent and 9.6 per cent respectively in the previous quarter, which performance itself represented a decline from the high of 10 and 12 per cent in 2006-07. Growth had been falling, therefore, all of 2007-08 with the decline accelerating since January this year.

Fiscal 2007-08 closed with a real GDP growth of 9 per cent mainly due to a double-digit growth in services such as real estate, transport, hotel services and construction. With high albeit falling interest rates and, worse, a risk aversion among lenders impacting these sectors as much as they had manufacturing earlier, the overall growth momentum may slip even more than officially estimated. Against this backdrop, the best bet for policymakers and producer would be to turn the downturn into an opportunity for fresh strategising.

Manufacturing firms have begun the task of cutting costs in right earnest. The real estate sector is supposedly asking for relief and so will the shipping and transport sectors. The Government has to exercise discretion the way it did with the airline industry so as to encourage internal overhauling.

The Government will inevitably have to boost confidence and private investments at some future date through counter-cyclical spending. That future should start right away.

Q16. Given that the government will inevitably have to play a proactive role in boosting confidence and private investments in future;

- a. the corrective measures should begin right away
- b. auto companies such as Tata Motors, Ashok Leyland and Mahindra & Mahindra should cooperate with the government
- c. the government should seek aid from World Bank
- d. organized industry should be encouraged to increase revenue

ANS: d

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Q17. Which of the following captions would be the most apt for this passage?

- a. Governments role in boosting the economy
- b. Globalisation of Indian economy
- c. Cost-cutting is the cure for economic ills
- d. Indian industrys impact on the global economy

ANS: a

Explanation:

1 seems to be the most appropriate of the choices available. Globalization of Indian economy is not being talked about. So choice B is rejected. Choice C talks about Cost cutting which is just one of the issues highlighted hence cannot form the title of the passage. Choice D is rejected because the passage does not talk about Indian industries impact on the global economy.

Q18. Which of the following points is implied in this passage?

- a. There is proof that Indias organized sector may be affecting the global economy
- b. The economic slowdown is a result of knee-jerk reactions of companies such as Jet Airways
- c. Organized sector of the Indian economy is definitely globalised
- d. None of these

ANS: c

Explanation:

The first line of the passage makes this statement and goes on to prove it through various examples, facts and figures.

Q19. Which of the following is not implied in this passage?

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- a. The economic slowdown should be perceived as an opportunity for strategising by policy makers and producers
- b. Growth rates in industry and manufacturing had been falling throughout the year 2007 - 08
- c. Jet Airways had a clear strategy behind sacking of 800 of its employees
- d. Real estate and shipping and transport sectors are looking to the government for relief measures

ANS: c

Explanation:

The 3 choice is not implied in the passage. Rest all are talked about in the passage.

Q20. From which of the following factors does the slowdown in business become evident?

- a. Raw material and energy prices started rising last year
- b. In the Jan - March 2008 quarter both the industry and manufacturing growth rates dropped to about 5%
- c. In the fiscal year 2007 - 2008 consumer demand started to lag due to the high interest rates
- d. All these

ANS: d

REASONING ABILITY:

DIRECTIONS for the question 21 to 25: Study the following letter-symbol-number sequence carefully and answer the questions given below.

Z N D 1 β R H U 8 * C P 1 T L Q @ M B 2 • £ X K 6 Δ G 3 \$ V F A 7

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Q21. If every alternate element starting from your left (H is dropped first) is dropped from the above sequence, which of the following will indicate numbers of symbols, letters and numbers, respectively which will remain in the sequence?

- a. 4, 10, 3
- b. 3, 10, 4
- c. 5, 8, 4
- d. 4, 7, 6
- e. None of these

ANS: a

Explanation:

*N1R) are left. Just drop every alternate element from H, only (U*PTQM2£KΔ3VA*

Q22. REPORT is related to UGSQUV in the same way as LONGER is related to

- a. OQPIHT
- b. OQQFGS
- c. OQQIHT
- d. QPQHIT
- e. None of these

ANS: c

Q23. Four of the following five are alike in respect to their position in the above sequence and hence form a group. Which one does not belong to the group?

- a. M• 6G
- b. PLB•
- c. XΔ\$A
- d. Δ\$7Z
- e. H*TQ

ANS: c

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Explanation:

The pattern is +2, +3,+1,which is not followed in C. It should have been V instead of \$.

Q24. What is the total number of the symbol immediately preceded by letter and the letter immediately preceded by symbol together in the above sequence?

- a. Four
- b. Five
- c. Six
- d. Seven
- e. None of these

ANS: e

Explanation:

Z N D 1 β R H U 8 * C P 1 T L Q @ M B 2 • £ X K 6 Δ G 3 \$ V F A 7

Check out all letter-symbol and symbol-letter combinations. They are 8.

Q25. Four of the following five are similar in relation to their position in the English alphabet and hence form a group. Which one does not belong to the group?

- a. BDHN
- b. FHLR
- c. QTYC
- d. JLPV
- e. NPTZ

ANS: c

DIRECTIONS for the question 26: Study the following information carefully and answer the questions given below:

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P + Q means P is the daughter of Q

P - Q means P is the husband of Q

P x Q means P is the brother of Q

P ÷ Q means P is the sister of Q

Q26. If $A + B - C \div D$, which of the following is true?

- a. C is the mother of A
- b. D is the father of A
- c. A is the brother of C
- d. A is the uncle of C
- e. None of these

ANS: a

Explanation:

Since A is daughter of B and B is husband of C, so C must be mother of A.

DIRECTIONS for the question 27 to 30: Read the information given below and answer the questions given below that accordingly.

During a certain week a sales representative must call on five customers - J, K, L, M and N. She will call on each customer only once, and Monday through Friday, according to the following restrictions:

She cannot call on L on Monday.

She must call on J before she calls on M.

She must call on K before she calls on N.

Q27. Which of the following two calls CANNOT be scheduled after L?

- a. J and K
- b. J and N
- c. K and M
- d. K and N
- e. M and N

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ANS: a

Explanation:

As per conditions : (1) L - Mon X (2) J-M (3) K-N

As per (1) L can be on Tue and then we are left with only 3 days so cannot adjust 4 people.

Q28. If L, K and N are scheduled on consecutive days, in that order, then M could be scheduled for which day?

- a. Either Monday or Tuesday
- b. Either Monday or Wednesday
- c. Either Tuesday or Friday
- d. Either Wednesday or Thursday
- e. Either Thursday or Friday

ANS: c

Explanation:

As per conditions: (1) L - Mon X (2) J-M (3) K-N

If L,K,N are consecutive they have to be Tue onwards. So day left is Fri. But if L is on Wed then day left is Tue as per 3rd condition.

Q29. Which of the following is an acceptable schedule for the sales representatives calls?

- a. J, M, L, K, N
- b. K, M, J, N, L
- c. L, K, N, J, M
- d. L, M, J, K, N
- e. N, L, K, J, M

ANS: a

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Explanation:

As per conditions : (1) L - Mon X (2) J-M (3) K-N
Only choice A satisfy all conditions.

Q30. If the sales representative calls on L earlier than J. which of the following must be true of her schedule?

- a. K is first
- b. L is second
- c. J is third
- d. N is second
- e. M is fifth

ANS: a

Explanation:

As per condition s : (1) L - Mon X (2) J-M (3) K-N
If L is before J then we are left with only 3 days so cannot adjust 4 people.