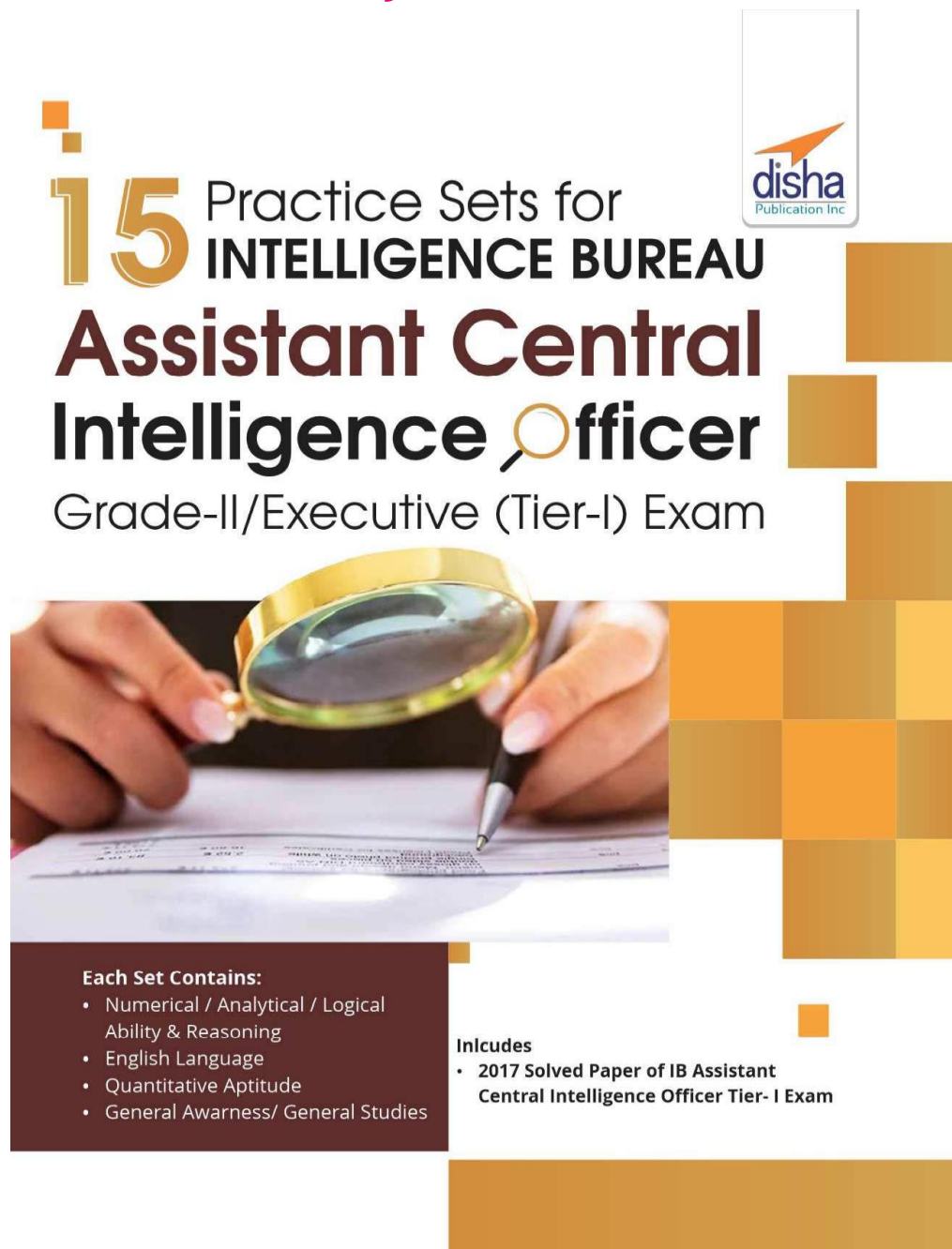


Practice Sets for Intelligence Bureau Assistant Central Intelligence Officer Grade-II/Executive (Tier-I) Exam 2021

*This Practice Set “15 Practice Set for Intelligence Bureau” is
taken from Book:*



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Practice Set

QUANTITATIVE APTITUDE

- To do a certain work, the ratio of efficiency of A to that of B is 3 : 7. Working together, they can complete the work in $10\frac{1}{2}$ days. They work together for 8 days. 60% of the remaining work will be completed by A alone in:
 - $5\frac{1}{2}$ days
 - 5 days
 - $6\frac{1}{2}$ days
 - 4 days
- The average of thirteen numbers is 47. The average of the first three numbers is 39 and that of next seven numbers is 49. The 11th number is two times the 12th number and 12th number is 3 less than the 13th number. What is the average of 11th and 13th numbers?
 - 54.5
 - 57
 - 56
 - 55.5
- If A is 28% more than B and C is 25% less than the sum of A and B, then by what percent will C be more than A (correct to one decimal place)?
 - 32.2%
 - 28%
 - 43%
 - 33.6%
- In a school, $\frac{4}{9}$ of the number of students are girls and the rest are boys. $\frac{3}{5}$ of the number of boys are below 12 years of age and $\frac{5}{12}$ of the number of girls are 12 years or above 12 years of age. If the number of students below 12 years of age is 480, then $\frac{5}{18}$ of the total number of students in the school will be equal to:
 - 270
 - 315
 - 225
 - 240
- Pipes A, B and C can fill a tank in 30 h, 40 h and 60 h respectively. Pipes A, B and C are opened at 7 a.m., 8 a.m., and 10 a.m.. respectively on the same day. When will the tank be full?
 - 10.00 p.m.
 - 10.20 p.m.
 - 9.20 p.m.
 - 9.40 p.m.
- Let a, b and c be the fractions such that $a < b < c$. If c is divided by a, the result is $\frac{5}{2}$, which exceeds b by $\frac{7}{4}$. If $a + b + c = 1\frac{11}{12}$, then $(c - a)$ will be equal to:
 - $\frac{1}{3}$
 - $\frac{2}{3}$
 - $\frac{1}{6}$
 - $\frac{1}{2}$
- In a constituency, 55% of the total number of voters are males and the rest are females. If 40% of the males are illiterate and 40% of the females are literate, then by what percent is the number of literate males more than that of illiterate females?
 - $22\frac{8}{11}$
 - $18\frac{2}{9}$
 - $22\frac{2}{9}$
 - $18\frac{2}{11}$
- Let $x = (633)^{24} - (277)^{38} + (266)^{54}$. What is the units digit of x?
 - 7
 - 6
 - 4
 - 8
- Travelling at 60 km/h, a person reaches his destination in a certain time. He covers 60% of his journey in $\frac{2}{5}$ of the time. At what speed (in km/h) should he travel to cover the remaining journey so that he reaches the destination right on time?
 - 40
 - 48
 - 42
 - 36
- If a nine-digit number $389x6378y$ is divisible by 72, then the value of $\sqrt{6x+7y}$ will be:
 - 6
 - $\sqrt{13}$
 - $\sqrt{46}$
 - 8
- When 12, 16, 18, 20 and 25 divide the least number x, the remainder in each case is 4 but x is divisible by 7. What is the digit at the thousands' place in x?
 - 5
 - 8
 - 4
 - 3
- In what ratio, sugar costing ₹60 per kg be mixed with sugar costing ₹42 per kg such that by selling the mixture at ₹56 per kg there is a gain of 12%?
 - 5 : 6
 - 8 : 9
 - 4 : 5
 - 5 : 7
- One hundred men in 10 days do one third of a piece of work. The work is then required to be completed in another 23 days. On the next day (the eleventh day) 50 more men are employed, and on the day after that, another 50. How

many men must be discharged at the end of the 18th day so that the rest of the men, working for the remaining time, will just complete the work ?

- (a) 100 (b) 105 (c) 110 (d) 115
14. A number is first increased by 16% and then increased by 14%. The number, so obtained, is now decreased by 30%. What is the net increase or decrease percent in the original number (nearest to an integer)?
(a) 6% increase
(b) 7% decrease
(c) No increase or decrease
(d) 9% decrease
15. I forgot the last digit of a 7-digit telephone number. If I randomly dial the final 3 digits after correctly dialling the first four, then what is the chance of dialling the correct number ?
(a) $\frac{1}{1001}$ (b) $\frac{1}{990}$ (c) $\frac{1}{999}$ (d) $\frac{1}{1000}$
16. Nine squares are chosen at random on a chessboard. What is the probability that they form a square of size 3×3 ?
(a) $\frac{9}{64C_9}$ (b) $\frac{36}{64C_9}$
(c) $\frac{6}{64C_9}$ (d) None of these
17. The Binary Ice-cream Shopper sells two flavours : Vanilla and Chocolate. On Friday, the ratio of Vanilla cones sold to Chocolate cones sold was 2 : 3. If the store had sold 4 more Vanilla cones, then, the ratio of Vanilla cones sold to the Chocolate cones sold would have been 3 : 4. How many Vanilla cones did the store sell on Friday?
(a) 32 (b) 35 (c) 42 (d) 48
18. There are 125 middle level employees in Due North Inc. The average monthly salary of the middle level employees is ₹ 5,500 and that of the senior level employees is ₹ 14,000. If the average monthly salary of all these employees is ₹ 8,687.5, find the total number of employees in the company, if middle and senior level employees of Due North Inc. form 80% of their total employees.
(a) 175 (b) 200 (c) 220 (d) 250
19. Three friends P, Q and R donate 8%, 7% and 9% of their salary to a charitable hospital in the given order. Salary of P and Q is same and the difference of their donations is ₹ 74. The total donation by the P and Q is ₹ 525 more than R's donation. What is the percentage of the total salary of the three donations?
(a) 7.95% (b) 8.3 %
(c) 6.34% (d) None of these
20. From a container of wine, a thief has stolen 15 litres of wine and replaced it with same quantity of water. He again repeated the same process. Thus in three attempts the ratio of wine and water became 343 : 169. The initial amount of wine in the container was :

- (a) 75 litres (b) 100 litres
(c) 150 litres (d) 120 litres

REASONING ABILITY

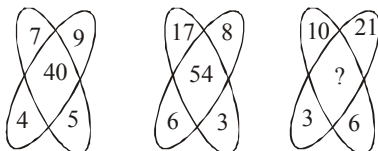
DIRECTIONS (Qs. 21 - 22) : In each of the following questions, there are two words / set of letters /to the left of the sign :: which are connected in some way. The same relationship obtains between the third words / set of letters / numbers and one of the four alternatives under it. Find the correct alternative in each question.

21. Foresight : Anticipation :: Insomnia : ?
(a) Treatment (b) Disease
(c) Sleeplessness (d) Unrest
22. PAPER : SCTGW :: MOTHER : ?
(a) ORVLGW (b) PQVIGT
(c) PQXJJT (d) PQXKJV

DIRECTIONS (Qs. 23 -24) : Find the odd word/letters/ number pair from the given alternatives.

23. (a) PROQN (b) DECEG
(c) GIFHE (d) KMJLI
24. (a) 117 – 143 (b) 142 – 156
(c) 64 – 78 (d) 103 – 169
25. Complete the given series.
24, 60, 120, 210, ?
(a) 300 (b) 336 (c) 420 (d) 525
26. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code?
(a) DFOUSBM (b) GIRXVEP
(c) GJRYVEP (d) GNFJKEP
27. If LOVE is coded as 27 then how is COME coded as:-
(a) 38 (b) 18 (c) 28 (d) 8
28. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?
(a) Grandmother (b) Grandfather
(c) Daughter (d) Granddaughter
29. M is to the East of D, F is to the South of D and K is to the West of F. M is in which direction with respect to K?
(a) South-West (b) North-West
(c) North-East (d) South-East
30. Ketan takes casual leave only on first working day of every month. The office has weekly offs on Saturday and Sunday. In a month of 30 days, the first working day happened to be Tuesday. What will be the day for his next casual leave?
(a) Wednesday (b) Thursday
(c) Friday (d) Monday
31. In a row of boys facing the North, A is sixteenth from the left end and C is sixteenth from the right end. B, who is fourth to the right of A, is fifth to the left of C in the row. How many boys are there in the row?
(a) 39 (b) 40 (c) 41 (d) 42

32. Malay Pratap is on 13th position from the starting and on 17th position from the end in his class. He is on 8th position from the starting and on 13th position from the end among the students who passed. How many students failed?
- (a) 7
(b) 8
(c) 9
(d) Cannot be determined
33. In the following questions find the missing number



- (a) 60 (b) 62 (c) 64 (d) 66
34. If '-' stand for addition, '+' stands for subtraction, '÷' stands for multiplication and '×' stands for division, then which one of the following equations is correct?
- (a) $25 \times 5 \div 20 - 27 + 7 = 120$
(b) $25 + 5 \times 20 - 27 \div 7 = 128$
(c) $25 + 5 - 20 + 27 \times 7 = 95$
(d) $25 - 5 + 20 \times 27 \div 7 = 100$

DIRECTIONS (Qs. 35-37): In each question below are some statements followed by three conclusions numbered I, II and III. You have to take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the answers (a), (b), (c), and (d) is the correct answer and indicate it on the answer sheet.

35. **Statements:** All flats are buildings.
All buildings are bungalows.
All bungalows are apartments.
- Conclusions:** I. Some apartments are flats.
II. All flats are bungalows.
III. Some bungalows are flats.
- (a) None follows
(b) Only I and II follow
(c) Only II and III follow
(d) All I, II and III follow
36. **Statements:** Some spectacles are lenses.
Some lenses are frames.
All frames are metals.
- Conclusions:** I. Some lenses are metals
II. Some metals are spectacles.
III. Some frames are spectacles.
- (a) Only III follows
(b) Only I follows
(c) Only I and either II or III follow
(d) Only I and II follow
37. **Statements:** Some books are pens.
No pen is pencil.

Conclusions:

- I. Some books are pencils.
II. No book is pencil.
- (a) only conclusion I follows.
(b) only conclusion II follows.
(c) either I or II follows.
(d) neither I nor II follows.
38. In a certain code, a number 13479 is written as AQFJL and 2568 is written as DMPN. How is 396824 written in that code?
- (a) QLPNMJ (b) QLPNMF
(c) QLP MNF (d) QLP NDF
39. In a certain code OVER is written as \$#%*. and VIST is written as #+×-. How is SORE written in that code?
- (a) ×\$*% (b) %×\$*
(c) ×*\$% (d) ×%*\$
40. A boy goes to see a film and finds a man who is his relative. The man is the husband of the sister of his mother. How is the man related to the boy?
- (a) Brother (b) Nephew
(c) Uncle (d) Father

ENGLISH LANGUAGE

DIRECTIONS (Qs.41-42): In the following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentences.

41. A woman having several husbands at the same time
(a) polygamy (b) polyandry
(c) polysexual (d) polyglot
42. Extreme old age when a man behaves like a fool
(a) Imbecility (b) Senility
(c) ambiguous (d) Superannuation

DIRECTIONS (Qs.43-44): In the following questions, four words are given out of which one word is incorrectly spelt. Select the incorrectly spelt word.

43. (a) Pyrrhic (b) Aerator
(c) Biege (d) Armament
44. (a) Vallet (b) Cologne
(c) Physicist (d) Diphtheria

DIRECTIONS (Qs. 45-46) : In the following questions, some parts of the sentences have errors and some have none. Find out which part of a sentence has an error. If there is no error, your answer is (d). i.e. No error.

45. Having lived / in Kerala for ten years, /
(a) my friend is used to speak Malayalam with his friends. /
(b)
(c) No Error
(d)
46. Much water / has flown / under this bridge /No error
(a) (b) (c) (d)

DIRECTIONS (Qs. 47-48) : In the following questions, a sentence/ part of the sentence is underlined. Below are given alternatives to the underlined sentence/part of the sentence at (a), (b) and (c) which may improve the sentence. Choose the correct alternative. In case, no improvement is needed, your answer is (d).

47. If he had time he will call you
(a) would have (b) would have had
(c) has (d) No improvement
48. The workers are hell bent at getting what is due to them.
(a) hell bent on getting (b) hell bent for getting
(c) hell bent upon getting (d) No improvement

DIRECTIONS (Qs. 49-50) : In each question, a part of sentence is printed in bold. Below each sentence, some phrases are given which can substitute the bold part of the sentence. Find out the phrase which can correctly substitute that part of the sentence. If the sentence is correct as it is, the answer is 'No correction required' or 'No improvement'.

49. When it was feared that the serfs might go too far and gain their freedom from serfdom, the Protestant leaders joined the princes **at crushing** them.
(a) into crushing (b) in crushing
(c) without crushing (d) No improvement
50. The farmer's way of life can be **contrasted** to that of the factory worker.
(a) contrasted for (b) contrasted against
(c) contrasted with (d) No improvement

DIRECTIONS (Qs. 51-52) : In the following questions, sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four as your answer.

51. The Union Budget is likely to be presented on February 26, two days ahead of the _____ date.
(a) critical (b) conventional
(c) suitable (d) convenient
52. I am sorry _____ the mistake.
(a) from (b) with
(c) for (d) at
53. In the following questions, out of the four alternatives, choose the one which best expresses the meaning of the given word as your answer.
Nexus
(a) Connection (b) Distance
(c) Deficit (d) Difference
54. In the following questions, choose the word opposite in meaning to the given word as your answer.
Impeccable
(a) Faulty (b) Tedious
(c) Flashy (d) Boring

DIRECTIONS (Qs. 55-56) : In the following questions, four alternatives are given for the idiom/phrase printed in bold in the sentence. Choose the alternative which best expresses the meaning of the idiom/phrase.

55. The project is carried over to this year, and we need to **keep the ball rolling**.
(a) to continue the work
(b) more information
(c) to do better
(d) new strategies
56. The host team **bore the palm** in the league matches.
(a) played quite well
(b) was victorious
(c) was defeated
(d) played a very boring match

DIRECTIONS (Qs. 57-58) : In the following question, out of the four alternatives select the alternative which best expresses the meaning of the idiom/phrase.

57. Long and the short of it
(a) The drawbacks of something
(b) The duration of something
(c) The ignorable part
(d) The main idea
58. Out of the loop
(a) Not privy to the most up-to-date information
(b) To leave a group to join another
(c) Not to be affected by the outer factors anymore
(d) To become a destitute again

DIRECTIONS (Qs. 59-60) : In these questions, two words will be given to you, and these two words will have some kind of a relationship which relates them in a particular way. After finding this relationship, you have to pick the option which has words related in a similar way:

59. LYING : PERJURY ::
(a) Statement : Testimony
(b) Seeing : Observing
(c) Taking : Stealing
(d) Eating : Dining
60. PREHISTORIC : MEDIEVAL ::
(a) Akbar : British
(b) Present : Future
(c) Shakespeare : Tennyson
(d) Colossus : Elephant

GENERAL AWARENESS/STUDIES

61. Name the person who headed the team which developed corona virus testing kit called 'Mylab PathoDetect COVID-19 Qualitative PCR kit'.
(a) Minal Dakhve Bhosale
(b) Kiran Mazumdar-Shaw
(c) Rosemary Joyce
(d) Priyamvada Natarajan
(e) Mangala Narlikar
62. Arjun Dev who passed away in March 2020 is _____.
(a) Mathematician (b) Historian
(c) Biologist (d) Chemist
(e) Physician

63. As per report titled "East Asia and Pacific in the Time of COVID-19" the poverty is estimated to rise by 11 million in East Asia Pacific region. Name the Organisation which released the report.
- World Economic Forum
 - World Bank
 - International Monetary Fund
 - Organisation for Economic Cooperation and Development
 - Food and Agriculture Organisation
64. What is the amount that was offered by World Bank to India for the proposed COVID-19 emergency response & health systems preparedness project?
- USD 10 million
 - USD 50 million
 - USD 1 Billion
 - USD 150 million
 - USD 2 Billion
65. RBI has approved re-appointment of Sanjay Agarwal as MD&CEO of AU small finance bank (HQ-Jaipur). Who has been appointed as part-time chairman of the bank?
- Sumanth Sharma
 - P R Ravi Mohan
 - Nitin Chugh
 - Samit Ghosh
 - Raj Vikash Verma
66. Name the Mobile company which has acquired the weather app named Dark Sky.
- Sony
 - Realme
 - Apple
 - Samsung
 - Nokia
67. The Indian Council of Medical Research has approved to use diagnostic machine of which Disease to coronavirus (on April 10, 2020)?
- Malaria
 - Tuberculosis
 - Dengue
 - Swine Flu
 - Cholera
68. Name the small finance bank which launched digital banking platform named 'DigiGen'.
- AU Small Finance Bank
 - Ujjivan Small Finance Bank
 - ESAF Small Finance Bank
 - Equitas Small Finance Bank
 - Jana Small Finance Bank
69. Under which Article of Indian constitution the Consolidated fund of India is constituted?
- Article 264 (1)
 - Article 265 (1)
 - Article 266 (1)
 - Article 267 (1)
 - Article 268 (1)
70. Name the 1st Indian state which is going to measure Gross Environment Product (GEP)?
- Uttarakhand
 - Andhra Pradesh
 - Tamil Nadu
 - Rajasthan
 - Arunachal Pradesh
71. Hair of a shaving brush cling together when the brush is removed from water due to
- viscosity
 - surface tension
 - friction
 - elasticity
72. If the door of a running refrigerator in a closed room is kept open, what will be the net effect on the room?
- It will cool the room
 - It will heat the room
 - It will make no difference on the average
 - It will make the temperature go up and down
73. Which one of the following is the softest?
- Sodium
 - Aluminium
 - Iron
 - Copper
74. Which one of the following is associated with the formation of brown air in traffic congested cities?
- Sulphur dioxide
 - Nitrogen oxide
 - Carbon dioxide
 - Carbon monoxide
75. Which one of the following petroleum refinery products has the lowest boiling point?
- Kerosene
 - Diesel
 - Gasoline
 - Lubricating oil
76. Mosquito can be a vector for the following disease except
- yellow fever
 - dengue fever
 - filariasis
 - kala-azar
77. Which one of the following is not a computer language?
- Cobol
 - Visual Basic
 - HTML
 - Netscape
78. What is 'Super 301'?
- A name of modern computer
 - A new variety of wheat
 - American Trade Law
 - A new vaccine for AIDS
79. Financial distribution between the Union and the State takes place on the basis of the recommendations of which one of the following?
- The National Development Council
 - The Inter-State Council
 - The Planning Commission
 - The Finance Commission
80. Who among the following was the first Law Minister of India?
- Jawaharlal Nehru
 - Maulana Abdul Kalam Azad
 - Dr BR Ambedkar
 - T Krishnamachari
81. Who is the Chairman of second Administrative Reforms Commission?
- Bimal Jalan
 - Dr Karan Singh
 - M Veerappa Moily
 - Ahmed Patel
82. **Assertion (A)** An award made by a Lok Adalat is deemed to be a decree of a Civil Court.
Reason (R) Award of Lok Adalat is final and binding on all parties, and no appeal lies against thereto before any court
- Codes**
- Both A and R are true and R is the correct explanation of A
 - Both A and R are true, but R is not the correct explanation of A
 - A is true, but R is false
 - A is false, but R is true
83. In which of the following years the Fundamental Duties have been added to the existent Fundamental Rights in the Constitution of India?
- 1965
 - 1976
 - 1979
 - 1982

84. Which one of the following is the largest Committee of the Parliament?
- The Public Accounts Committee
 - The Estimates Committee
 - The Committee on Public Undertakings
 - The Committee on Petitions
85. Match the following
- | List I | | | | List II | | | |
|--------|-----------------------|----|------------------------|---------|--|--|--|
| A. | Iyothere Thass | 1. | Satyashodhak Samaj | | | | |
| B. | Jyotiba Phule | 2. | Dravida Kazhagam | | | | |
| C. | John Rathinam | 3. | Self Respect Movement | | | | |
| D. | E V Ramaswami Naickar | 4. | Dravida Mahajana Sabha | | | | |
- Codes :**
- | | A | B | C | D | | A | B | C | D |
|-----|---|---|---|---|-----|---|---|---|---|
| (a) | 4 | 2 | 1 | 3 | (b) | 3 | 1 | 2 | 4 |
| (c) | 4 | 1 | 2 | 3 | (d) | 3 | 2 | 1 | 4 |
86. Identify the correct sequence of the following events of Indian history (starting with the earliest)
- The Doctrine of Lapse
 - The Subsidiary Alliance
 - The Treaty of Lahore
 - T Pitt's India Act
- Select the correct answer using the codes given below
- 4, 2, 3, 1
 - 1, 2, 3, 4
 - 2, 1, 4, 3
 - 3, 2, 1, 4
87. Which one among the following states was first annexed by Lord Dalhousie under the Doctrine of Lapse?
- Nagpur
 - Jhansi
 - Sambalpur
 - Satara
88. Which one among the following Indus cities was known for water management?
- Lothal
 - Mohenjodaro
 - Harappa
 - Dholavira
89. The main functioning of the banking system is to
- accept deposits and provide credit
 - accept deposits and subsidies
 - provide credit and subsidies
 - accept deposits, provide credit and subsidies
90. The income elasticity of demand for inferior goods is
- less than one
 - less than zero
 - equal to one
 - greater than one
91. The average fixed cost curve will always be
- a rectangular hyperbola
 - a downward sloping convex to the origin curve
 - a downward sloping straight line
 - a U-shaped curve
92. In a perfectly competitive economy production and consumption will both be Pareto optimal, if the economy operates at a point where
- there is general equilibrium
 - output levels are below equilibrium
 - output levels are above equilibrium
 - consumption is less than output
93. A market in which there are large numbers of sellers of a particular product, but each seller sells somewhat differentiated but close products is termed as
- Perfect competition
 - Monopoly
 - Monopolistic competition
 - Oligopoly
94. The value of all final goods and services produced by the normal residents of a country and their property, whether operating within the domestic territory of the country or outside in a year is termed as
- Gross National Income
 - Net National Income
 - Gross Domestic Product
 - Net Domestic Product
95. Which of the following statements are correct?
- When marginal revenue is positive, total revenue increases with increase in output.
 - When marginal revenue is zero, total revenue is maximum.
 - When marginal revenue becomes negative, total revenue falls with increase in output.
- Select the correct answer using the code given below:
- 1 and 2 only
 - 2 and 3 only
 - 1 and 3 only
 - 1, 2 and 3
96. National product at factor cost is equal to
- Domestic product + Net factor income from abroad
 - National product at market prices - indirect taxes + subsidies
 - Gross domestic-product - depreciation
 - National product at market prices + Indirect taxes + subsidies
97. Which of the following statements is/are correct?
- The Marxist theory repudiates the idea of the atomised and alienated individual.
 - Marxism upholds the idea of the natural rights of men and individuals.
- Select the correct answer using the code given below :
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
98. Demand for a commodity refers to
- Desire for that commodity
 - Need for that commodity
 - Quantity demanded of that commodity
 - Quantity demanded at certain price during any particular period of time
99. An exceptional demand curve is one that slopes
- downward to the right
 - upward to the right
 - horizontally
 - upward to the left
100. Rise in the price of a commodity means
- rise in the value of currency only
 - fall in the value of currency only
 - rise in the value of commodity only
 - fall in the value of currency and rise in the value of commodity.

Hints & Explanations

1. (b) A & B efficiency ratio = 3 : 7 (Given)
It means $(A + B)$ one day work = $(3 + 7) = 10$ unit/day

if they completed the whole work in $10\frac{1}{2}$ days

So total amount of work = rate $\times$ days

$$= 10 \times 10\frac{1}{2} = 10 \times \frac{21}{2} = 105 \text{ unit}$$

Both are working 8 days together

So amount of work done in 8 days

$$= 8 \times 10 = 80$$

Remaining work = total work – Amount of work done in 8 days

$$= (105 - 80) \text{ unit} = 25 \text{ unit}$$

So 60% of remaining work

$$= 25 \times 60\% = 15 \text{ unit}$$

time taken by A to complete the 15 unit work

$$= \frac{\text{60\% of remaining work}}{\text{Rate}} = \frac{15}{3} = 5 \text{ days}$$

2. (b) Let 12th number is x
Then 11th number is $2x$ and
13th number is $(x + 3)$
According to the average concept

$$\text{Total} = \frac{\text{Average} \times \text{Number}}$$

$$\left(\begin{array}{c} \text{First} \\ 3 \text{ No.} \\ \text{total} \end{array} \right) + \left(\begin{array}{c} \text{Total from} \\ 4^{\text{th}} \text{ to} \\ 10^{\text{th}} \text{ No.} \end{array} \right) + \left(\begin{array}{c} \text{Total} \\ 11^{\text{th}} \text{ to} \\ 13^{\text{th}} \text{ No.} \end{array} \right) = 611$$

$$117 + 343 + 2x + x + x + 3 = 611$$

$$460 + 4x + 3 = 611$$

$$\therefore x = \frac{148}{4} = 37$$

$$\text{So, average of } 11^{\text{th}} \text{ and } 13^{\text{th}} \text{ number} = \frac{3x + 3}{2}$$

$$\text{Put } x = 37, \text{ we have} = \frac{3 \times 37 + 3}{2} = \frac{114}{2} = 57$$

3. (d) Let $B = 100$

$$\text{then } A = 100 + 100 \times \frac{28}{100} = 128$$

$$\text{sum of } A + B = 100 + 128 = 228$$

$$\therefore C = 228 \times \frac{75}{100} = 171$$

$$\text{Now, } \frac{(C - A)}{A} \times 100$$

$$= \left(\frac{171 - 128}{128} \right) \times 100 = \frac{43}{128} \times 100 = 33.6\%$$

4. (c)	Girls	Boys
	Ratio $\rightarrow 4 \times 12$	5×12
	$= 48 \text{ unit}$	$= 60 \text{ unit}$
	$\left(\begin{array}{c} \text{Less than} \\ 12 \text{ yrs age} \end{array} \right) \times \frac{7}{12}$	$\times \frac{3}{5} \left(\begin{array}{c} \text{Less than} \\ 12 \text{ yrs} \end{array} \right)$
	28 unit	36 unit

$$\text{So total students less than 12 years} \\ = (28 + 36) = 64 \text{ unit}$$

According to question

Given number of students less than 12 yrs = 480

$$\therefore 64 \text{ unit} = 480$$

$$\therefore 1 \text{ unit} = \frac{480}{64} = \frac{60}{8} = \frac{15}{2}$$

$$\text{so } \frac{5}{18} \text{ of total no of students}$$

$$= 108 \times \frac{15}{2} \times \frac{5}{18} = 15 \times 15 = 225$$

5. (c) Total capacity = 120 ltr

$$A \rightarrow 30 \text{ h} \xrightarrow{\text{rate}} 4 \text{ ltr/hr}$$

$$B \rightarrow 40 \text{ h} \xrightarrow{\text{rate}} 3 \text{ ltr/hr}$$

$$C \rightarrow 60 \text{ h} \xrightarrow{\text{rate}} 2 \text{ ltr/hr}$$

Total amount of water in tank per hr = 9 ltr/hr

According to question, pipes A , B and C are opened at 7:00 am 8 am and 10:00 am.

$$A \xrightarrow{\text{opened}} 7:00 \text{ am} \xrightarrow{\text{in } 3 \text{ hr}} 4 \times 3 = 12$$

$$B \xrightarrow{\text{opened}} 8:00 \text{ am} \xrightarrow{\text{in } 2 \text{ hr}} 3 \times 2 = 6$$

$$\xrightarrow{\text{remaining}} 120 - (12 + 6) = 120 - 18 = 102 \text{ ltr.}$$

102 ltr filled by $(A + B + C)$ together, .

$$\text{so total time} = \frac{102}{9} = 11\frac{3}{9} \text{ hrs}$$

or 11 hr 20 min

So from 10 am the tank filled completely at 9:20 pm

6. (d) Ratio of $\frac{c}{a} = \frac{5}{2}$... (i)

According to question

$$b = \frac{5}{2} - \frac{7}{4} = \frac{3}{4}$$

$$\text{so, } a + c = \frac{23}{12} - \frac{9}{12} = \frac{14}{12} \Rightarrow a + c = \frac{7}{6} \dots (ii)$$

from (i) and (ii)

$$a + \frac{5}{2}a = \frac{7}{6} \Rightarrow \frac{7a}{2} = \frac{7}{6}$$

$$a = \frac{1}{3}$$

$$c = \frac{5}{2} \times \frac{1}{3} = \frac{5}{6}$$

$$\therefore c - a = \frac{5}{6} - \frac{1}{3} = \frac{1}{2}$$

7. (c) Gives **Male** **Female**
55% 45% $\Leftarrow (100 - 55)\%$

Illiterate 40% of 55% 60% of 45% $I_L\%$

$$(100 - 40)\% = 22\% \quad 27\%$$

Literate 33% 18%

$$= \frac{\text{No of More Male}}{\text{No of literate Female}} \times 100$$

$$= \frac{33 - 27}{27} \times 100$$

$$= \frac{6}{27} \times 100 = 22\frac{2}{9}\%$$

8. (d) $x = (633)^{24} - (277)^{38} + (266)^{54}$
for unit digit

Step I: $4 \overline{)24} (6 \quad 4 \overline{)38} (9 \quad 4 \overline{)54} (13$
 $\underline{24} \quad \underline{36} \quad \underline{52}$
 $0 \quad 2 \text{ Remainder } 2 \text{ Remainder}$

Step II: (base unit place) Remainder

[Note down when remainder equals is 0 exponent equal to 4]

$$\text{so } 3^4 - 7^2 + 6^3$$

$$\text{taking unit place } 1 - 9 + 6 = 7 - 9$$

$$\text{or } 17 - 9 \quad \text{or } 17 - 9 = 8$$

9. (a) Given

$$60\% \text{ journey} \rightarrow \frac{2}{5} \text{th of time}$$

$$\text{so, } 40\% \text{ of journey} \rightarrow \frac{3}{5} \text{th (remaining) of time}$$

$$\text{Average Speed} = \frac{\text{total distances}}{\text{total time}} = \frac{5}{5} = 1 \text{ km/hr}$$

Distance : 3 km $\times \frac{2 \text{ km}}{3 \text{ hr}}$
Time : 2 hr $\times \frac{3 \text{ hr}}{3 \text{ hr}}$

$$\text{Speed} = \frac{2}{3} \times \frac{20}{60} = 40 \text{ km/hr}$$

10. (d) Given number : $389x6378y$
If this no is divisible by 72 then same number should be divisible by 8 and 9
Divisibility rule of 9 $\rightarrow$ sum of digit should be divisible by 9
Divisibility rule of 8 $\rightarrow$ last 3 digit should be divisible by 8

$$\text{So, } \underbrace{3 + 8 + 9 + x + 6 + 3 + 7 + 8 + y}$$

$$\downarrow$$

sum $\rightarrow 48 + x$

y should be,
for divisible
by 8

$$\downarrow$$

 x should be 6
division with 9

$$\text{So the value of } \sqrt{6x+7y}$$

$$= \sqrt{6 \times 6 + 7 \times 4} = \sqrt{36 + 28} = \sqrt{64} = 8$$

11. (b) Number = $[\text{LCM}(12, 16, 18, 20, 25)] \times k + 4$

$$\downarrow$$

 $= [144 \times 25] \times k + 4$
 $= 3600k + 4$

or

This expression should be divisible by 7, according to question.

For $k = 5$

$$\therefore \text{The actual number} = 3600 \times 5 + 4 = 18004$$

$\downarrow$ Thousands place

So, digit at thousands place = 8

12. (c) By alligation method

$$\begin{array}{ccc} 60 & & 42 \\ & \searrow & \nearrow \\ & 50 & \\ & \nearrow & \searrow \\ 50 - 42 & & 60 - 50 \\ = 8 & & = 10 \\ & & 4 : 5 \end{array}$$

13. (c) Suppose that X men must be discharged at the end of the 18th day.

$$100 \times 10 + 150 \times 1 + 200 \times 7 + (200 - X) \times 5 = 100 \times 30$$

$$5X = 550 \Rightarrow X = 110 \text{ men}$$

14. (b) Resultant after 3 percentage change =

$$100 \xrightarrow{+16\% \uparrow} 116 \xrightarrow{+14\% \uparrow} 132.24 \xrightarrow{-30\% \uparrow} 92.6 \approx 93$$

so percentage change = $100 - 93$
 $\approx 7\%$ decreases

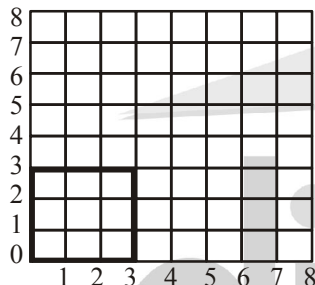
15. (d) It is given that last 3 digits are randomly dialled. Then each of the digits can be selected out of 10 digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) in 10 ways. Hence the required

$$\text{probability} = \left(\frac{1}{10}\right)^3 = \frac{1}{1000}$$

16. (b) We can choose 9 squares out of 64 squares in ${}^{64}C_9$ ways.

Hence, exhaustive number of cases = ${}^{64}C_9$

From the figure it is clear that the given square of size 3×3



can be formed by using four consecutive horizontal and 4 consecutive vertical lines, which can be done in ${}^6C_1 \times {}^6C_1 = 36$ ways

Basically you can make 6 squares of size 3×3 in vertical direction and 6 squares of the size 3×3 in horizontal direction, Hence total $6 \times 6 = 36$ squares can be chosen.

$$\therefore \text{The required probability} = \frac{36}{{}^{64}C_9}$$

17. (a) $\frac{V}{C} = \frac{2}{3}$ and $\frac{V+4}{C} = \frac{3}{4}$... (i)

$$\therefore C = \frac{3V}{2} \Rightarrow \frac{V+4}{3V/2} = \frac{3}{4} \quad [\text{From (i)}]$$

where V denoted for vanilla and C for chocolate.

$$\Rightarrow 4V + 16 = \frac{9V}{2} \Rightarrow 8V + 32 = 9V \Rightarrow V = 32$$

18. (d) Let x = no. of senior level employees

$$\therefore \frac{125 \times 5500 + x \times 14000}{125 + x} = 8687.5 \Rightarrow x = 75$$

$$\frac{4}{5} \text{ of total employees} = (125 + 75) = 200$$

$$\text{Hence no. of total employees} = \frac{5}{4} \times 200 = 250$$

19. (a) Salary of P and Q = x and salary of R = y then

$$\frac{8x}{100} - \frac{7x}{100} = 74 \text{ and } x = 7400$$

then, donation by R = ₹ 585

$$\text{then } \frac{9}{100} y = 585$$

$$y = \frac{585 \times 100}{9} = ₹ 6500$$

$$\text{Required percentage} = \frac{1695}{21300} = 7.95\%$$

20. (d) $\frac{\text{Wine (left)}}{\text{Water (added)}} = \frac{343}{169}$

$$\text{It means } \frac{\text{wine left}}{\text{wine initial amount}} = \frac{343}{512}$$

$$\therefore 343 : 169 : 512$$

$$\text{Thus, } 343x = 512x \left(1 - \frac{15}{K}\right)^3$$

$$\Rightarrow \frac{343}{512} \left(\frac{7}{8}\right)^3 \left(1 - \frac{15}{K}\right)^3$$

$$\Rightarrow \left(1 - \frac{15}{K}\right) \frac{7}{8} \left(1 - \frac{1}{8}\right)$$

$$\Rightarrow K = 120$$

Thus the initial amount of wine was 120 litres.

21. (c) The words in each pair are synonyms.

$$\begin{array}{ccccc} P & A & P & E & R \\ +3 \downarrow & +2 \downarrow & +4 \downarrow & +2 \downarrow & +5 \downarrow \\ S & C & T & G & W \end{array}$$

Similarly,

$$\begin{array}{ccccc} M & O & T & H & E & R \\ +3 \downarrow & +2 \downarrow & +4 \downarrow & +2 \downarrow & +5 \downarrow & +2 \downarrow \\ P & Q & X & J & J & T \end{array}$$

23. (b) Pattern is—

$$P \xrightarrow{+2} R \xrightarrow{-3} O \xrightarrow{+2} Q \xrightarrow{-3} N$$

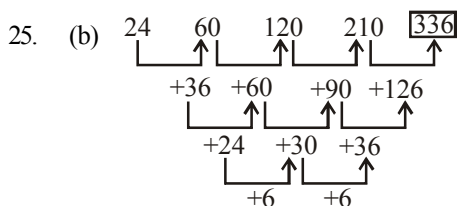
$$\boxed{D \xrightarrow{+1} E \xrightarrow{-2} C \xrightarrow{+2} E \xrightarrow{+2} G}$$

$$G \xrightarrow{+2} I \xrightarrow{-3} F \xrightarrow{+2} H \xrightarrow{-3} E$$

$$K \xrightarrow{+2} M \xrightarrow{-3} J \xrightarrow{+2} L \xrightarrow{-3} I$$

So that, DECEG is odd pair.

24. (a) Only 117-143 is divisible by 13. Therefore, it is odd one out.



26. (b)

C O R N E R
+4 ↓ +4 ↓ +4 ↓ +4 ↓ +4 ↓ +4 ↓
Coded as: G S V R I V

Similarly,

C E N T R A L
+4 ↓ +4 ↓ +4 ↓ +4 ↓ +4 ↓ +4 ↓
G I R X V E P

27. (b)

L O V E
↓ ↓ ↓ ↓
12 + 15 + 22 + 5 = 54

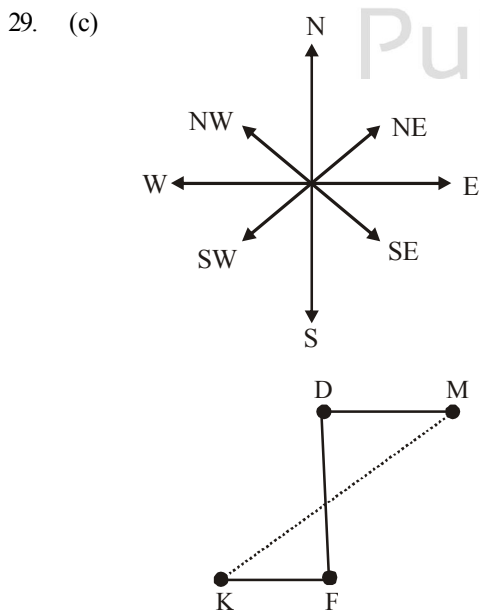
$$\frac{54}{2} = 27$$

Similarly,

C O M E
↓ ↓ ↓ ↓
3 + 15 + 13 + 5 = 36

$$\frac{36}{2} = 18$$

28. (d) A is the sister of B and B is the son/daughter of C. So, A is the daughter of C. Also, D is the father of C. Thus, A is the granddaughter of D.



M is to the North-East of K.

30. (b) If the first working day happened to be Tuesday then 8th, 15th, 22nd and 29th of the month will be Tuesday. Hence, the last day of the month will be Wednesday (since, number of days in the month is 30). Thus, the next casual leave will be on Thursday.

31. (b)

L ← 15 → A ← 3 → B ← 4 → C ← 15 → R

Clearly, according to the given conditions, there are 15 boys to the left of A, as well as to the right of C. Also, B lies between A and C such that there are 3 boys between A and B and 4 boys between B and C. So, number of boys in the row = (15 + 1 + 3 + 1 + 4 + 1 + 15) = 40.

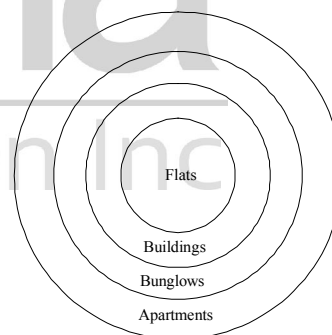
32. (c) Total students = [Malay's place from starting + Malay's place from end] - 1 = [13 + 17] - 1 = 29

Number of passed students = [Malay's place from starting + Malay's place from end] - 1 = [8 + 13] - 1 = 20

33. (b) $(7 + 9 + 5 + 4) \times 2 - 10 = 40$
 $(17 + 8 + 3 + 6) \times 2 - 14 = 54$
 $(10 + 21 + 6 + 3) \times 2 - 18 = 62$

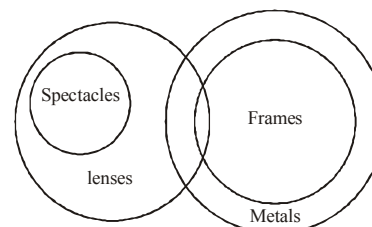
34. (a) Solve by options, we can check all the options one by one.
 $25 \div 5 \times 20 + 27 - 7 \Rightarrow 5 \times 20 + 27 - 7$
 $\Rightarrow 100 + 27 - 7$
 $120 = 120$

35. (d)

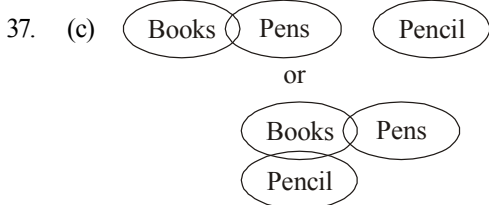


Hence conclusions I. ✓ II. ✓ III. ✓

36. (b)



Hence, conclusions I. ✓ II. ✗ III. ✗



38. (d) Given

1	3	4	7	9	2	5	6	8
A	Q	F	J	L	D	M	P	N

From the above table, 396824 is coded as:

Thus,

3	9	6	8	2	4
Q	L	P	N	D	F

39. (a) Given,

O	V	E	R	V	I	S	T
\$	#	%	*	#	+	×	-

From the above table, SORE is coded as :

S	O	R	E
×	\$	*	%

40. (c) The sister of one's mother is one's maternal aunt. Hence, the man is the husband of the boy's maternal aunt.

41. (b) polyandry-polygamy in which a woman has more than one husband.

42. (b) senile-(of a person) having or showing the weaknesses or diseases of old age, especially a loss of mental faculties.

43. (c) Correct Spelling is 'Beige'.

44. (a) Correct Spelling is 'Valet'.

45. (c) Speak in Malayalam.

46. (b) 'flowed' should be used instead of 'has flown'.

47. (a) would have is the correct usage.

48. (c) hell bent upon getting means fully committed to achieving a goal.

49. (b) Replace 'at crushing' with 'in crushing'.

50. (c) Here the appropriate phrase is 'contrasted with'. Therefore, the bold part should be replaced with option (c).

51. (b) Two days ahead of conventional date is correct use as the fixed date february 26 is given.

52. (c) 'Sorry for' is the correct prepositional use

53. (a) The word **Nexus (Noun)** means : a complicated series of connections between different things; connection.

54. (a) The word **Impeccable (Adjective)** means : without mistakes or fault; perfect.

Hence, its antonym should be **faulty**.

55. (a) Idiom **get/set/start/keep the ball rolling** means : to make something start happening; to make sure that something continues to happen.

56. (b) Idiom 'bore the palm' means: to win, victory

57. (d) Option (d) is the correct meaning.

58. (a) Option (a) is the correct meaning.

59. (a) Perjury means the offence of wilfully telling an untruth or making a misrepresentation under oath. So the relationship between lying and perjury is one of degree or extent. The correct relationship is in option (a), as testimony means a formal, written or spoken statement, especially one given in a court of law. Thus this also represents a 'degree' relationship. In all the other options, this relationship of degree doesn't exist. In (b), seeing and observing are distinct activities, in option (c), stealing is a form of taking, it doesn't tell the extent to which something is taken and similarly in option (d), dining means having dinner, which involves eating.

60. (b) Prehistoric refers to 'something related to or denoting the period before written records' and Medieval refers to something related to the Middle Ages. The relation is of 'time' and precedence, i.e. the medieval period followed the prehistoric period. This relation of order of time is depicted by option (b). Options (a) and (c) do relate in the way that Akbar existed before the British took control of India, and Shakespeare came before Tennyson did, but these are not the same as that expressed in the question. Both items have to be of the same type, i.e. time period.

61. (a) 62. (b) 63. (b) 64. (c) 65. (e) 66. (c)

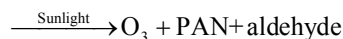
67. (b) 68. (e) 69. (c) 70. (a)

71. (b) When brush is taken out, the water film is formed between the hairs and they contract due to surface tension.

72. (b) It will heat the room because the heat removed from the inside is released into the room, counter acting any cooling, plus the energy that is used to operate the compressor eventually winds up being heat, therefore increasing the room temperature.

73. (a) Alkali metals such as lithium, sodium and potassium are soft metals. These can be easily cut with a knife.

74. (b) Nitrogen dioxide (NO₂) is a reddish brown gas. It has pungent smell and considered as air pollutant. In the presence of sunlight hydrocarbons and oxides of Nitrogen react to form ozone and PAN (peroxy Acetyl Nitrate). Smog is formed in traffic congested cities. Hydrocarbon + Nitrogen oxides

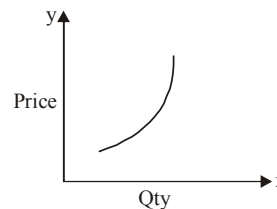


75. (c)

Product	Boiling Point (°C)
(a) Kerosene	200-300°
(b) Diesel	above 300°
(c) Gasoline	25-75°C
(d) Lubricating oil	>350°C

76. (d) Kala-azar is spread by sandfly of genus *phlebotomus argentipse* of yellow fever and dengue fever is spread by Aedes mosquito whereas filariasis is spread by Anopheles mosquito.

77. (d) Netscape is an Internet browser that was popular during the early 1990's.
78. (c) Section 301 of the U.S. Trade Act of 1974 authorizes the President to take all appropriate actions including retaliation, to obtain the removal of any act, policy, or practice of a foreign government that violates an international trade agreement or is unjustified, unreasonable or discriminatory and that burdens or restricts U.S. commerce.
79. (d) The Finance Commission is constituted by the President under article 280 of the Constitution, mainly to give its recommendations on distribution of tax revenues between the Union and the States and amongst the States themselves.
80. (c) Jawaharlal Nehru took charge as the first Prime Minister of India on 15 August 1947, and chose 15 other members for his cabinet in which B. R. Ambedkar was the first law minister of India.
81. (c) The 2nd Administrative Reforms Commission was initially set up under the Chairmanship of Mr. Veerappa Moily, who resigned with effect from 1st April 2009. He was succeeded by V. Ramachandran. The Commission was to prepare a detailed blueprint for revamping the public administration system in India.
82. (b) The award of the Lok Adalat is fictionally deemed to be decrees of Court and therefore the court has all the powers in relation thereto as it has in relation to a decree passed by itself. This includes the powers to extend time in appropriate cases. The award passed by the Lok Adalat is the decision of the court itself, though, arrived at by the simpler method of conciliation instead of the process of arguments in court.
83. (b) The Fundamental Duties were added to the Constitution by the 42nd Amendment in 1976 on the recommendations of the Swaran Singh Committee. They were Originally ten in number, but by the 86th Amendment in 2002 they were increased to eleven.
84. (b) The estimates committee is the largest committee of the parliament. This Committee consists of 30 members who are elected by the Lok Sabha every year from amongst its members. The term of office of the Committee is one year. The committee was constituted in 1950 on the recommendation of John Mathai, the then finance minister of India.
85. (c) 86. (a)
87. (d) Satara was first annexed by Lord Dalhousie under the Doctrine of lapse. The Doctrine of Lapse was an annexation policy purportedly devised by Lord Dalhousie, who was the Governor General for the East India Company in India between 1848 and 1856. By applying the doctrine of lapse, Dalhousie annexed the States of Satara (1848 A.D.), Jaitpur (1849 A.D.), Sambhalpur (1849 A.D.), Bahat (1850 A.D.), Udaipur (1852 A.D.), Jhansi (1853 A.D.), and Nagpur (1854 A.D.).
88. (d) Dholavira was known for water management.
89. (a) The main functioning of the banking system is to accept deposits and provide credit. The bank collects deposits from public. These are savings, fixed, current and recurring deposits. The bank advances loan to the business community and other members of the public. The types of bank loans and advances are overdraft, cash credits, loans and discounting of bill of exchange.
90. (b) Inferior goods have a negative (less than 0) income elasticity of demand meaning that demand falls as income rises.
91. (a) Total fixed costs are constant, so the average fixed cost curve diminishes with the output. Thus, the average fixed cost curve is a rectangular hyperbola.
92. (a) General equilibrium involving both production and consumption also ensures the achievement of Pareto efficiency. Pareto efficiency in this regard requires that marginal rate of transformation should be equal to the marginal rate of substitution of the individuals.
93. (c) Monopolistic competition is a form of market in which there are large numbers of sellers of a particular products but each seller sells somewhat differentiated but close products.
94. (a) The sum of a nation's gross domestic product (GDP) plus net income received from overseas. Gross national income (GNI) is defined as the sum of value added by all producers who are residents in a nation, plus any product taxes (minus subsidies) not included in output, plus income received from abroad such as employee compensation and property income.
95. (d)
96. (a) Net National Product at factor Cost = National Product at market prices – Indirect taxes + subsidies.
97. (d) Marx was initially in the Young Hegelian camp and like Feuerbach, rejected the spiritual basis. Marx believed that alienation is a systematic result of capitalism. Essentially, there is an "exploitation of men by men" where the division of labour creates an economic hierarchy.
98. (d) The demand for a commodity at a given price is the quantity that will be purchased at a unit of time and at a unit price. Demand has the following features; Demand refers to the quantity at a given price, Demand must be defined per unit time.
99. (a) An exceptional demand curve is one that slopes upward to the right



100. (b) Rise in the price of a commodity means both fall in the value of currency and rise in the value of commodity.