

CPSE(Main) – 2016 – Set – 1

GS

561

PAPER – III

: INSTRUCTIONS TO CANDIDATES :

**THIS BOOKLET CONTAINS 100 QUESTIONS OF 2 MARKS EACH IN 23 PAGES.
PLEASE CHECK THE QUESTION-SET BEFORE USE. IF ANY DEFECTS ARE
NOTICED, PLEASE BRING IT TO THE NOTICE OF THE INVIGILATOR.**

1. Read the instructions carefully before using the OMR answer sheet provided.
2. Fill in Part – A of the OMR answer sheet first, mentioning the Roll No. and other data as applicable in the place(s) indicated therein and darken the appropriate circles in blue or black ball point pen only.
3. While darkening the circle in Part – B of the OMR answer sheet, use blue or black ball point pen only.
4. Do not write any name/surname or put any symbol, sign, slogan, prayer or any mark of identification in Part – B of the OMR answer sheet. **Any such act is liable to render the answer sheet unfit for evaluation.**
5. Do not use any other form except the OMR answer sheet provided along with the question-set.
6. Do not tamper with the bar code or any other portion of the OMR answer sheet.
7. Candidates may use the blank sheet attached to these instructions for doing the rough work, if needed.
8. Do not attach any additional sheet or paper to the OMR answer sheet.
9. Return the OMR answer sheet only to the Invigilator before leaving the Examination Hall.
10. Candidates may take with them the respective question-sets after the examination is over.
11. Mobile Phone or any Communication Devices like Bluetooth, Earphones, Microphone, Pager, Wrist Watch, Health band or any other Wrist band, metallic item etc. (which could be used for unfair means for hiding communication devices like Camera, Bluetooth devices etc.) is not allowed inside the Examination Hall. Any candidate who will be found in possession of Mobile Phone or any other electronic communication devices as above inside the Examination Hall is liable to be prosecuted as per the law prescribed and the candidature shall be cancelled.
12. Violation of these instructions shall entail disqualification of the candidate.
13. There is negative marking of 0.25 mark for each wrong answer.

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PAPER – III

Time : 3 Hours

Full Marks : 200

Each question carries 2 marks.

There is negative marking of 0.25 mark for each wrong answer.

Answer all questions, choosing the correct one from the alternatives suggested and darken the appropriate circle using BLUE or BLACK BALL POINT PEN.

- | | |
|---|---|
| <p>1. Which of the following is the smallest part of an element that can take part in chemical change ?</p> <p>(1) Atom</p> <p>(2) Electron</p> <p>(3) Molecule</p> <p>(4) Proton</p> | <p>3. Which among the following is technically not a metal ?</p> <p>(1) Copper</p> <p>(2) Manganese</p> <p>(3) Steel</p> <p>(4) Titanium</p> |
| <p>2. Which among the following gases has a higher atomic mass than the other three ?</p> <p>(1) Helium</p> <p>(2) Hydrogen</p> <p>(3) Nitrogen</p> <p>(4) Oxygen</p> | <p>4. Who among the following scientists suggested that 'atom is the smallest unit of an element and is not divisible' ?</p> <p>(1) Chadwick</p> <p>(2) Dalton</p> <p>(3) Rutherford</p> <p>(4) Thomson</p> |

5. Which of the following statements about ionisation energy is correct ?

- (1) Energy increases with decreases in penetration effect of electrons.
- (2) Energy increases with increase in atomic size.
- (3) Energy increases with increase in nuclear charge.
- (4) Energy increases with increase of shielding effect of the inner shell electrons.

6. Which among the following fertilisers has the highest nitrogen content ?

- (1) Ammonium nitrate
- (2) Ammonium phosphate
- (3) Potassium nitrate
- (4) Urea

7. Which of the following gemstones is a variety of beryl ?

- (1) Emerald
- (2) Garnet
- (3) Ruby
- (4) Sapphire

8. Which of the following elements is a common constituent of all acids ?

- (1) Carbon
- (2) Hydrogen
- (3) Oxygen
- (4) Sulphur

9. Which of the following equipments, used in the electric substations, does not permit flow of electrons through it ?

- (1) Bus bar
- (2) Conductor
- (3) Insulator
- (4) Isolator

10. In which of the following cases the work done is said to be positive ?

- (1) A coolie carrying a head load on a horizontal platform
- (2) A leaf falling down from a tree
- (3) Application of brake to a moving vehicle
- (4) Working of a simple pendulum

11. What happens when a convex lens is immersed in a liquid of higher refractive index than the lens itself ?

- (1) It behaves as a concave lens
- (2) It behaves as a concavo-convex lens
- (3) It behaves as a plane glass plate
- (4) It disappears

12. Good conductors of heat are ~~good conductors of electricity.~~

Which among the following is an exception ?

- (1) Bronze
- (2) Lead
- (3) Mercury
- (4) Mica

13. Match each of the following instruments in Column – A with their functions in Column – B and select

the correct answer set from the table given below :

Column – A	Column – B
(a) Ammeter	(i) Measures emission of radiant energy
(b) Hydrometer	(ii) Measures specific gravity of liquids
(c) Pyrometer	(iii) Measures strength of electric current
(d) Thermostat	(iv) Measures very high temperatures
	(v) Regulates temperature at a point

Answers

1	(a) – i	(b) – ii	(c) – iii	(d) – v
2	(a) – ii	(b) – i	(c) – iv	(d) – v
3	(a) – iii	(b) – ii	(c) – iv	(d) – v
4	(a) – iii	(b) – ii	(c) – i	(d) – iv

14. Who among the following developed the thermodynamic theory of capillarity ?

- (1) James Jurin
- (2) J. D. van der Waals
- (3) J. W. Gibbs
- (4) Thomas Young

15. Which of the following statements is not true as regards the geostationary satellites ?

- (1) They are stationery with respect to an observer on the earth.
- (2) They move around both the poles of the earth.
- (3) They move in a circular path at a height of 36,000 km from the surface.
- (4) Their time period of revolution is same as the rotational speed of the earth.

16. The type of friction in which of the following cases is different from the other three ?

- (1) Ball bearings in a machine
- (2) Biking wheels
- (3) Rubbing both hands together
- (4) Soccer ball

17. Which of the following systems of the human body does not get affected by AIDS ?

- (1) Blood circulatory system
- (2) Immune system
- (3) Nervous system
- (4) Respiratory system

18. Which of the following endocrine glands acts as the thermostat of the human body ?

- (1) Hypothalamus
- (2) Parathyroid gland
- (3) Pituitary gland
- (4) Thymus gland

19. Which plant cell organelle is essential for protein synthesis ?

- (1) Chloroplast
- (2) Chromosome
- (3) Golgi bodies
- (4) Ribosome

20. Platelets in the blood are also called :

- (1) Granulocytes
- (2) Lymphocytes
- (3) Monocytes
- (4) Thrombocytes

21. Which of the following is not the correct characteristic of the Animal Species – Tiger ?

- (1) Class : Mammalia
- (2) Family : Felidae
- (3) Order : Primates
- (4) Phylum : Chordata

22. The function of which plant tissue is to conduct food from leaves to all other parts of the plants ?

- (1) Meristem
- (2) Phloem
- (3) Sclerenchyma
- (4) Xylem

23. Match each of the diseases in Column – A with the organs affected

by them in Column – B and chose the correct answer set from the table given below :

Column – A	Column – B
(a) Cellulitis	(i) Brain
(b) Encephalitis	(ii) Ear
(c) Hepatitis	(iii) Kidney
(d) Laryngitis	(iv) Liver
(e) Otitis	(v) Skin
	(vi) Throat

Answers

1	(a)–v	(b)–i	(c)–iv	(d)–vi	(e)–ii
2	(a)–v	(b)–iii	(c)–iv	(d)–i	(e)–ii
3	(a)–v	(b)–i	(c)–ii	(d)–vi	(e)–iii
4	(a)–iii	(b)–i	(c)–iv	(d)–v	(e)–ii

24. Which of the following pairs of body parts and corresponding forelimb bones is not correctly matched ?

- (1) Fingers – Phalanges
- (2) Forearm – Ulna
- (3) Upper arm – Humerous
- (4) Wrist – Metacarpals

25. Navaneeta Dev Sen, who recently passed away, was a renowned :

- (1) Artist
- (2) Economist
- (3) Poet
- (4) Politician

26. Which two states had a Joint Assembly Session recently in November ?

- (1) Andhra Pradesh and Telangana
- (2) Chhattisgarh and Madhya Pradesh

- (3) Gujarat and Rajasthan
- (4) Haryana and Punjab

27. Which of the following countries has been the host of the BRICS Summit, 2019 ?

- (1) Brazil
- (2) China
- (3) India
- (4) Russia

28. Which Hindi writer is the recipient of the Vyas Samman for outstanding literary work in the year 2019 ?

- (1) Mannu Bhandari
- (2) Narendra Kohli
- (3) Nasira Sharma
- (4) Viswanath Tripathy

29. Which country has conferred the 'Highest Civilian Honour' to Shri A. S. Kiran Kumar, the former Chairman of ISRO in May, 2019 ?

- (1) Comoros
- (2) France
- (3) Maldives
- (4) Russia

30. Which of the following Hindi films released recently in November, 2019 is a horror movie ?

- (1) Bala
- (2) Bypass Road
- (3) Ekta
- (4) Mr. Black Mr. White

31. The 'Danakil Depression' in Ethiopia is currently in news. Which of the following statements about it is not correct ?

- (1) It is an area of continental plate convergence.
- (2) It is an area of volcanic activity and hot springs.
- (3) It is a hot desert area.
- (4) It lies 125 metres below the sea level.

32. In which city the International Conference on 'Soil and Water Resource Management for Climate' has been held recently ?

- (1) Colombo
- (2) Kuala Lumpur
- (3) New Delhi
- (4) Shanghai

33. The first ever 'BIMSTEC Ports Conclave', hosted by the Union Ministry of Shipping, has been recently held at:

- (1) Kochi

- (2) Kolkata
- (3) Mumbai
- (4) Visakhapatnam

34. Which Indian cricketer has recently played his 100th T20 international match ?

- (1) Ravindra Jadeja
- (2) Rohit Sharma
- (3) Shikhar Dhawan
- (4) Virat Kohli

35. Who among the following Judges of the Supreme Court has become the successor of Mr. Justice Ranjan Gogoi, the Chief Justice of India ?

- (1) Justice Ashok Bhusan
- (2) Justice D. Y. Chandrachud
- (3) Justice S. Abdul Nazeer
- (4) Justice Sharad Arvind Bobde

36. Who among the following eminent persons of India passed away recently on the 10th November, 2019 ?

- (1) Shri Arun Jaitley
- (2) Shri K. P. S. Menon (Jr.)
- (3) Shri Ram Jethmalani
- (4) Shri T. N. Seshan

37. With which country has India conducted the bilateral maritime exercise "Samudra Shakti 2019" ?

- (1) Indonesia
- (2) Malaysia
- (3) Maldives
- (4) Vietnam

38. Which recent cyclone had its landfall in November at the Sundarban Delta in India ?

- (1) Bulbul
- (2) Kyarr
- (3) Maha
- (4) Vayu

39. Wherein India all the three phases of the Paleolithic, the Mesolithic and the Neolithic cultures are found in sequence ?

- (1) Belan Valley
- (2) Chhotanagpur
- (3) Jammu and Kashmir
- (4) South of the Krishna River

40. The Saraswati was the deity river in the:

- (1) Atharva veda
- (2) Rig Veda
- (3) Sam Veda
- (4) Yajur veda

41. Match each of the following facts relating to Buddha in Column – A with the associated places in Column – B and select the correct answer set from the table given below :

Column – A

Column – B

- | | |
|---------------------|-----------------|
| (a) Birthplace | (i) Bodh Gaya |
| (b) First Sermon | (ii) Kushinagar |
| (c) Nirvana | (iii) Lumbini |
| (d) Mahaparinirvana | (iv) Rajagriha |
| | (v) Sarnath |

Answers

1	(a) – iii	(b) – v	(c) – i	(d) – ii
2	(a) – iv	(b) – v	(c) – i	(d) – ii
3	(a) – ii	(b) – iv	(c) – v	(d) – iii
4	(a) – ii	(b) – i	(c) – iv	(d) – iii

42. On the bank of which river was the famous 'Battle of Hydaspas' fought between Alexander and Porus ?
- (1) The Beas
 - (2) The Chenab
 - (3) The Jhelum
 - (4) The Ravi
43. Who are the first to issue gold coins in India ?
- (1) The Indo-Greeks
 - (2) The Kushans
 - (3) The Parthians
 - (4) The Shakes
44. The capital of which of the following dynasties was Kanchi ?
- (1) The Chalukyas
 - (2) The Cholas
 - (3) The Pallavas
 - (4) The Rashtrakutas
45. The real name of which of the rulers of the Tughlaq dynasty was Jauna Khan ?
- (1) Firoz Shah Tughlaq
 - (2) Ghiasuddin Tughlaq
 - (3) Ghiasuddin Tughlaq Shah II
 - (4) Muhammad bin Tughlaq
46. Who among the following had founded the Aravidu dynasty ?
- (1) Achuta Raya
 - (2) Rama Raya
 - (3) Sadasiva
 - (4) Thirumala
47. Which of the following is the correct chronological sequence of the battles fought by Babar ?
- (1) Panipat (1st) ; Khanua ; Chanderi ; Ghagra
 - (2) Panipat (1st) ; Ghagra ; Khanua ; Chanderi
 - (3) Ghagra ; Chanderi ; Khanua ; Panipat (1st)
 - (4) Chanderi ; Khanua ; Panipat (1st) ; Ghagra

48. The site of martyrdom of which Sikh Guru is the Sis Ganj Gurudwara in Delhi ?

- (1) Guru Arjun Dev
- (2) Guru Gobind Singh
- (3) Guru Har Govind
- (4) Guru Tegh Bahadur

49. Where did Shivaji assume the title 'Chhatrapati' ?

- (1) Pratapgarh
- (2) Raigarh
- (3) Shivneri
- (4) Sindhudurg

50. Who made Bengal virtually independent of the Mughal Empire ?

- (1) Alivardi Khan
- (2) Murshid Quli Khan
- (3) Siraj-ud-daulah
- (4) Souja-ud-daulah

51. Who protested against the partition of the Bengal province ?

- (1) Chitta Ranjan Das
- (2) Subhash Chandra Bose

- (3) Surendra Nath Banerjee
- (4) Syed Mir Nisar Ali Titumir

52. The Second Round Table Conference was deadlocked on the issue of :

- (1) Constitutional reforms
- (2) Control over defence and finance
- (3) Minorities
- (4) Responsible government demanded by the Congress

53. Along the coast of which country does the El Nino current appear ?

- (1) Argentina
- (2) Brazil
- (3) New Zealand
- (4) Peru

54. Which of the following statements about 'Guano' is not correct ?

- (1) It is bird's excreta.
- (2) It is a species found in Latin America.
- (3) It is a major source of income of the Peru Government.
- (4) It is a bio-fertiliser.

55. Match each of the capital cities in Column – A with the countries in Column – B and choose the correct answer set from the table given below :

Column – A	Column – B
(a) Addis Ababa	(i) Uzbekistan
(b) Budapest	(ii) Myanmar
(c) Nairobi	(iii) Mongolia
(d) Tashkent	(iv) Kenya
(e) Ulan Bator	(v) Hungary
	(vi) Ethiopia

Answers

(1)	(a) – ii	(b) – v	(c) – iv	(d) – i	(e) – iii
(2)	(a) – v	(b) – vi	(c) – ii	(d) – iv	(e) – iii
(3)	(a) – vi	(b) – v	(c) – iv	(d) – i	(e) – iii
(4)	(a) – vi	(b) – ii	(c) – iv	(d) – iii	(e) – i

56. Three of the following river islands of India are structural islands while the other one is a depositional one. Identify the depositional island :

- (1) Mandhata
- (2) Srirangam
- (3) Srirangapatnam
- (4) Sivasamudram

57. Within which of the following states of India does the Indian Standard Time meridian intersect with the Tropic of Cancer ?

- (1) Chhattisgarh
- (2) Jharkhand
- (3) Madhya Pradesh
- (4) Uttar Pradesh

58. In which of the following orders would your notice the plateaus in India while moving from the west to east ?

- (1) The Bundelkhand, The Chhotanagpur, The Malwa, The Meghalaya
- (2) The Bundelkhand, The Malwa, The Meghalaya, The Chhotanagpur
- (3) The Malwa, The Bundelkhand, The Chhotanagpur, The Meghalaya
- (4) The Malwa, The Chhotanagpur, The Bundelkhand, The Meghalaya

59. Which among the following lakes in India is a lagoon ?
- (1) The Kolleru
 - (2) The Loktak
 - (3) The Pulicat
 - (4) The Umiam
60. Which among the following is not a tributary stream of the Tel River ?
- (1) The Hati
 - (2) The Jonk
 - (3) The Rahul
 - (4) The Udanti
61. Which of the following groups of trees are generally noticed in the evergreen forests of India ?
- (1) Sal, Teak, Shisham
 - (2) Ebony, Mahogany, Paddock
 - (3) Pine, Poplar, Silver fir
 - (4) Rosewood, Sandalwood, Silver Oak
62. Which of the following districts is popularly known as the 'Land of Coffee' ?
- (1) Chikmagalur
 - (2) Hassan
 - (3) Kodagu
 - (4) Wayanad
63. Which of the following coalfields in India is rich in lignite coal ?
- (1) Korba
 - (2) Neyveli
 - (3) Singareni
 - (4) Singrauli
64. Which nuclear power plant is situated on the east coast of India ?
- (1) Kaiga
 - (2) Kakrapar
 - (3) Kundankulam
 - (4) Tarapur
65. Which of the following pairs of steel plants in India and their captive iron ore mines is not correctly matched ?
- (1) Bhadravati – Kemmangundi
 - (2) Bokaro – Kiriburu
 - (3) Vijayanagar – Kudremukh
 - (4) Visakhapatnam – Bailadila

66. Where is the Helicopter division of the Hindustan Aeronautics Ltd. located ?

- (1) Bengaluru
- (2) Kanpur
- (3) Korwa
- (4) Nasik

67. On what date was the Constitution of India passed and adopted by the Constituent Assembly ?

- (1) 29th August, 1947
- (2) 26th November, 1949
- (3) 24th January, 1950
- (4) 26th January, 1950

68. Which of the following Articles of the Indian Constitution entrusts the duty upon Union to protect the states against "external aggression" and "internal disturbance" to ensure that the Government of every state is carried on in accordance with the provisions of the Constitution ?

- (1) Article 352

(2) Article 355

(3) Article 356

(4) Article 360

69. When the Vice-President of India takes over the office of the President of India he is entitled to :

- (1) A special package of salary and allowances
- (2) No salary and allowances
- (3) Salary and allowances of the Chairman, Rajya Sabha
- (4) Salary and allowances of the President of India

70. Who decides if a Bill introduced in the Parliament of India is a 'Money Bill' ?

- (1) The Chairman, Rajya Sabha
- (2) The President of India
- (3) The Speaker of the Lok Sabha
- (4) The Union Cabinet

71. Which of the following pairs of terms and their meanings is not correctly matched ?

- (1) Gerrymandering – Reorganisation of the constituencies by the party in power to gain advantages in the forthcoming election
- (2) Guillotine – The vote on demands of grants taken in the house, due to lack of time, on the last date of the allotted time
- (3) Lame ducks – The members of the house who could not get re-elected to the new house
- (4) Snap vote – A vote on a bill taken in the house after extensive discussion

72. Which of the following Union Territories of India does not have a Legislative Assembly ?

- (1) Delhi

(2) Jammu and Kashmir

(3) Ladakh

(4) Puducherry

73. Which of the following sectors comes under the State List in India ?

(1) Agriculture

(2) Banking

(3) Currency

(4) Defence

74. The measure of the level of prices of all new, domestically produced, final goods and services in an economy in a year is called :

(1) CPI-AL/RL

(2) CPI-IW

(3) GDP Deflator

(4) WPI

75. With which of the Banks the Andhra Bank is going to merge soon ?

(1) Bank of Baroda

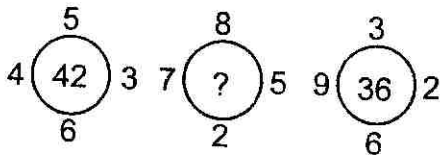
(2) Canara Bank

(3) Indian Bank

(4) Union Bank of India

76. In between which two five-year plans was there a plan holiday in India ?
- (1) Third and Fourth
 - (2) Fourth and Fifth
 - (3) Fifth and Sixth
 - (4) Sixth and Seventh
77. Which of the following measures of money denotes 'Broad Money' in India ?
- (1) M1
 - (2) M2
 - (3) M3
 - (4) M4
78. Which one among the following sectors has attracted the highest Foreign Direct Investment (FDI) inflows into India during the last decade ?
- (1) Food processing
 - (2) Insurance sector
 - (3) Telecommunication
 - (4) Services sector
79. What does 'Fiscal Deficit' in the Union Budget imply ?
- (1) Net increase in Union Government's borrowings from the RBI
 - (2) The difference between current expenditure and current revenue
 - (3) The sum of budgetary deficit and net increase in internal and external borrowings
 - (4) The sum of monetised deficit and budgetary deficit
80. On which of the following is excise duty levied in India ?
- (1) Export of goods
 - (2) Import of goods
 - (3) Manufacture of goods
 - (4) Sale of goods

81. Find the missing number that will replace the '?' mark in the following figure :



- (1) 48
 (2) 50
 (3) 51
 (4) 55
82. How many '9's are present in the following sequence of numbers that are preceded by 5 but not followed by 7?

7 3 8 5 9 4 8 9 0 6 5 9 3 8 0 2 5 9 6 8
 2 8 8 5 9 7 5 3 9 8 5 9 4

- (1) 3
 (2) 4
 (3) 5
 (4) 7
83. How many times would the two hands of a clock point exactly opposite to each other in a span of 24 hours?
- (1) 11

- (2) 22
 (3) 23
 (4) 24

84. Which symbol is exactly in the middle between the ninth symbol from the left end and fifth symbol from the right end in the following sequence of symbols?

& * ^ % \$ # @ + - ! ~ μ Ω Δ ± € ≈ ∫

→ √ ∞ ∧ @ ↓ ≥ € \$ + @

- (1) ±
 (2) €
 (3) ≈
 (4) ∫

85. How many numbers between 1 and 1000 (both inclusive) are divisible by 21?

- (1) 47
 (2) 142
 (3) 189
 (4) 333

86. In a coded language 'ORANGE' is written as 'PTETOO'. How would be 'MANNER' be written in that language ?

- (1) LCRRMB
- (2) NCRRMB
- (3) NCRTMB
- (4) NCRTNZ

87. If '+' implies 'subtraction', '*' implies 'division', '/' implies 'multiplication' and '-' implies 'addition' then what will be the value of the following term ?

$$5 - 3 / 6 * 3 + 4$$

- (1) 6
- (2) 7
- (3) 8
- (4) 9

88. In an open field, Alok started from a point A and moved to east by 25 metres and then turned right by 45

metres to reach point B. Then he moved to east for 35 metres from where he turned left by 65 metres to reach point C. Then he moved to west by 50 metres from where he turned left for 10 metres to reach the destination D. In which direction of his destination is his starting point ?

- (1) North-east
- (2) South
- (3) South-west
- (4) West

89. Pointing to the photograph of Priya, Rima said "Her daughter's father is the son-in-law of my mother". How is Rima related to Priya ?

- (1) Aunt
- (2) Daughter-in-law
- (3) Mother
- (4) Sister

90. Which among the following rational numbers is the greatest ?

(1) $\frac{-4}{9}$

(2) $\frac{7}{-18}$

(3) $\frac{5}{-12}$

(4) $\frac{2}{-3}$

91. A family consists of husband and wife and their son and daughter. The husband is nine years older than his wife and sister is seven years younger than her brother. If father's age is three times of his daughter and son's age is half of his mother's age, then what is the age of the mother of the two children ?

(1) 45

(2) 51

(3) 60

(4) 69

92. Ten persons participated in a meeting. At the end of the meeting they had a handshake with each other. How many handshakes were made altogether ?

(1) 36

(2) 45

(3) 51

(4) 55

93. Simplify the following term to find the value of X :

$$X = \frac{25 - 5[2 + 3\{2 - 2(5 - 3) + 5\} - 10]}{4}$$

(1) 5.00

(2) 20.00

(3) 23.25

(4) 23.75

94. If $x = 7 - 4\sqrt{3}$, then the term $\sqrt{x} + \frac{1}{\sqrt{x}}$

equals to :

(1) 2

(2) 3

(3) 4

(4) 5

95. A can contains a mixture of two liquids A and B in the proportion of 7 : 5. If 9 litres of the mixture is replaced by 9 litres of the liquid B, then the ratio between liquid A and liquid B becomes 7 : 9. How much of the liquid A was there in the can initially ?

- (1) 14 litres
- (2) 21 litres
- (3) 28 litres
- (4) 35 litres

96. Three taps can fill a tank in 10 minutes. The first tap alone takes 30 minutes but the second tap alone takes 40 minutes to fill the tank. How much time will the third tap take to fill the tank alone ?

- (1) 20 minutes
- (2) 24 minutes
- (3) 32 minutes
- (4) 36 minutes

97. What is the maximum number of circular plates of 2 cm diameter that can be cut out from a rectangular plate of size 36 cm × 28 cm ?

- (1) 80
- (2) 126
- (3) 252
- (4) 320

98. The speed of a motorboat in still water is 36 km/hour and it covers a distance of 56 km in 1 hour and 45 minutes while going upstream in a river. How much time will it take to cover the same distance down-stream ?

- (1) 1 hour 12 minutes
- (2) 1 hour 24 minutes
- (3) 1 hour 45 minutes
- (4) 2 hours 48 minutes

99. A shopkeeper sold a refrigerator to a customer by allowing a discount of 5% on the maximum retail price of Rs. 6,900. If he still gained a profit of 15%, what was his cost price ?

- (1) Rs. 5,400
- (2) Rs. 5,700
- (3) Rs. 6,000
- (4) Rs. 6,555

100. In a circle O is the centre and A, C and B are three points, located clockwise, on the perimeter of the circle. If $\angle AOC$ and $\angle BOC$ are 120° and 100° respectively, then how much is $\angle ACB$?

- (1) 45°
- (2) 60°
- (3) 70°
- (4) 75°

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Space for rough work