

BSF RO RM Previous Year Papers [2022]

Part-I (Physics)

Q1. If a clock based on oscillating pendulum is taken from the earth to moon, it will

- (a) Become slow
- (b) Become fast
- (c) Give same time as on the earth
- (d) Stop working

Q2. Which one among the following waves bats use to detect the obstacles in their flying path?

- (a) Infrared waves
- (b) Electromagnetic waves
- (c) Ultrasonic waves
- (d) Radio waves

Q3. The velocity of sound in air is affected by change in the

- I. Moisture content of air
- II. Temperature of air
- III. Composition of air
- IV. Atmospheric pressure

Choose the correct answer.

- (a) I, II and III
- (b) II, III and IV
- (c) I, II and IV
- (d) I, III and IV

Q4. Decibel is used to measure the intensity of

- (a) Magnetic field
- (b) Sound
- (c) Light
- (d) Heat

Q5. A device which is used in our TV set, computer, radio set for storing the electric charge is

- (a) Resistor
- (b) Inductor
- (c) Capacitor
- (d) Conductor

Q6. When a soap bubble is charged,

- (a) Its radius increases
- (b) Its radius decreases
- (c) Its radius remains unchanged
- (d) It collapses

Q7. 'Farad' is the unit of

- (a) Resistance
- (b) Conductance
- (c) Capacitance
- (d) Inductance

Q8. **Assertion (A):** The coulomb force is the dominating force in the universe.

Reason (R): The coulomb force is weaker than the gravitational force.

Codes

- (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (c) If Assertion is true but Reason is false.
- (d) Both Assertion and Reason are false.

Q9. Consider following statements

I. A comb moving through dry hair get electrically charged.

II. Electric lines of force are not closed but magnetic lines of force are closed.

Which of the statement(s) given above is/are correct?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

Q10. If two conducting spheres are separately charged and then brought in contact

- (a) The total energy of the two spheres is conserved
- (b) The total charge on the two spheres is conserved
- (c) Both the total energy and the total charge are conserved
- (d) The final potential is always the mean of the original potential of the two spheres

Q11. Which of the following pairs of physical quantities has the same dimensions?

- (a) Work and power
- (b) Momentum and energy
- (c) Force and power
- (d) To work and energy

Q12. A passenger in a moving train tosses a five rupees coin. If the coin falls behind him, then the train must be moving with a uniform

- (a) Acceleration
- (b) Deceleration
- (c) Speed
- (d) Velocity

Q13. Newton's first law is also called as

- (a) Law of moment
- (b) Law of inertia
- (c) Law of energy
- (d) Law of momentum

Q14. In which case does the potential energy decrease?

- I. On compressing a spring
- II. On stretching a spring
- III. On moving a body against gravitational force
- IV. On the rising of an air bubble in water

Select the correct answer.

- (a) I and II
- (b) Only IV
- (c) III and IV
- (d) All of these

Q15. Which of the following statements is true?

- (a) g is the same at all places on the surface of the earth.
- (b) g is less at the earth's surface than at a height above or at a depth below it.
- (c) g has its maximum value at the equator.
- (d) g is greater at the poles than at the equator.

Q16. Consider the following statements.

- I. Young's modulus of elasticity is defined as the ratio of normal stress to the longitudinal strain within the elastic limit.
- II. Bulk modulus of elasticity is defined as the ratio of normal stress to the volumetric strain, within the elastic limit.

Which of the statement(s) given above is/are correct?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

Q17. At normal temperature due to a puncture, the compressed air inside the tube of a car wheel suddenly starts coming out. Then, the air inside the tube

- (a) Starts becoming hotter
- (b) Starts becoming cooler
- (c) Remains at the same temperature
- (d) May become hotter or cooler depending on the amount of water vapour present in the air

Q18. The specific heat of a gas at constant pressure is greater than the specific heat at constant volume because

- (a) Work is done in the expansion of the gas at constant volume.
- (b) Work is done in the expansion of the gas at constant pressure.
- (c) The molecular collision increases at constant pressure.
- (d) The attraction between the molecules increases at constant pressure.

Q19. A slow running pendulum clock can be speeded up by

- (a) Increasing the length of the rod
- (b) Increasing the weight of the bob
- (c) Reducing the length of the bob
- (d) Reducing the weight of the bob

Q20. When a wave goes from one level to another, there is a change in the

- (a) Velocity
- (b) Amplitude
- (c) Frequency
- (d) Wavelength

Q21. If the rotational velocity of a dynamo armature is doubled, then the induced emf will

- (a) become half
- (b) become double
- (c) remain unchanged
- (d) None of the above

Q22. Magnetic Resonance Imaging (MRI) is used in medical diagnosis to obtain images of our internal body organs. This is primarily possible, because

- (a) our body possesses a permanent magnet
- (b) MRI uses an eternal magnet to generate a magnetic field in our body
- (c) MRI uses an external electric field to generate magnetic field in our body
- (d) ions motion along our nerve cells generates magnetic fields

Q23. The phenomenon of electromagnetic induction implies a production of induced

- (a) resistance in a coil when the magnetic field changes with time
- (b) current in a coil when an electric field changes with time
- (c) current in a coil when a magnetic field changes with time

(d) voltage in a coil when an electric field changes with time

Q24. By inserting a soft iron piece to solenoid, the strength of the magnetic field

(a) decrease

(b) increase

(c) first increase then decrease

(d) remains unchanged

Q25. When an AC source is connected across a resistor

(a) the current lags behind the voltage in phase

(b) the current and the voltage are in same phase

(c) the current leads the voltage in phase

(d) None of the above

Q26. Fibre optics cable used in communication works on the principle of

(a) regular reflection of light

(b) diffuse reflection of light

(c) refraction of light

(d) total internal reflection of light

Q27. When a CD (Compact disc used in audio and video system) is seen in sunlight, rainbow like colours are seen. This can be explained on the basis of the phenomenon of

(a) reflection and diffraction

(b) reflection and transmission

(c) diffraction and transmission

(d) refraction, diffraction and transmission

Q28. Light travels slower in glass than in air because

(a) refractive index of air is less than that of glass

(b) refractive index of air is greater than that of glass

(c) density of glass is greater than that of air

(d) density of glass is less than that of air

Q29. The penetrating powers of α , β and γ radiations, in decreasing order are:-

(a) α , β , γ

(b) γ , β , α

(c) β , α , γ

(d) γ , α , β

Q30. In an atomic explosion, release of large amount of energy due to conversion of

(a) chemical energy into nuclear energy

(b) nuclear energy into heat

(c) mass into energy

(d) chemical energy into heat

Q31. Which of the following is not correctly matched?

(a) Voltameter – Potential difference

- (b) Ammeter – Electric current
- (c) Potentiometer – Emf
- (d) Meter bridge – Electrical resistance

Q32. Two bulbs are fitted in a room in the domestic electric installation. One of them glows brighter than the other. Then

- (a) The brighter bulb has smaller resistance
- (b) The brighter bulb has larger resistance
- (c) Both the bulbs have the same resistance
- (d) None of the above

Q33. A current I flows through a potential difference V in an electrical circuit containing a resistance R . The product of V and I i.e. VI may be understood as

- (a) Resistance R
- (b) Heat generated by the circuit
- (c) Thermal power radiated by the circuit
- (d) Rate of change of resistance

Q34. Ohm's law defines

- (a) a resistance
- (b) current only
- (c) voltage only
- (d) both current and voltage

Q35. The material used for electric fuse is an alloy of tin and lead. This alloy should have

- (a) high specific resistance and low melting point
- (b) low specific resistance and high melting point
- (c) low specific resistance and low melting point
- (d) high specific resistance and high melting point

Q36. Consider the following statements. A magnetic field

- I. never exerts a force on a charged particle.
- II. always exerts a force on a charged particle.
- III. exerts a force on a charged particle if it is moving across the magnetic lines of force.
- IV. exerts a force on a charged particle if it is moving along the magnetic lines of force.

Which of the statement(s) given above is/are correct?

- (a) Only III
- (b) Only IV
- (c) I and II
- (d) I, II, III and IV

Q37. All the magnetic materials lose their magnetic properties when

- (a) dipped in oil
- (b) dipped in water
- (c) strongly heated
- (d) brought near a piece of iron

Q38. A magnetic needle is kept in non-uniform magnetic field. It experiences

- (a) a force but not a torque
- (b) a force and a torque
- (c) a torque but not a force
- (d) None of the above

Q39. In terms of magnetic properties, oxygen belongs to

- (a) magnetic materials
- (b) ferromagnetic materials
- (c) paramagnetic materials
- (d) diamagnetic materials

Q40. When a bar magnet is cut into two equal halves the pole strength of each piece

- (a) becomes double
- (b) becomes half
- (c) becomes zero
- (d) remains the same

Part-II (Chemistry)

Q41. Glass is

- (a) Supercooled liquid
- (b) Crystalline solid

- (c) Liquid crystal
- (d) None of the above

Q42. Preparation of 'Dalda or Vanaspati' ghee from vegetable oil utilizes the following process

- (a) Hydrolysis
- (b) Oxidation
- (c) Hydrogenation
- (d) Ozonolysis

Q43. The quality of petrol is expressed in terms of

- (a) Cetane number
- (b) Gold number
- (c) Octane number
- (d) Added unleaded compounds

Q44. Which of the following is responsible for the conduction of electricity through the electrolytic solution?

- (a) Movement of ions of electrolyte
- (b) Movement of only positive charges
- (c) Movement of particles
- (d) Movement of molecules

Q45. Which one of the following pairs of materials serves as electrodes in chargeable batteries commonly used in devices such as torch lights, electric shavers, etc.?

- (a) Nickel and cadmium
- (b) Zinc and carbon
- (c) Lead peroxide and lead
- (d) Iron and cadmium

Q46. Atomic theory of matter was given by

- (a) Avogadro
- (b) Dalton
- (c) Newton
- (d) Pascal

Q47. Consider the following statements,

- I. Atom consists of nucleus and shell.
- II. Nucleus consists of protons and electrons.
- III. Neutrons are present in atoms.

Which of the above statement(s) is/are correct?

- (a) I and II
- (b) I and III
- (c) Only II
- (d) I, II and III

Q48. Which of the following theory said that bond is formed between two atoms either by sharing or transfer of valence electrons?

- (a) Valence shell electron pair repulsion.

- (b) Molecular orbital theory
- (c) Valence bond theory
- (d) Electronic theory of chemical bonding

Q49. Which one among the following statements about an atom is not correct?

- (a) Atoms always combine to form molecules.
- (b) Atoms are the basic units from which molecules and ions are formed.
- (c) Atoms are always neutral in nature.
- (d) Atoms aggregate in large numbers to form the matter that we can see, feel and touch.

Q50. In deep-sea diving, divers use a mixture of gases consisting of oxygen and

- (a) Hydrogen
- (b) Nitrogen
- (c) Argon
- (d) Helium

Q51. CO_2 when passed in excess, in lime water turns colourless again because of:

- (a) Calcium Carbonate
- (b) Calcium Bicarbonate
- (c) Calcium chloride
- (d) Copper Carbonate

Q52. Arrange the following elements in the increasing order of their metallic property

Li, Na, K, Rb, Cs

(a) Na, Li, Rb, K, Cs

(b) Cs, Rb, K, Na, Li

(c) Li, Na, K, Rb, Cs

(d) Li, Na, K, Cs, Rb

Q53. The most electronegative elements among the following is

(a) sodium

(b) chlorine

(c) oxygen

(d) fluorine

Q54. Highly reactive metals are found in combined state in nature. The natural substances containing metal in combined form are known as minerals. A mineral is called are if

(a) the metal present in the mineral is costly

(b) a metal can be extracted from it

(c) a metal can be profitably extracted from it

(d) a metal cannot be extracted from it

Q55. Consider the following statements,

I. In Mendeleef's Periodic Table, position of the isotopes was not fixed.

II. In the 19th Century, Mendeleef propounded periodic law is based on atomic mass.

Which of the above statement(s) is/are correct?

(a) Only I

- (b) Only II
- (c) Both a and b
- (d) Either of them

Q56. When a spoon is to be electroplated with nickel the spoon is

- (a) Dipped in a nickel sulphate solution
- (b) made anode and a pure nickel rod, the cathode
- (c) made cathode and a pure nickel rod, the anode
- (d) coated with nickel sulphate and dried

Q57. Alcohol obtained in the saponification process is

- (a) Ethyl alcohol
- (b) Methyl alcohol
- (c) Wood spirit
- (d) Glycerol

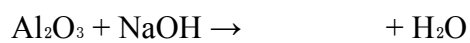
Q58. Which one among the following statements is correct?

- (a) All bases are alkalis
- (b) None of the bases is alkali
- (c) There are no more bases except the alkalis
- (d) All alkalis are bases but all bases are not alkalis

Q59. The pH of fresh ground water slightly decreases upon exposure to air because

- (a) carbon dioxide from air is dissolved in the water
- (b) oxygen from air is dissolved in the water
- (c) the dissolved carbon dioxide of the ground water escapes into air
- (d) the dissolved oxygen of the ground water escapes into air

Q60. Complete the following chemical reaction:



- (a) $\text{Al}(\text{OH})_3$
- (b) Na_2O
- (c) NaAlO_2
- (d) AlNaO_2

Part-III (Mathematics)

Q61. The parallel sides of a trapezium are 20 cm and 10cm and its non-parallel sides are equal to each other. If its area is 180cm^2 , then what is the length (in cm) of each non-parallel side?

- (a) 11
- (b) 13
- (c) 12
- (d) 15

Q62. What is the area of a rhombus (in cm^2) whose side is 10 cm and the smaller diagonal is 12 cm?

- (a) 120

(b) 192

(c) 96

(d) 50

Q63. The area of a triangle is 15 sq cm and the radius of its incircle is 3 cm. Its perimeter is equal to?

(a) 12 cm

(b) 20 cm

(c) 5 cm

(d) 10 cm

Q64. If one of the zeros of the quadratic Polynomial $(k - 1)x^2 + kx + 1$ is -3 , then the value of K is:

(a)

(b)

(c)

(d)

Q65. In the figure, 'G' is the centre of the circle. Find the angle ACB when $\angle AGB = 150^\circ$

(a) 50°

(b) 60°

(c) 65°

(d) 75°

Q66. The number 2143251 is divisible by

- (a) 13
- (b) 17
- (c) 3
- (d) 7

Q67. The average of the first 43 natural numbers is

- (a) 33
- (b) 44
- (c) 43
- (d) 22

Q68. If $\sin \theta = \frac{1}{2}$, and θ is an acute angle, find the value of $\cos 3\theta$

- (a) $\frac{1}{2}$
- (b) 1
- (c) -1
- (d) 0

Q69. $\tan(\pi + \theta) = ?$

- (a) $\sec \theta$
- (b) $\operatorname{cosec} \theta$
- (c) $\cot \theta$
- (d) $\tan \theta$

Q70. A wire is bent to form a square of area 169cm^2 . If the same wire is bent to form a circle, then what is its area (in cm^2)? (to the nearest whole number)

- (a) 215
- (b) 227
- (c) 532
- (d) 531

Q71. The table below gives the numbers of students from five different colleges who participated in Olympiads of five different subjects during a given year.

Subjects	College A	College B	College C	College D	College E
Hindi	110	100	125	103	112
English	98	120	80	122	105
Maths	130	110	250	160	180
Science	100	100	150	200	80
GK	182	200	120	130	183

Find the difference between 'the range of the numbers of participants in the different Olympiads from college C' and 'the average number of participants per Olympiad from college E' during the given year.

- (a) 38
- (b) 13
- (c) 37
- (d) 36

Q72. Solve the inequality:

(a) $x \in (4, 6)$

(b) $x \in 4$

(c) $x \in (-6, 2)$

(d) $x \in 0$

Q73.

(a)

(b) 0

(c)

(d) None of these

Q74.

(a)

(b)

(c)

(d)

Q75. The total number of terms in the expansion of after simplification is

(a) 202

(b) 51

(c) 50

(d) None of these

Q76. In the given figure, the measure of $\angle BAC$ is:

(a) 56°

(b) 62°

(c) 48°

(d) 58°

Q77. $3x + 5y = 14$ and $xy = 6$, then what is the value of $9x^2 + 25y^2 = ?$

(a) 16

(b) 14

(c) 20

(d) 182

Q78. What is solution of the differential equation $(dy - dx) + \cos x(dy + dx) = 0$?

(a)

(b)

(c)

(d)

Q79. If , then what is the value of ?

(a)

(b)

(c)

(d)

Q80. The solution of the differential equation $dy = (1 + y^2) dx$

(a) $y = \tan x + c$

(b) $y = \tan(x + c)$

(c)

(d)

Part – IV (GK & English)

Q81. Commercial vehicles are not produced by which of the following companies in India?

(a) TELCO

(b) Ashok Leyland

(c) DCM Daewoo

(d) Birla Yamaha

Q82. When was the Reserve Bank of India nationalized?

(a) 1947

(b) 1949

(c) 1950

(d) 1951

Q83. The blood vessels with the smallest diameter are called _____

- (a) Capillaries
- (b) Arterioles
- (c) Venules
- (d) Lymphatics

Q84. Who composed the song 'Zara Yaad Karo Kurbani'?

- (a) Javed Akhtar
- (b) Pradeep
- (c) Nusrat Fateh Ali Khan
- (d) Raghupati Sahay 'Firaq'

Q85. Who among the following Indian nationals got the 'Legion of Merit' Award 2020 from the US?

- (a) Dr Manmohan Singh
- (b) Narendra Modi
- (c) Dr K Sivan
- (d) General Bipin Rawat

Q86. In which of the following years did Telangana become the 29th State of India after the reorganization of the State of Andhra Pradesh?

- (a) 2014
- (b) 2015
- (c) 2013

(d) 2012

Q87. The High Court comes under:

- (a) State List
- (b) Union List
- (c) Concurrent List
- (d) None of the above

Q88. _____ is not soluble in water.

- (a) Vitamin A
- (b) Vitamin B
- (c) Vitamin C
- (d) None of the above

Q89. Dyarchy means:

- (a) double government
- (b) a government in which the centre is very powerful.
- (c) a government based on division of power between centre and provinces.
- (d) None of the above

Q90. Which country is called the 'sugar bowl' of the world?

- (a) Cuba
- (b) India

(c) Argentina

(d) U.S.A

Direction (91-93): Select the option you consider most appropriate for the blank space.

Q91. When Calamity _____ the family, he faced it boldly.

(a) Fell

(b) fall

(c) befell

(d) falled

Q92. _____ are tiny, wingless, parasitic insects that feed on human blood.

(a) Vice

(b) Rice

(c) House

(d) Lice

Q93. I really like watching old movies. _____ are some of the best things on TV.

(a) Those

(b) That

(c) This

(d) These

Directions (94-95): Read the following passage carefully and answer the questions given below them.

Mountain is now looked upon as the king of sports But men have lived amongst the mountains since prehistoric times and in some parts of the world, as in the Andes and Himalayas, difficult mountain journeys have inevitably been part of their everyday life.

However, some of the peaks there, were easily accessible from most of the cities of Europe. It is quite interesting that while modern mountaineers prefer difficult routes for the greater enjoyment of sport, the early climbers looked for the easiest ones, for the summit was the prize they all set their eyes on.

Q94. Mountaineering is different from other sports because.

- (a) it is risky and dangerous.
- (b) it can be fatal.
- (c) it is most thrilling and exciting, there is no competition between individuals.
- (d) There is competition between individuals

Q95. People living in the Andes and the Himalayas made mountain journeys because.

- (a) it was a kind of sport
- (b) they had to undertake them in their day to day life.
- (c) they lived in pre-historic time
- (d) of the challenge offered by the difficult journey.

Q96. From the following find which tense is this.

“It was still raining when I reached there.”

- (a) Past Continuous Tense
- (b) Past Perfect Tense

(c) Present Continuous Tense

(d) Present Perfect Tense

Q97. Below sentence is given in active/passive voice. From the given alternatives, select one which best expresses the same sentence in passive /active voice.

“They will laugh at you.”

(a) You can be laughed at by them

(b) You may be laughed at by them

(c) You will be laughed at by them

(d) You will have been laughed at by them.

Q98. Choose the alternative that best expresses the meaning of the expression.

“Make no bones about”

(a) to make no effort

(b) to admit something readily.

(c) to make fuss about

(d) to create no hindrance

Q99. Out of the given four alternatives, Select the one which best expresses the meaning of the given word”

Proximal

(a) Frontier

(b) obscure

(c) Remote

(d) Adjacent

Q100. Select the one, which best expresses the same sentence in Indirect / Direct speech.

Teacher said to children, “Have you prepared well for the finals?”

- (a) Teacher asked the children whether they have prepared well for the finals.
- (b) Teacher asked the children whether they have been preparing well for the finals.
- (c) Teacher asked the children if they did prepare well for the finals.
- (d) Teacher asked the children if they had prepared will for the finals.

Solutions

S1. Ans.(a)

Sol.

S2. Ans.(c)

Sol.

S3. Ans.(a)

Sol.

S4. Ans.(b)

Sol.

S5. Ans.(c)

Sol.

S6. Ans.(a)

Sol.

S7. Ans.(c)

Sol.

S8. Ans.(d)

Sol.

S9. Ans.(c)

Sol.

S10. Ans.(b)

Sol.

S11. Ans.(d)

Sol.

S12. Ans.(a)

Sol.

S13. Ans.(b)

Sol.

S14. Ans.(b)

Sol.

S15. Ans.(d)

Sol.

S16. Ans.(c)

Sol.

S17. Ans.(b)

Sol.

S18. Ans.(b)

Sol.

S19. Ans.(c)

Sol.

S20. Ans.(c)

Sol.

S21. Ans.(b)
Sol.

S22. Ans.(b)
Sol.

S23. Ans.(c)
Sol.

S24. Ans.(b)
Sol.

S25. Ans.(b)
Sol.

S26. Ans.(d)
Sol.

S27. Ans.(d)
Sol.

S28. Ans.(a)
Sol.

S29. Ans.(b)
Sol.

S30. Ans.(c)
Sol.

S31. Ans.(a)
Sol.

S32. Ans.(a)
Sol.

S33. Ans.(c)
Sol.

S34. Ans.(d)

Sol.

S35. Ans.(a)

Sol.

S36. Ans.(a)

Sol.

S37. Ans.(c)

Sol.

S38. Ans.(b)

Sol.

S39. Ans.(c)

Sol.

S40. Ans.(d)

Sol.

S41. Ans.(a)

Sol.

S42. Ans.(c)

Sol.

S43. Ans.(c)

Sol.

S44. Ans.(a)

Sol.

S45. Ans.(a)

Sol.

S46. Ans.(b)

Sol.

S47. Ans.(d)

Sol.

S48. Ans.(a)

Sol.

S49. Ans.(a)

Sol.

S50. Ans.(d)

Sol.

S51. Ans.(b)

Sol.

S52. Ans.(c)

Sol.

S53. Ans.(d)

Sol.

S54. Ans.(a)

Sol.

S55. Ans.(c)

Sol.

S56. Ans.(a)

Sol.

S57. Ans.(a)

Sol.

S58. Ans.(a)

Sol.

S59. Ans.(a)

Sol.

S60. Ans.(c)

Sol.

S61. Ans.(b)

Sol.

S62. Ans.(c)

Sol.

S63. Ans.(d)

Sol.

S64. Ans.(b)

Sol.

S65. Ans.(d)

Sol.

S66. Ans.(c)

Sol.

S67. Ans.(d)

Sol.

S68. Ans.(c)

Sol.

S69. Ans.(d)

Sol.

S70. Ans.(a)

Sol.

S71. Ans.(a)

Sol.

S72. Ans.(a)

Sol.

S73. Ans.(a)
Sol.

S74. Ans.(c)
Sol.

S75. Ans.(b)
Sol.

S76. Ans.(c)
Sol.

S77. Ans.(a)
Sol.

S78. Ans.(c)
Sol.

S79. Ans.(c)
Sol.

S80. Ans.(b)
Sol.

S81. Ans.(d)
Sol.

S82. Ans.(b)
Sol.

S83. Ans.(a)
Sol.

S84. Ans.(b)
Sol.

S85. Ans.(b)
Sol.

S86. Ans.(a)
Sol.

S87. Ans.(b)
Sol.

S88. Ans.(a)
Sol.

S89. Ans.(a)
Sol.

S90. Ans.(a)
Sol.

S91. Ans.(c)
Sol.

S92. Ans.(d)
Sol.

S93. Ans.(a)
Sol.

S94. Ans.(c)
Sol.

S95. Ans.(b)
Sol.

S96. Ans.(a)
Sol.

S97. Ans.(c)
Sol.

S98. Ans.(b)
Sol.

S99. Ans.(d)

Sol.

S100. Ans.(d)

Sol.