Mensuration Practice Set 1

1. A circular road is constructed outside a square field. The perimeter of the square field is 200 ft. If the width of the road is $7\sqrt{2}$ ft. and cost of construction is Rs.100 per sq. ft., find the lowest possible cost to construct 50% of the total road.
A.) Rs.125,400 B.) Rs.140,800
C.) Rs.235,400 D.) None of these

2. A solid metal cylinder of 10 cm height and 14 cm diameter is melted and re-cast into two cones in the proportion of 3 : 4 (volume), keeping the height 10 cm. What would be the percentage change in the flat surface area before and after?
A.) 9% B.) 15%
C.) 25% D.) 50%

3. If x units are added to the length of the radius of a circle, what is the number of units by which the circumference of the circle is increased?
A.) 2π B.) $2\pi x$
C.) x D.) x^2

4. A square sheet of paper is converted into a cylinder by rolling it along its length. What is the ratio of the base radius to the side of the square?
A.) $1/2\pi$ B.) $\sqrt{2}/\pi$
C.) $1/(\sqrt{2}\pi)$ D.) $1/\pi$

5. What is the area of an equilateral triangle of side 16 cm?
A.) $48\sqrt{3}$ cm^2 B.) $128\sqrt{3}$ cm^2
C.) $9.6\sqrt{3}$ cm^2 D.) $64\sqrt{3}$ cm^2

6. The perimeter of a circle is 28 cm and the in radius of the circle is 2.5 cm. What is the area of the circle?
A.) 45 cm^2 B.) 35 cm^2
C.) 25 cm^2 D.) None of these

7. Find the area of a parallelogram with base 24 cm and height 16 cm.
A.) 544 cm^2 B.) 484 cm^2
C.) 250 cm^2 D.) 384 cm^2

8. Find the area of trapezium whose parallel sides are 20 cm and 18 cm long, and the distance between them is 15 cm.
A.) 285 cm^2 B.) 355 cm^2
C.) 385 cm^2 D.) 585 cm^2

9. If the sides of a triangle are 26 cm, 24 cm and 10 cm, what is its area?
A.) 220 cm^2 B.) 110 cm^2
C.) 120 cm^2 D.) 320 cm^2

10. An order was placed for the supply of a carper whose length and breadth were in the ratio of 3 : 2. Subsequently, the dimensions of the carpet were altered such that its length and breadth were in the ratio 7 : 3 but were was no change in its parameter. Find the ratio of the areas of the carpets in both the cases.
A.) 7 : 8 B.) 8 : 7
C.) 6 : 7 D.) 5 : 6

11. The length and breadth of a rectangle are in the ratio 9:5. If its area is 720m^2 , find its perimeter.
(a) 112 meter (b) 115 meter
(c) 110 meter (d) 118 meter

12. A circle and a rectangle have the same perimeter. The sides of the rectangle are 18 cm and 26 cm. What is the area of the circle?
(a) 88 cm^2 (b) 154 cm^2
(c) 1250 cm^2 (d) 616 cm^2

13. If the perimeter and diagonal of a rectangle are 14 and 5 cms respectively, find its area.
(a) 12 cm^2 (b) 16 cm^2
(c) 20 cm^2 (d) 24 cm^2

14. In an isosceles right angled triangle, the perimeter is 20 meter. Find its area.
(a) 100 $(3 - 2\sqrt{2})\ m^2$ (b) 150 $(5 - \sqrt{3})\ m^2$
(c) 500 m^2 (d) None of these

15. If a parallelogram, the length of one diagonal and the perpendicular dropped on dial diagonal are 30 and 20 meters respectively. Find its area.
(a) 600m^2 (b) 540 m^2
(c) 680 m^2 (d) 574m^2

16. The diameter of a garden roller is 1.4 m and it is 2m long .How much area will it cover in 5 revolutions? $use\ \pi = 22/7$
(a) 40 m^2 (b) 44 m^2
(c) 48m^2 (d) 36m^2

17. A horse is tethered to one corner of a rectangular grassy field 40 m by 24 m with a rope 14 m long. Over how much area of the field can it graze?
(a) 154cm^2 (b) 308 m^2
(c) 150m^2 (d) None of these

18. From a square piece of a paper having each side equal to 10cut, the largest possible circle is being cut out The ratio of the area of the circle to the area of the original square is
(a) 4/5 (b) 3/5 (c)5/6 (d) 6/7

19. A square carpet with an area 169 m^2 must have 2 meters cut off one of its edges in order to be a perfect fit for a rectangular room. What is the area of rectangular room?
(a) 180 m^2 (b) 164 m^2
(c) 152 m^2 (d) 143 m^2

20. A picture 30" × 20" has a frame 21 2 " wide. The area of the picture is approximately how many times the area of the frame?
(a) 4 (b) 2-1/2 (c) 2 (d) 5

21. A rectangular plot 15m × 10m, has a path of grass outside it. If the area of grassy pathway is 54 m2 , find the width of the path.
(a) 4m (b) 3m (c) 2m (d) 1m

22. If the area of a circle decreases by 36%, then the radius of a circle decreases by
(a) 20% (b) 18% (c) 36% (d) 64%

23. The floor of a rectangular room is 15 m long and 12 m wide. The room is surrounded by a verandah of width 2 m on all its sides. The area of the verandah is:
(a) 124 m^2 (b) 120 m^2 (c) 108 m^2 (d) 58 m^2

24. A rectangular lawn 70 m × 30 m has two roads each 5 metres wide, running in the middle of it, one parallel to the length and the other parallel to the breadth. Find the cost of gravelling the road at the rate of ` 4 per square metre.
(a) `2,000 (b) `1,800 (c) `1,900 (d) `1,700

25. A cylindrical bucket of height 36 cm and radius 21 cm is filled with sand. The bucket is emptied on the ground and a conical heap of sand is formed, the height of the heap being 12 cm. The radius of the heap at the base is:
(a) 63 cm (b) 53 cm (c) 56 cm (d) 66 cm

26. The altitude drawn to the base of an isosceles triangle is 8cm and the perimeter is 32 cm. The area of the triangle is
(a) 72 cm^2 (b) 60 cm^2
(c) 66 cm^2 (d) None of these

27. The cross section of a canal is a trapezium in shape. If the canal is 7 metres wide at the top and 9 metres at the bottom and the area of cross-section is 1280 square metres, find the length of the canal.
(a) 160 metres (b) 172 metres
(c) 154 metres (d) None of these

28. It is required to fix a pipe such that water flowing through it at a speed of 7 metres per minute fills a tank of capacity 440 cubic metres in 10 minutes. The inner radius of die pipe should be:
(a) $\sqrt{2}m$ (b) 2 m (c) 1/2 m (d) 1/ $\sqrt{2}$ m

29. The area of a rectangular field is 144 m^2 . If the length had been 6 metres more, the area would have been 54 m^2 more. The original length of the field is
(a) 22 metres (b) 18 metres
(c) 16 metres (d) 24 metres

30. A rectangular parking space is marked out by painting three of its sides. If the length of die unpainted side is 9 feet, and the sum of the lengths of the painted sides is 37 feet, then what is the area of the parking space in square feet?
(a) 46 (b) 81 (c) 126 (d) 252

31. A rectangular paper, when folded into two congruent parts had a perimeter of 34 cm for each part folded along one set of sides and the same is 38 cm when folded along the other set of sides. What is the area of the paper?
(a) 140 cm^2 (b) 240 cm^2
(c) 560 cm^2 (d) None of these

32. The length and breadth of the floor of the room are 20 feet and 10 feet respectively. Square tiles of 2 feet length of different colours are to be laid on the floor. Black tiles are laid in the first row on all sides. If white tiles are laid in the one-third of the remaining and blue tiles in the rest, how many blue tiles will be there?
(a) 16 (b) 24 (c) 32 (d) 48

33. Four equal circles are described about the four comer of as quare so that each touches two of the others. If a side of square is 14 cm, then the area enclosed between the circumferences of the circles is:
(a) 24 cm^2 (b) 42 cm^2
(c) 154 cm^2 (d) 196 cm^2

34. The ratio between the length and the breadth of a rectangular 34 park is 3:2. If a man cycling along the boundary of the park at the speed of 12km/hr completes one round in8minutes, then the area of the park (in sq. m) is:
(a) 15360 (b) 153600
(c) 30720 (d) 307200

35. The water in a rectangular reservoir having a base 80 metres by 60 metres is 6.5 metres deep. In what time can the water be emptied by a pipe whose cross section is a square of side 20 cm, if the water runs through the pipe at the rate of 15 km per hour?
(a) 52 hrs (b) 26hrs (c) 65 hrs (d) 42 hrs

36. The ratio of height of a room to its semi perimeter is 2:5. It costs `260 to paper the walls of the room with paper 50 cm wide at `2 per metre allowing an area of 15 sq. m for doors and windows. The height of the room is:
(a) 2.6 m (b) 3.9 m (c) 4 m d) 4.2 m

37. Wheels of diameters 7 cm and 14 cm start rolling simultaneously from X and Y, which are 1980 cm apart, towards each other in opposite directions. Both of them make the same number of revolutions per second. If both of them meet after 10 seconds, the speed of the smaller wheel is:
(a) 22 cm/sec (b) 44 cm/sec
(c) 66 cm/sec (d) 132 cm/sec

38. A metal cube of edge 12 cm is melted and formed into three smaller cubes. If the edges of two smaller cubes are 6 cm and 8 cm, then find the edge of the third smaller cube.
(a) 10 cm (b) 14 cm (c) 12 cm (d) 16 cm

39. The length, breadth and height of a cuboid are in the ratio 1:2:3. The length, breadth and height of the cuboid are increased by 100%, 200% and 200%, respectively. Then, the increase in the volume of the cuboid will be:
(a) 5 times (b) 6 times
(c) 12 times (d) 17 times

40. The surface area of a cube is 150 m^2 . The length of its, diagonal is
(a) 5 $\sqrt{3}m$ (b) 5m (c) 10/$\sqrt{}$ 3 m (d) 15m

41. A copper sphere of radius 3 cm is beaten and drawn into a wire of diametre 0.2 cm. The length of the wire is
(a) 9 m (b) 12 m (c) 18 m (d) 36 m

42. A plot of land in the form of a rectangle has a dimension 240 m × 180 m. A drainlet 10m wide is dug all around it (outside) and the earth drug out is evenly spread over the plot, increasing its surface level by 25 cm. The depth of the drain let
(a) 1.225 m (b) 1.229 m
(c) 1.227 m (d) 1.223 m

43. The water from a roof 9 sq metres in are to a cylinder container of 900 cm2 base. To what height will the water rise in cylinder if there is a rainfall of 0.1 mm?
(a) 1 cm (b) 0.1 metre
(c) 0.11 cm d) 10 cms

44. The length of a cold storage is double its breadth. Its height is 3 metres. The area of its four walls (including the doors) is108 m2 . Find its volume.
(a) 215 m^3 (b) 216 m^3
(c) 217 m^3 (d) 218 m^3

45. How many spherical bullets can be made out of a lead cylinder 28 cm high and with base radius 6 cm, each bullet being M cm in diameter?
(a) 1845 (b) 1824 (c) 1792 (d) 1752

46. A rectangular reservoir is 54 m × 44 m × 10m. An empty pipe of circular cross-section is of radius 3 ms, and the water runs through the pipe at 20 m section. Find the time the empty pipe will take to empty the reservoir full of water.
(a) 116.67 hours (b)110.42hours
(c) 120.37 hours (d) 112 hours

47. A spherical ball of lead, 3 cm in diameter, is melted and recast into three spherical balls. The diameter of two of these balls are 1.5 cm and 2 cm respectively. The diameter of the third ball is
(a) 2.5 cm (b) 2.66 cm (c) 3 cm d) 3.5 cm

48. A cube of 384 cm2 surface area is melt to make x number of small cubes each of 96 mm2 surface area. The value of x is
(a) 80,000 (b) 8 (c) 8,000 (d) 800

49. A conical vessel, whose internal radius is 12 cm and height 50 cm, is full of liquid. The contents are emptied into acylindrical vessel with internal radius 10 cm. Find the heightto which the liquid rises in the cylindrical vessel.
(a) 18 cm (b) 22 cm
(c) 24 cm (d) None of these

50. The trunk of a tree is a right cylinder 1.5 min radius and 10m high. The volume of the timber which remains when the trunk is trimmed just enough to reduce it to a rectangular parallelepiped on a square base is
(a) 44 m^3 (b) 46 m^3 (c) 45 m^3 (d) 47 m^3

51. The cost of the paint is `36.50 per kg. If 1 kg of paint covers 16 square feet, how much will it cost to paint outside of a cube having 8 feet each side?
(a) `692 (b) `768 (c) `876 (d) `972

52. A right circular cone and a right circular cylinder have equal base and equal height. If the radius of the base and the height are in the ratio 5:12, then the ratio of the total surface area of the cylinder to that of the cone is
(a) 3:1 (b)13:9 c) 17:9 (d) 34:9

53. A reservoir is supplied from a pipe 6 cm in diameter. How many pipes of 3 cms diameter would discharge the same quantity, supposing the velocity of water is same 7
(a) 4 (b) 5 (c) 6 (d) 7

54. A conical cavity is drilled in a circular cylinder of 15 cm height and 16 cm base diameter. The height and the base diameter of the cone are same as those of the cylinder. Determine the total surface area of die remaining solid.
(a) 440 πcm^2 (b) 215 πcm^2
(c) 542 πcm^2 (d) 376 πcm^2

55. An ice-cream company makes a popular brand of ice-cream in rectangular shaped bar 6 cm long, 5 cm wide and 2 cm thick. To cut die cost, the company has decided to reduce the volume of the bar-by20%, the thickness remaining the same, but the length and width will be decreased by the same percentage amount The new length L will satisfy:
(a) 5.5< L < 6 (b) 5 < L < 5.5
(c) 4.5 < L < 5 (d) 4 < L < 4.5

56. Water flows, through a cylindrical pipe of internal diameter 7cm at 2 m per second. If the pipe is always half full, then what is the volume of water (in litres) discharged in 10 minutes?
(a) 2310 (b) 3850 (c) 4620 (d) 9240

57. If the radius of a sphere is increased by 2 cm, then its surface area increases by 352 cm^2 . The radius of the sphere before the increase was:
(a) 3 cm (b) 4 cm (c) 5 cm (d) 6 cm

58. A semicircular sheet of paper of diameter 28 cm is bent to cover the exterior surface of an open conical ice-cream cup. the depth of the ice-cream cup is
(a) 10.12 cm (b) 8.12 cm
(c) 12.12 cm (d) 14.12 cm

59. The cost of painting the walls of a room at the rate of `1.35 per square metre is $346.20 and the cost of matting die floor at the rate of $ 0.85 perm2 is `91.80. If the length of the room is 12 m, then the height of the room is:
(a) 6m (b) 12 m (c) 1.2 m (d) 13.27 m

60. A hollowsphere of internal and external diameters 4 cm and 8 cm respectively is melted into a cone of base diameter 8 cm. The height of the cone is:
(a) 12 cm (b) 14 cm (c) 15 cm (d) 18cm

61. A cone of height 9 cm with diameter of its base 18 cm it carved out from a wooden solid sphere of radius 9 cm. The percentage of the wood wasted is:
(a) 25% (b) 30% (c) 50% (d) 75%

62. A hemispherical bowl is filled lo the brim with a beverage. The contents of the bowl are transfered into a cylindrical vessel whose radiusis 50% more than its height. If the diameter is same for both the bowl and the cylinder, the volume of the beverage in the cylindrical vessel is:
(a) 66-2/3 % (b) 78-1/2 %
(c) 100% (d) More than 100%

63. A cylindrical container of radius 6 cm and height 15 cm isfilled with ice-cream. The whole ice-cream has to be distributed to 10 children in equal cones with hemispherical tops. If the height of the conical portion is four times the radius of its base, then find the radius of the ice-cream cone.
(a) 2 cm (b) 3 cm (c) 4cm (d) 3cm

64. A cylinder is filled to 4/5th its volume. It is then filled so that the level of water coincides with one edge of its bottom and top edge of the opposite side, In the process, 30 cc of the water is spilled. What is the volume of die cylinder?
(a) 75 cc (b) 96 cc
(c) Data insufficient (d) 100 cc

65. There are two concentric circular tracks of radii 100 m and 102 m, respectively. A runs on the inner track and goes once round on the inner track in 1 min 30 sec, while B runs on the outer track in 1 min 32 sec. Who runs faster?
(a) Both A and Bare equal (b) A
(c) B (d) None of these

66. A monument has 50 cylindrical pillars each of diameter 50 cm and height 4 m. What will be the labour charges for getting these pillars cleaned at the rate of 50 paise per sq. m? (use π = 3.14)
(a) `237 (b) `157 (c) `257 (d) `353

67. Four sheets 50 cm × 5 cm are arranged without overlapping to form a Square having side 55 cm. What is the area of Inner Square so formed?
(a) 2500 cm^2 (b) 2025 cm^2
(c) 1600 cm^2 (d) None of these

68. A conical vessel of base radius 2 cm and height 3 cm is filled with kerosene. This liquid leaks through a hole in the bottom and collects in a cylindrical jar of radius 2 cm. The kerosene level in the jar is
(a) πcm (b) 1.5 cm (c) 1 cm (d) 3cm

69. A garden is 24m long and 14m wide. There is a path 1m wide outside the garden along its sides. If the path is to constructed with square marble tiles 20 cm × 20 cm. number of tiles required to cover the path is
(a) 1800 (b) 200 (c) 2000 (d) 2150

70. 2 cm of rain has fallen on a sq. km of land. Assuming that 50% of the raindrops could have been collected and contained in a pool having a 100 m × 10 m base, by what level would the water level in the pool have increased?
(a) 15 m (b) 20 m (c) 10 m (d) 25 m

71. In a swimming pool measuring 90 m by 40 m, 150 men take a dip. If the average displacement of water by a man is 8 cubicmetres, what will be the rise in water level?
(a) 33.33 cm (b) 30 cm (c) 20cm (d) 25cm

72. A square is inscribed in a circle of radius 8 cm. The area of the square is
(a) 16 cm^2 (b) 64 cm^2
(c) 128 cm^2 (d) 148 cm^2

73. The biggest possible circle is inscribed in a rectangle of length 16 cm and breadth 6 cm. Then its Urea is
(a) 3 πcm^2 (b) 4 π cm^2
(c) 5π cm^2 (d) 9π cm^2

74. If the diagonal of a square is doubled, then its area will be
(a) three times (b) four times
(c) same (d) none of these

75. A metal pipe of negligible thickness has radius 21 cm and length 90 cm. The outer curved surface area of the pipe insquare cm is
(a) 11880 (b) 11680
(c) 11480 (d) 10080

76. The base of a right pyramid is an equilateral triangle of side 4 cm each: Each slant edge is 5 cm long. The volume of the pyramid is
(a) 4$\sqrt{}$ 8/3 cm^2 (b) 4 $\sqrt{}$60/3 cm^2
(c) 4$\sqrt{}$ 59/3 cm^2 (d) 4$\sqrt{}$ 61/3 cm^2

77. There are two cones. The curved surface in a of one is twice that of the other. The slant height of the latter is twice that of the former. The ratio of their radii is
(a) 4:1 (b) 4:3 (c) 3:4 (d) 1:4

78. A wire is bent into the form of a circle, whose area 154 cm2 . If the same wire is bent into the form of an equilateral triangle, the approximate area of the equilateral triangle is
(a) 93.14 cm^2 (b) 90.14 cm^2
(c) 83.14 cm^2 (d) 39.14 cm^2

79. The radius of a right circular cone is 3 cm and its height is 4cm. The total surface area of the cone is
(a) 48.4 sq.cm (b) 64.4 sq.cm
(c) 96.4 sq.cm (d) 75.4 sq.cm

80. A wooden box of dimension 8 metre × 7 metre ×6 metre is to carry rectangular boxes of dimensions 8 cm × 7 cm × 6 cm. The maximum number of boxes that can be carried in 1 wooden box is
(a) 7500000 (b) 9800000
(c) 1200000 (d) 1000000

81. Two circular cylinders of equal volume have their heights in the ratio 1:2; Ratio of their radii is (Take π = 22/7)
(a) 1:4 (b) 1: 2 (c) 2: 1 (d) 1:2

82. A rectangular piece of paper of dimensions 22 cm by 12 cm rolled along its length to form a cylinder. The volume (in cm3) of the cylinder so formed Is (use π = 22/7)
(a) 562 (b) 412
(c) 462 (d) 362

83. A sphere is placed inside a right circular cylinder so as to touch the top, base and the lateral surface of the cylinder. If the radius of the sphere is R, the volume of the cylinder is
(a) $2\pi R^3$ (b) $4\pi R^3$
(c) $8\pi R^3$ (d) $8/3\ \pi R^3$

84. What will be the area of trapezium whose parallel sides are 22 cm and 16 cm long, and the distance between them is 11 cm?
A) 209 cm^2 B) 282 cm^2
C) 265 cm^2 D) 179 cm^2 E) 302 cm^2

85. The perimeter of a rectangle is 42 m. If the area of the square formed on the diagonal of the rectangle as its side is 1 1/12 % more than the area of the rectangle, find the longer side of the rectangle.
A) 19 m B) 16 m
C) 9 m D) 5 m E) 12 m

86. At the rate of Rs. 2 per sq m, cost of painting a rectangular floor is Rs 5760. If the length of the floor is 80% more than its breadth, then what is the length of the floor?
A) 25 m B) 72 m
C) 67 m D) 56 m E) 46 m

87. A 7 m wide path is to be made around a circular garden having a diameter of 7 m. What will be the area of the path in square metre?
A) 298 B) 256
C) 308 D) 365 E) 387

88. The perimeter of a rectangle of length 62 cm and breadth 50 cm is four times perimeter of a square. What will be the circumference of a semicircle whose diameter is equal to the side of the given square?
A) 36 cm B) 25 cm
C) 29 cm D) 17 cm E) 16 cm

89. What is the volume of a cylinder whose curved surface area is 1408 cm2 and height is 16 cm?
A) 7715 cm^3 B) 9340 cm^3
C) 8722 cm^3 D) 7346 cm^3 E) 9856 cm^3

90. A cone with diameter of its base as 30 cm is formed by melting a spherical ball of diameter 10 cm. What is the approximate height of the cone?
A) 6 cm B) 3 cm
C) 2 m D) 5 cm E) None of these

91. A cylinder whose base of circumference is 6 m can roll at a rate of 3 rounds per second. How much distance will the cylinder cover in 9 seconds?
A) 125 m B) 162 m
C) 149 m D) 173 m E) 157 m

92. A container is formed by surmounting a hemisphere on a right circular cylinder of same radius as that of hemisphere. If the volume of the container is 576π m3 and radius of cylinder is 6 m, then find the height of the container.
A) 14 m B) 12 m
C) 20 m D) 18 m E) 22 m

93. The radii of two cylinders are in the ratio 3 : 2 and their curved surface areas are in the ratio 3 : 5. What is the ratio of their volumes?
A) 8 : 11 B) 5 : 9
C) 7 : 4 D) 9 : 10 E) 13 : 7

94. A right circular cone is exactly fitted inside a cube in such a way that the edges of the base of the cone are touching the edge of one of the faces of the cube and the vertex is on the opposite face of the cube. If the volumes of cube is 216 cm3 , what is the volume of the cone (approximately)?
A) 56 cm^3 B) 60 cm^3
C) 46 cm^3 D) 50 cm^3 E) None of these

95. The diagram shows a section of a rocket firework. If this section can be completely filled with gunpowder what is the volume of gunpowder required?
A) 1882 cm^3 B) 1782 cm^3
C) 1982 cm^3 D) 1682 cm^3 E) None of these

96. If a square, circle and rectangle has same perimeter then which one of them has the maximum area?
A) Square B) Circle
C) Rectangle D) All have equal area
E) Cannot be determined

97. A cylinder has some water at height 20 cm. If a sphere of radius 6 cm is poured into it then find the rise in height of water if the radius of cylinder is 4 cm.
A) 3 cm B) 9 cm
C) 18 cm D) 15 cm E) None of these

98. If the base of a pyramid is square and its side is $4\sqrt{2}$ cm and slant height of pyramid is 5 cm, find the volume of pyramid.
A) 48 cm^3 B) 16 cm^3
C) 24 cm^3 D) 32 cm^3 E) None of these

99. A sphere of 5 cm radius is melted and small sphere of radius 1 cm is made from it. Find the number of sphere that can be made from it.
A) 25 B) 125
C) 50 D) 100 E) None of these

100. A person wants to make a cylindrical box which is open from the top. If the height of that box is 10 cm and radius is 7 cm find the area of sheet which is required to make it.
A) 880 cm^2 B) 1188 cm^2
C) 594 cm^2 D) 440 cm^2 E) None of these

101. A square park has a 2 m wide cross road in middle of it. If the side of park is 100 m then find the remaining area of the park.
A) 9650 m^2 B) 9596 m^2
C) 9600 m^2 D) 9604 m

102. In a right circular cone the radius of its base is 6 cm and its height is 14 cm. A cross section is made through the mid-point of the height parallel to the base. The volume of the lower portion is?

A) 528 cm^3 B) 366 cm^3
C) 498 cm^3 D) 462 cm^3 E) None of these

103. . If radius of cone decrease by 50% and height increase by 20%. Then find the percentage change in the volume.
A) 70% decrease B) 70% increase
C) 40% decrease D) 40% increase
E) 20% increase

104. The parameter of a square is equal to the perimeter of a rectangle of length 14 cm and breadth 20 cm. Find the circumference of a semicircle (approx.) whose diameter is equal to the side of the square.
A) 32 cm B) 22 cm
C) 30 cm D) 27 cm E) 19 cm

105. There are two circles of different radius such that radius of the smaller circle is three – sevens that of the larger circle. A square whose area equals 3969 sq cm has its side as thrice the radius of the larger circle. What is the circumference of the smaller circle?
A) 59 cm B) 56.5 cm
C) 49.5 cm D) 65.5 cm E) 62 cm

106. A Birthday cap is in the form of a right circular cone which has base of radius as 9 cm and height equal to 12 cm. Find the approximate area of the sheet required to make 8 such caps.
A) 3225 cm^2 B) 3278 cm^2
C) 3132 cm^2 D) 3392 cm^2 E) 3045 cm^2

107. The barrel of a fountain pen is cylindrical in shape which radius of base as 0.7 cm and is 5 cm long. One such barrel in the pen can be used to write 300 words. A barrel full of ink which has a capacity of 14 cu cm can be used to write how many words approximately?
A) 598 B) 656
C) 508 D) 545 E) 687

108. A vessel is in the form of a hemi-spherical bowl on which is mounted a hollow cylinder. The diameter of the sphere is 14 cm and the total height of vessel is 15 cm, find the capacity of the vessel.
A) 1977.23 cm^3 B) 1999.45 cm^3
C) 1840.67 cm^3 D) 1950.67 cm^3
E) 1833.27 cm^3

109. A car has wheels of diameter 70 m. How many revolutions can the wheel complete in 20 minutes if the car is travelling at a speed of 110 m/s?
A) 550 B) 580
C) 630 D) 640 E) 600

110. A clock has its minute hand of length 7 cm. What area will it swept in covering 10 minutes?
A) 32.17 cm^2 B) 35.67 cm^2
C) 45.45 cm^2 D) 41.23 cm^2

111. Find the area of shaded region (approximately) in the given figure if AB = 12 cm and BC = 9 cm with O being the centre of
A) 40 cm cm^2 B) 27 cm cm^2
C) 23 cm^2 D) 39 cm2 E) 34 cm^2

112. The diameters of the internal and external surfaces of a hollow spherical shell are 10cm and 6 cm respectively. If it is melted and recasted into a solid cylinder of length 8/3 cm, find the diameter of the cylinder.
A) $28\sqrt{2}$ cm B) $14\sqrt{2}$ cm
C) $26\sqrt{2}$ cm D) $18\sqrt{2}$ cm E) $22\sqrt{2}$ cm

113. The radii of two cylinders are in the ratio 4 : 5 and their curved surface areas are in the ratio 3 : 5. What is the ratio of their volumes?
A) 11 : 24 B) 13 : 21
C) 7 : 19 D) 11 : 15 E) 12 : 25

114. The height of the cone is 24 cm and the curved surface area of cone is 550 cm2 . Find its volume.
A) 1200 cm^2 B) 1232 cm^2
C) 1240 cm^2 D) 1260 cm^2 E) 1262 cm^2

115. The side of a square base of a pyramid increases by 20% and its slant height increases by 10%. Find the per cent change in Curved Surface Area.
A) 28% B) 58.4%
C) 32% D) 45.20% E) 48%

116. If a copper wire is bend to make a square whose area is 324 cm2 . If the same wire is bent to form a semicircle, then find the radius of semicircle.
A) 7 cm B) 14 cm
C) 11 cm D) 21 cm E) 12 cm

117. A man wants to make small sphere of size 1 cm of radius from a large sphere of size of 6 cm of radius. Find out how many such sphere can be made?
A) 216 B) 125
C) 36 D) 200 E) 64

118. A sphere of radius 9 cm is dip into a cylinder who is filled with water upto 20 cm. If the radius of cylinder is 6 cm find the percentage change in height.
A) 50% B) 40%
C) 55% D) 45% E) 57%

119. The length of the perpendicular drawn from any point in the interior of an equilateral triangle to the respective sides are P1, P2 and P3. Find the length of each side of the triangle.
A) $2/\sqrt{3}$ *(P1 + P2 + P3) B) 1/3 * (P1 + P2 + P3)C) $1/\sqrt{3}$ *(P1 + P2 + P3) D) $4/\sqrt{3}$ *(P1 + P2 + P3) E) $5/\sqrt{3}$ *(P1 + P2 + P3)

120. A conical cup is filled with ice cream. The ice cream forms a hemispherical shape on its top. The height of the hemispherical part is 7 cm. The radius of the hemispherical part equals the height of cone then the volume of ice cream is?
A) 1078 cm^3 B) 1708 cm^3
C) 7108 cm^3 D) 7180 cm^3 E) 1808 cm

121. Assume that a drop of water is spherical and its diameter is one tenth of a cm. A conical glass has equal

height to its diameter of rim. If 2048000 drops of water fill the glass completely then find the height of the glass.
A) 12 cm B) 16 cm
C) 20 cm D) 8 cm E) 10 cm

122. If the radius of a sphere increase by 4 cm then the surface area increase by 704 cm2 . The radius of the sphere initially was?
A) 5 B) 4
C) 6 D) 8 E) 10

123. By melting two solid metallic spheres of radii 1 cm and 6 cm, a hollow sphere of thickness 1 cm is made. The external radius of the hollow sphere will be.
A) 8 cm B) 9 cm
C) 6 cm D) 7 cm E) 10 cm

124. A room 10mtr long 4mtr broad and 4mtr high has two windows of 2*1mtr and 3*2mtr. Find the cost of papering the walls with paper 50cm wide at 25paisa per meter?
A) Rs 48 B) Rs 50
C) Rs 52 D) Rs 54 E) Rs 46

125. A cubical block of 8m*12m*16m is cut into exact number of equal cubes. The least possible number of cubes will be?
A) 9 B) 24
C) 18 D) 30 E) 12

126. Find the volume, curved surface area and the total surface area of a hemisphere of radius 21cm?
A) 19404cm³, 2772cm², 4158cm²
B) 4158cm³, 5000cm², 4000cm²
C) 20000cm³, 40000cm²,1000cm²
D) 30000cm³, 2000cm²,5000cm²
E) 40302cm³, 3320cm²,5650cm²

127. A right circular cone is exactly fitted inside a cube in such a way that the edges of the base of the cone are touching the edges of one of the faces of the cube and the vertex is on the opposite face of the cube. If the volume of cube is 2744 cubic cm, what is the approximate volume of the cone?
A) 715 B) 719
C) 729 D) 725 E) 710

128. A hollow cylindrical tube is open at both ends is made of iron 4cm thick. If the external diameter be 52cm and the length of the tube be 120cm, find the number of cubic cm of iron in it?approx
A) 72419 B) 72425
C) 72405 D) 72411 E) 72534

129. A solid toy is in the form of a hemisphere surmounted by a right circular cone. Height of the cone is 2cm and the diameter of the base is 4cm. If a right circular cylinder circumscribe the solid, find how much more space will it cover?
A) 4π cm³ B) 2π cm³
C) 16π cm³ D) 8π cm³ E) 8π cm³

130. The ratio between volumes of a hemisphere and a cone is 1:1. If the cone's height is equal to its diameter, then find the ratio of diameter of hemisphere and cone ?
A) 2:1 B) 1:1
C) 3:2 D) 2:3

131. If the height of a pyramid is 12cm and its base is a square which perimeter is 40cm, then find the volume of pyramid?
A) 300 cm³ B) 200 cm³
C) 400 cm³ D) 500 cm³

132. If the perimeter of square, circle, rectangle, are equal. Then whose area is largest?
A) Circle B) Square
C) Rectangle D) All are equal

133. A rectangular plot of grass is 50m long and 40m broad. From the center of each side a path of 3m wide goes across the center of the opposite side. Find the area of path?
A) 270 B) 280 C) 251 D) 261

134. Poles are to be fixed along the boundary of a rectangular field in such a way that distance between any two adjacent poles is 2 m.The perimeter of the field is 70m and length and the breadth of the field are in the ratio 4:3 resp. How many poles will be required?
A) 42 B) 40
C) 35 D) 38 E) 45

135. The circumference of a circular garden is 1320m.Find the area. Outside the garden , a road of 2m width runs around it .What is the area of this road and calculate the cost of gravelling it at the rate of 50 paise per sq. m .
A) 2500.15 m2 , Rs.1500.15
B) 2652.57 m2 , Rs.1326.285
C) 2541.14 m2 , Rs.1600.47
D) 3245.78 m2 ,Rs.2000
E) 4157.12 m2 ,Rs.1452.11

136. A square shape of park of area 23,104 sq. m is to be enclosed with wire placed at heights 1,2,3,4 m above the ground . Find required length of the wire ,,if its length required for each circuit is 10% greater than the perimeter of the field ?
A) 2675.2 m B) 2145.12 m
C) 2750 m D) 2478.11 m E) 2400.5 m

137. Area of a hexagon is 54√3 cm^2. What is its side ?
A) 7cm B) 5cm
C) 4cm D) 6cm E) 8cm

138. Smallest side of a right angled triangle is 8 cm less than the side of a square of perimeter 64cm . Second largest side of the right angled triangle is 4 cm less than the length of rectangle of area 112 sq. cm and breadth 8 cm .What is the largest side of the right angled triangle?
A) 9.2cm B) 7.75 cm
C) 10.50 cm D) 14 cm E) 12.80 cm

139. If the radius of the circular field is equal to the side of a square field .If the difference between the area of the

circular field and area of the square field is 5145 sq. m ,then calculate the perimeter of the circular field?
A) 421 m B) 315 m
C) 310 m D) 308 m E) 300 m

140. A rectangular plot has a concrete path running in the middle of the plot parallel to the parallel to the breadth of the plot. The rest of the plot is used as a lawn ,which has an area of 240sq. m. If the width of the path is 3m and the length of the plot is greater than its breadth by 2m ,what is the area of the rectangular plot(in m)?
A) 410m B) 288m
C) 250m D) 300m E) 320m

141. A solid spherical ball of radius r is converted into a solid circular cylinder of radius R. If the height of the cylinder is twice the radius of the sphere ,then find the relation between these two with respect to radius.
A) R = r√(3/4) B) R = r√(3/2)
C) R = r√(1/2) D) R = r√(2/3) E) R = r√(1/3)

142. A rectangular tank of length 37 (1/3) m internally , 12 m in breadth and 8 m in depth is full of water .Find the weight of water in metric tons, given that one cubic metre of water weighs 1000kg.
A) 3584 metric tons B) 4500 metric tons
C) 4101 metric tons
D) 3870 metric tons E) 5721 metric tons

143. An equilateral triangle and a regular hexagon have equal perimeters. The ratio of the area of the triangle and that of the hexagon is :
A) 3:4 B) 4:9
C) 1:2 D) 2:3 E) 4:5

144. A solid metallic spherical ball of radius 28 cm is melted down and recast into small cones. If the diameter of the base of the cone is 28 cm and the height is 4 cm, find the number of such cones can be made ?
A) 106 B) 118
C) 112 D) 95 E) None

145. The length and the breadth of a rectangular table are increased by 1 m each and due to this the area of the table increased by 27 sq. m. But if the length is increased by 1 m and breadth decreased by 1 m, area is decreased by 7 sq. m. Find the perimeter of the table.
A) 45m B) 52m
C) 60m D) 72m E) None

146. The water in a rectangular tank having a base 80 m by 60 m is 6.5 m deep. In what time can the water be emptied by a pipe of which the cross-section is a square of side 20 cm, if the water runs through the pipe at the rate of 20 km per hour?
A) 39hrs B) 45hrs
C) 60hrs D) 40hrs E) None

147. The perimeter of a square is twice the perimeter of a rectangle. If the perimeter of a square is 140cms and the length of the rectangle is 20cm. Find the breadth of the rectangle?
A) 18 B) 20
C) 15 D) 12 E) None

148. A farmer wishes to grow a 100 m2 rectangular vegetable garden. Since he has with him only 30 m barbed wire, he fences three sides of the rectangular garden letting compound wall of his house act as the fourth side fence. Find the dimension of his garden.
A) 20, 5 B) 25, 4
C) 15, 5 D) 10,10 E) None

149. Inside a square plot a circular garden is developed which exactly fits in the square plot and the diameter of the garden is equal to the side of the square plot which is 28m. What is the area of space left out in the square plot after developing the garden ?
A) 132m^2 B) 140m^2
C) 168m^2 D) 156 m^2 E) None

150. A room is 7.5 m long, 5.5 m broad and 5 m high. What will be the expenditure in covering the walls by paper 40 cm broad at the rate of 80 paise per metre ?
A) 255.5 B) 260
C) 282.25 D) 244 E) None

151. In measuring the sides of a rectangle, one side is increases by 30%, and the other side is decreased by 15%. What is the change in its area as a percentage ?
A) 7.5 B) 8
C) 10.5 D) 11 E) 12

152. The ratio between three angles of a quadrilateral is 7:11:13 respectively. the value of the fourth angle of the quadrilateral is 112°. what is the difference between the largest and smallest angles of the quadrilateral ?
A) 72° B) 110°
C) 90° D) 56° E) None

153. A took 15 seconds to cross a rectangular field diagonally walking at the rate of 52 m/min and B took the same time to cross the same field along its sides walking at the rate of 68 m/min. The area of the field is:
A) 30 m^2 B) 40 m^2
C) 50 m^2 D) 60 m^2 E) None

154. If the length of the diagonal AC of a square ABCD is 5.2 cm, then the area of the square is :
A) 15.12 sq.cm B) 13.52 sq.cm
C) 12.62 sq.cm D) 10.00 sq.cm.

155. The length of the diagonal of a square is ‘a’ cm. Which of the following represents the area of the
square (in sq. cm.) ?
A) 2a B) a/ √2
C) $a^2/2$ D) $a^2/4$

156. The diagonal of a square is 4 √2 cm. The diagonal of another square whose area is double that of the first square is :
A) 8 √2 cm B) 16 cm
C) √32 cm D) 8 cm

157. The diagonal of a square A is (a+b). The diagonal of a square whose area is twice the area of square A, is
A) 2 (a+b) B) 2 $(a+b)^2$
C) $\sqrt{2}$ (a+b) D) $\sqrt{2}$ (a-b)

158. The difference of the areas of two squares drawn on two line segments of different lengths is 32 sq.cm. Find the length of the greater line segment if one is longer than the other by 2 cm.
A) 7 cm B) 9 cm
C) 11 cm D) 16 cm

159. If the diagonals of two squares are in the ratio of 2 : 5, their area will be in the ratio of
A) $\sqrt{2} : \sqrt{5}$ B) 2 : 5
C) 4 : 25 D) 4 : 5

160. The perimeter of five squares are 24 cm, 32 cm, 40 cm, 76 cm and 80 cm respectively. The perimeter of another square equalin area to sum of the areas of these squares is :
A) 31 cm B) 62 cm
C) 124 cm D) 961 cm

161. The ratio of the area of a square to that of the square drawn on its diagonal is :
A) 1 : 1 B) 1 : 2
C) 1 : 3 D) 1 : 4

162. From four corners of a square sheet of side 4 cm, four pieces, each in the shape of arc of a circle with radius 2 cm, are cut out. The area of the remaining portion is :
A) (8–π) sq.cm. B) (16–4π) sq.cm.
C) (16–8 π) sq.cm. D) (4–2 π) sq.cm.

163. The length of diagonal of a square is$15\sqrt{2}$ cm. Its area is
A) 112.5 cm^2 B) 450 cm^2
C) 225 $\sqrt{2}$ / 2 cm^2 D) 225 cm^2

164. A kite in the shape of a square with a diagonal 32 cm attached to an equilateral triangle of the base 8 cm. Approximately how much paper has been used to make it? (Use $\sqrt{3}$ = 1.732)
A) 539.712 cm^2 B) 538.721 cm^2
C) 540.712 cm^2 D) 539.217 cm^2

165. The breadth of a rectangular hall is three-fourth of its length. If the area of the floor is 768 sq. m., then the difference between the length and breadth of the hall is:
A) 8 meters B) 12 meters
C) 24 meters D) 32 meters

166. The length of a plot is five times its breadth. A playground measuring 245 square metres occupies half of the total area of the plot. What is the length of the plot?
A) $35\sqrt{2}$ meters B $175\sqrt{2}$ meters
C) 490 meters D) 5 $\sqrt{2}$ meters

167. The length of a rectangular gardenis 12 metres and its breadth is 5 metres. Find the length of the diagonal of a square garden having the same area as that of the rectangular garden :
A) $2\sqrt{30}$ m B) $\sqrt{13}$ m
C) 13 m D) 8 $\sqrt{15}$ m

168. A circular wire of diameter 42 cm is folded in the shape of a rectangle whose sides are in the ratio 6 : 5 . Find the area enclosed by the rectangle.
A) 540 cm^2 B) 1080 cm^2
C) 2160 cm^2 (4) 4320 cm^2

169. A took 15 sec. to cross a rectangular field diagonally walking at the rate of 52 m/min. and B took the same time to cross the same field along its sides walking at the rate of 68 m/min. The area of the field is :
A) 30 m^2 (2) 40 m^2
(3) 50 m^2 D) 60 m^2

170. The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is
A) 1520 m^2 B) 2420 m^2
C) 2480 m^2 D) 2520 m^2

171. There is a rectangular tank of length 180 m and breadth 120 m in a circular field. If the area of the land portion of the field is 40000 m^2, what is the radius of the field ?
A) 130 m B) 135 m
C) 140 m D) 145 m

172. The length of a rectangular hall is 5m more than its breadth. The area of the hall is 750m2. The length of the hall is :
A) 15 m B) 22.5 m
C) 25 m D) 30 m

173. If the length and breadth of a rectangle are in the ratio 3 : 2 and its perimeter is 20 cm, then the area of the rectangle (in cm2) is :
A) 24 B) 48
C) 72 D) 96

174. A path of uniform width runs round the inside of a rectangular field 38 m long and 32 m wide. If the path occupies 600m^2 , then the width of the path is
A) 30 m B) 5 m
C) 18.75 m D) 10 m

175. The length and breadth of a rectangle are increased by 20% and 25% respectively. The increase in the area of the resulting rectangle will be :
A) 60% B) 50%
C) 40% D) 30%

176. The length of a room floor exceeds its breadth by 20 m. The area of the floor remains unaltered when the length is decreased by 10 m but the breadth is increased by 5 m. The area of the floor (in square metres) is :
A) 280 B) 325
C) 300 D) 420

177. A street of width 10 metres sur- rounds from outside a rectangular garden whose measurement is 200 m × 180 m. The area of the path (in square metres) is

A) 8000 B) 7000
C) 7500 D) 8200

178. In measuring the sides of a rectangle, there is an excess of 5% on one side and 2% deficit on the other. Then the error percent in the area is
A) 3·3% B) 3·0%
C) 2·9% D) 2·7%

179. A lawn is in the form of a rectangle having its breadth and length in the ratio 3 : 4. The area of the lawn is 1 / 12 hectare. The breadth of the lawn is
A) 25 meters B) 50 meters
C) 75 meters D) 100 meters

180. The area of a rectangle is thrice that of a square. The length of the rectangle is 20 cm and the breadth of the rectangle is 3/2 times that of the side of the square. The side of the square, (in cm) is
A) 10 B) 20 C) 30 D) 60

181. The length and breadth of a rectangular field are in the ratio 7 :4. A path 4 m wide running all around outside has an area of 416 m^2. The breadth (in m) of the field is
A) 28 B) 14 C) 15 D) 16

182. ABC is a triangle with base AB. D is a point on AB such that AB = 5 and DB = 3. What is the ratio of the area of DADC to the area of DABC ?
A) 3/2 B) 2/3 C) 3/5 D) 2/5

183. If the area of a triangle is 1176 cm2 and base : corresponding altitude is 3 : 4, then the altitude of the triangle is :
A) 42 cm B) 52 cm C) 54 cm D) 56 cm]

184. The base of a triangle is 15 cm and height is 12 cm. The height of another triangle of double the area having the base 20 cm is :
A) 9 cm B) 18 cm C) 8 cm D) 12.5 cm

185. The sides of a triangle are 3 cm,4 cm and 5 cm. The area (in cm2) of the triangle formed by joining the mid points of this triangle is :
A) 6 B) 3 C) 3 /2 D) ¾

186. If D and E are the mid-points of the side AB and AC respectively of the DABC in the figure given here, the shaded region of the triangle is what per cent of the whole triangular region?
A) 50% B) 25% C) 75% D) 60%

187. The ratio of base of two triangles is x : y and that of their areas is a : b. Then the ratio of their corresponding altitudes will be:
A) a / x : b / y B) ax : by
C) ay : bx D) x / a : b / y

188. The diagonal of a right angle isosceles triangle is 5 cm. Its area will be
A) 5 sq.cm B) 6.25 sq.cm
C) 6.50 sq.cm D) 12.5 sq.cm

189. In an isosceles triangle, the measure of each of equal sides is 10 cm and the angle between them is 45°. the area of the triangle is
A) 25 cm^2 B) $25/2\sqrt{2}$ cm^2
C) $25\sqrt{2}$ cm^2 D) $25\sqrt{3}$ cm^2

190. From a point in the interior of an equilateral triangle, the length of the perpendiculars to the three sides are 6 cm, 8 cm and 10 cm respectively. The area of the triangle is
A) 48 cm^2 B) $16\sqrt{3}$ cm^2
C) $192\sqrt{3}$ cm^2 D) 192 cm^2

191. The area of two equilateral triangles are in the ratio 25 : 36. Their altitudes will be in the ratio :
A) 36 : 25 B) 25 : 36
C) 5 : 6 D) $\sqrt{5} : \sqrt{6}$

192. The area of a right-angled isosceles triangle having hypotenuse $16\sqrt{2}$ cm is
A) 144 cm^2 B) 128 cm^2
C) 112 cm^2 D) 110 cm^2

193. The sides of a triangle are in the ratio 2 : 3 : 4. The perimeter of the triangle is 18 cm. The area (in cm^2) of the triangle is
A) 9 B) 36
C) $\sqrt{42}$ D) $3\sqrt{15}$

194. If the numerical value of the perimeter of an equilateral triangle is $\sqrt{3}$ times the area of it, then the length of each side of the triangle is
A) 2 units B) 3 units
C) 4 units D) 6 units

195. The measures (in cm) of sides of a right angled triangle are given by consecutive integers. Its area (in cm2) is
A) 9 B) 8 C) 5 D) 6

196. The area of an equilateral triangle is $4\sqrt{3}$ cm^2. The length of each side of the triangle is :
A) 3 cm B) $2\sqrt{2}$ cm
C) $2\sqrt{3}$ cm D) 4 cm

197. The length of three medians of a triangle are 9 cm, 12 cm and 15 cm. The area (in sq. cm) of the triangle is
A) 24 B) 72 C) 48 D) 144

198. The area of the triangle formed by the straight line 3x + 2y = 6 and the co-ordinate axes is
A) 3 square units B) 6 square units
C) 4 square units D) 8 square units

199. The ratio of length of each equal side and the third side of an isosceles triangle is 3 : 4. If the area of the triangle is $18\sqrt{5}$ square units, the third side is
A) 16 units B) $5\sqrt{10}$ units
C) $8\sqrt{2}$ units D) 12 units

200. The ratio of sides of a triangle is 3 : 4 : 5. If area of the triangle is 72 square unit, then the length of the smallest side is :

A) $4\sqrt{3}$ unit
B) $5\sqrt{3}$ unit
C) $6\sqrt{3}$ unit
D) $3\sqrt{3}$ unit

Answers:

Q	A	Q	A	Q	A	Q	A	Q	A	Q	A	Q	A	Q	A	Q	A	Q	A
1	A	21	D	41	D	61	D	81	C	101	D	121	B	141	D	161	B	181	D
2	D	22	A	42	C	62	C	82	C	102	D	122	A	142	A	162	B	182	D
3	B	23	A	43	A	63	B	83	A	103	A	123	B	143	D	163	D	183	D
4	D	24	C	44	B	64	D	84	A	104	D	124	C	144	C	164	A	184	B
5	D	25	A	45	C	65	B	85	E	105	B	125	B	145	B	165	A	185	C
6	B	26	B	46	A	66	B	86	B	106	D	126	A	146	A	166	A	186	C
7	D	27	A	47	A	67	B	87	C	107	D	127	B	147	C	167	A	187	C
8	A	28	A	48	C	68	C	88	B	108	D	128	D	148	A	168	B	188	C
9	C	29	C	49	C	69	C	89	E	109	E	129	D	149	C	169	D	189	C
10	B	30	C	50	C	70	C	90	C	110	B	130	B	150	B	170	D	190	C
11	A	31	A	51	C	71	A	91	B	111	E	131	C	151	C	171	C	191	C
12	D	32	A	52	C	72	C	92	D	112	A	132	A	152	D	172	D	192	B
13	A	33	B	53	A	73	D	93	D	113	E	133	D	153	D	173	A	193	D
14	A	34	B	54	A	74	B	94	A	114	B	134	C	154	B	174	B	194	C
15	A	35	A	55	B	75	A	95	B	115	C	135	B	155	C	175	B	195	D
16	B	36	C	56	C	76	C	96	B	116	B	136	A	156	D	176	C	196	D
17	A	37	A	57	D	77	C	97	C	117	A	137	C	157	C	177	A	197	B
18	A	38	A	58	D	78	B	98	D	118	D	138	E	158	B	178	C	198	A
19	D	39	D	59	A	79	D	99	B	119	A	139	D	159	C	179	A	199	D
20	A	40	A	60	B	80	D	100	C	120	A	140	B	160	C	180	A	200	C