SECTION WISE PRACTICE SET MATHS SOLUTIONS

NUMERICAL ABILITY

41. (2) ? = 622.793

42. (1) ? = $(43)^{37-41+6}$
= $(42)^2$ = 1849

43. (4) ? = (53.7+43.6) (53.7−43.6)
= 97.3×10.1
= 982.73

44. (3) ? = $\frac{4004}{52\times7}$
= 11

45. (2) ? = $\frac{76\times112}{100} - \frac{42\times116}{100}$
= $\frac{3640}{100}$ = 36.40

46. (2) ? = $\frac{3806\times22}{381} \times \frac{1.5}{11}$
= 29.9685 = 30

47. (3) ? = $\frac{1.31\times1215}{100} + \frac{0.73\times1150}{100}$
? = $\frac{1670.25+839.5}{100}$
= 25.0975 = 26

48. (4) ? = 333.333
003.003
000.333
001.300
337.969 = 338

49. (2) ? = $\sqrt[3]{9000}$
= 20.8001
= 21

50. (3) ? = $\sqrt{784} \times \frac{3}{7}$
= $28\times\frac{3}{7}$ = 12

51. (3) Required probability = $\frac{5C_1}{15C_1}$
= $\frac{5}{15} = \frac{1}{3}$

52. (4) Required probability = $\frac{15C_2\times10C_1}{25C_3}$
= $\frac{15\times7\times10\times3\times2}{25\times24\times23}$
= $\frac{21}{46}$

53. (3) Let price of 1 chair be 'x' Rs. and 1 table be 'y' Rs.
8x = 3y —— (I)
12x + 5y = 1520 —— (II)
From (i) x (ii), we get
X = 60, Y = 160
∴ Total price of 10 Chairs and 5 tables
= 10 × 60 + 5 × 160
= 1400 Rs.

54. (2) Let shyam's Contribution = 'x' Rs.
∴ Ratio of their investment in 4 years
= 6500×4×12 : X×40
13 : 12 = 7800 : X
∴ x = $\frac{12}{13}\times$ 7800 = 7200 Rs.

55. (3) Total distance = Resultant velocity × Time
= (20 + 4) × $\frac{30}{60}$ = $24\times\frac{1}{2}$ = 12 km.

56. S. I after 20 years = $\frac{2000\times20\times10}{100}$ = 4000
∴ New principle = 2000 + 4000 = 6000
Now, Let after 't' years the amount become
14000−6000 = 8000
8000 = $\frac{6000\times T\times10}{100}$
∴ Time t = $\frac{8000\times100}{6000\times10} = \frac{40}{3}$ years.
∴ Total time = $20+\frac{40}{3} = \frac{100}{3} = 33\frac{1}{3}$ years

57. (1) Total distance = 128+122 = 250 meter
And Resultant Velocity = 48 + 42 = 90km
= $90\times\frac{5}{18}$ = 25 m/s.
∴ Time to cross each other = $\frac{250}{25}$ = 10 Second

58. (2) Let speed of boat be 'v' and, of stream be 'x'
For downstream, V+ U = $\frac{28}{7}$ = 4 km/hr —— (I)
& for ups stream, V− U = $\frac{28}{14}$ = 2 km/hr —— (II)
From (I) & (II),
V = 3 km/hr.

59. (3) Let daily wage was 'x' Rs.
∴ 150% of x = 30
∴ x = $\frac{30\times100}{150}$ = 20 Rs.

60. (3) Let cost price be = 'x' Rs.
∴ S.P = X× $\frac{116}{100}\times\frac{125}{100} = \frac{29x}{20}$
∴ Profit % = $\frac{\frac{24x}{20}-x}{x}\times100$
= $\frac{9x}{20\times x}\times100$ = 45%

61. (3) The pattern of series is –
13 × 3 − 4 = 35
35× 3 − 4 = 101
101× 3 − 4 = 299
299× 3 − 4 = 893

$893\times 3-4=2675$

62. (4) The pattern of series is square of prime number ≥ 7

$7^2=49$

11^2=121

$13^2=169$

$17^2=289$

19^2=361

63. (5) The pattern of series is:

9+17=26

17+26=43

26+43=69

43+69=112

69+112=181

112+181=293

181+293=474

64. (4) The pattern of series is :

$8\times 3+(2\times 3)=30$

$30\times 4+(3\times 4)=132$

$132\times 5+(4\times 5)=1680$

$680\times 6+(5\times 6)=4110$

$4110\times 7+(6\times 7)=28812$

65. (1) The series is combination of two series

13+7=20	and	16+6=22
20+14=34		22+12=34
34+21=55		34+18=52
55+28=83		52+24=76

66. (5) Expenditure of the company $=120-70=50$ cr.

$\therefore$ % profit $=\frac{70}{50}\times 100=140\%$

67. (1) Reqd. ratio = (85+30) : 85 = 115 : 85 = 23 :17

68. (3) Required average

$=\frac{40+55+50+70+30+75}{6}=\frac{320}{6}=53cr$

69. (2) Reqd. exp $=95$ cr$-40cr=55\ cr$

$=55\times 10^7$

70. (4) Reqd. % $=\frac{70-50}{50}\times 100=40\%$

71. (3) Total wheat production = 400 lakh tons

Yield per hectare = 25 tons

$\therefore$ Area under wheat cultivation

$=\frac{400}{25}$ = 16 lakh hec.

72. (5) total rice production in the country = 416 lakh tons

$\therefore$ Reqd. percentage $=\frac{78}{416}\times 100=18.75\%$

73. (2) Total grain production of states (in lakh tons)

A	B	C	D	E	F	G
172	244	190	222	174	207	215

74. (4) Combined production of pulses in 2003 (for A and B)

= (30+22) lakh tons $\frac{102}{100}\times\frac{102}{100}$

$=52\times\frac{102}{100}\times\frac{102}{100}$ = 54.1 lakh tons

75. (2) Wheat production of A, B and C

= 52+78+99=229 I tons and, that of E, F and G

= 15+12+120=147 I tons

$\therefore$ Reqd. answer $=229-147=82$ lakh tons

76. (E) x=15,3 ; y= 3,15 , Relationship can't be established

77. (C) x= 5, -1 ; y= 9,9 , Y>x

78. (E) x=5,1; y= $3,\frac{7}{2}$, Relationship can't be established

79. (C) x= $-1,\frac{1}{2}$, y=$\frac{2}{3},\frac{3}{4}$, y > x

80. (E) x = $\mp\frac{1}{4}$, y= $-\frac{1}{3}$, -2 , Relationship can't be established

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