TNTET (RE) – OCTOBER - 2012

PAPER I - KEY ANSWERS

Exclusively Prepared For

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Question No.	Question Booklet Series Code			
	A	B	C	D
1	A	D	A	C
2	C	D	C	B
3	D	B	A	B
4	B	D	B	D
5	B	B	C	C
6	C	A	C	D
7	B	C	C	D
8	B	A	D	B
9	D	B	A	D
10	C	C	A	B
11	C	D	D	A
12	C	A	D	C
13	D	A	B	A
14	A	D	D	B
15	A	A	B	C
16	D	C	A	D
17	D	B	C	A
18	B	B	D	A
19	D	D	B	D
20	B	C	B	A
21	D	C	C	A
22	A	C	B	C
23	A	D	B	D
24	D	A	D	B

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25	A	A	C	B
26	A	A	D	C
27	C	C	A	C
28	A	D	A	D
29	B	B	D	A
30	C	B	A	A
31	B	B	A	B
32	C	C	C	B
33	A	B	C	C
34	B	A	A	B
35	A	C	C	C
36	B	A	D	B
37	B	C	A	C
38	C	C	B	B
39	B	A	A	A
40	C	C	A	C
41	D	D	B	A
42	A	C	C	C
43	B	B	B	C
44	A	C	A	A
45	A	D	C	C
46	B	B	B	D
47	C	B	C	C
48	B	C	A	B
49	A	B	B	C
50	C	C	A	D
51	D	D	B	B
52	C	A	B	C
53	B	B	C	A
54	C	A	B	B
55	D	A	C	A
56	A	B	D	D
57	C	C	C	A
58	C	A	B	B
59	A	B	C	A

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60	C	A	D	A
61	A	A	D	B
62	C	D	B	D
63	A	A	A	C
64	A	C	C	D
65	D	D	B	B
66	B	C	C	A
67	D	A	A	C
68	C	C	A	B
69	C	B	C	C
70	A	D	A	A
71	C	C	A	A
72	B	D	D	D
73	D	D	B	A
74	C	A	D	C
75	D	B	C	D
76	D	D	A	C
77	A	B	D	A
78	B	A	A	C
79	D	C	C	B
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81	A	C	C	C
82	C	A	A	D
83	B	A	C	D
84	C	C	B	A
85	A	A	D	B
86	A	A	C	A
87	D	D	D	C
88	A	B	D	A
89	C	D	A	A
90	D	C	B	D
91	B	A	A	D
92	B	C	D	B
93	B	C	A	A
94	C	A	C	C

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95	C	C	B	B
96	D	A	B	A
97	B	D	B	C
98	A	A	C	C
99	C	C	B	A
100	B	B	A	C
101	B	D	A	A
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105	A	D	C	B
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109	A	C	C	D
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112	A	B	B	B
113	C	C	A	B
114	D	B	C	C
115	D	A	B	C
116	A	B	D	B
117	D	B	A	B
118	A	B	C	C
119	C	C	D	B
120	B	C	D	A
121	D	D	B	A
122	C	C	B	A
123	D	A	B	A
124	C	D	D	A
125	C	D	A	A
126	A	A	B	D
127	A	B	C	C
128	A	B	C	A
129	A	D	B	D

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130	A	A	C	D
131	B	B	D	B
132	C	B	C	B
133	C	C	A	B
134	B	A	D	D
135	C	B	D	A
136	D	A	D	B
137	C	A	C	B
138	A	A	D	C
139	D	A	C	A
140	D	A	C	B
141	B	B	A	D
142	B	C	A	C
143	C	C	A	D
144	A	B	A	C
145	B	C	A	C
146	B	D	B	B
147	B	C	B	C
148	B	D	C	C
149	D	C	A	B
150	A	C	B	C

TNTET (RE) Oct. 2012 Paper 1 Mathematics question solutions

Question series code : A

91

92

93.

Given :

Average of value = 15, Number of values =25, wrongly entered value = – 15, correct value 15

Correct total = wrong total – wrong value + correct value

= (15x25) – (- 15) + 15 = 375 + 15 + 15 = 405

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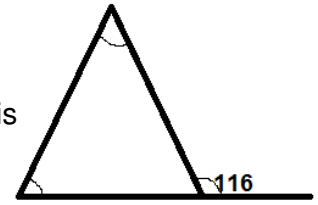
Corrected average = Correct total / number of values
= 405/25 = 16.2 Choice (B)

94.

Order of rotation for an equilateral triangle is 3

Angle of rotation = $\frac{360^\circ}{3} = 120^\circ$

95.



$\angle A = x + 18$
$\angle B = x$
By property of triangle, external angle is equal to sum of opposite internal angles
$\angle A + \angle B = 116$
$x + 18 + x = 116$
$2x + 8 = 116$
$2x = 98$ ➔ $x = 49°$

96.

By the condition for triangle, the sum of any two side is greater than the third side, (Triangle inequality) $b < c + a$

97.

If one is added to the numerator and denominator, the fraction become 2/3

If one is subtracted from the numerator and denominator fraction becom 1/3
By trial,
The fractionis $\frac{3}{5}$

98.

The ratio of numbers x : y = 3 : 4 =➔ $\frac{x}{y} = \frac{3}{4}$ => 4x = 3y ---(1)

The product of two numbers = product of ICM and GCD

$xy = 10800$ ➔ $y = \frac{10800}{x}$

from (1) $4x = 3\left(\frac{10800}{x}\right)$

$4x^2 = 3(10800)$

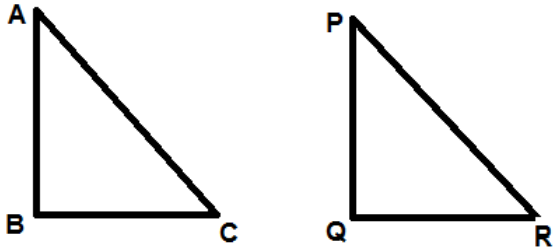
$x^2 = 8100$ ➔ $x = 90$,

$y = \frac{10800}{x} = \frac{10800}{90} = 120$

The sum of the numbers = 90 + 120 = 210 Choice (A)

99.

AB = PQ , BC = QR , then the two triangles are similar by SAS property



100.

Cost price of 8 item = selling price of 10 items

8. CP = 10 SP

$SP = \frac{8}{10} CP$

% OF LOSS = $\frac{C.P - S.P}{C.P} X100$

$= \frac{\left(1 - \frac{8}{10}\right) C.P}{C.P} X100 = \frac{2}{10} X100 = 20$

Choice (B)

101

By BODMAS RULE,

4.59 x 1.8 ÷ 3.6 + 5.4 of $\frac{1}{9} - \frac{1}{5}$

4.59 x x0.5 + 0.6 – 0.2

2.295 + 0.4 = 2.695 Choice (B)

102.

Condition for leap year

A year divided by 4

For centenary year it is divided by 400

therefore, 1800 is not a leap year

103.

$(a + 4)^2 = A + 60$

$a^2 + 8a + 16 = A + 60$

A + 8a + 16 = A + 60➔ 8a = 60 -16 =44

a= $\frac{44}{8} = 5.5cm$ CHoice (C)

104.

Condition for divisibility for 11

Difference between sum of odd digits and even digits is zero or multiple of 11

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(1+9+2+5+6) – (1+7+1+a) = n(11)

For least number n = 1

23- (9+a) = 11 ➔ 9+a = 23 -11

a = 3 Choice B

105

By synthetic division

108 = 2 x2x3x3x3 = 2^2x3^3 To make it as a perfect cube it should be multiplied by 2

Choice (A)

109.

110.

Arrange the given numbers in ascending order

$\frac{x}{5},\frac{x}{4},\frac{x}{3},\frac{x}{2},x$ then the median of the value is $\frac{x}{3}$ = 5

x = 15 Choice (C)

111.

The degree of algebraic expression 7 , which is a constant.

For a constant term degree is 0 (since $7x^0$ = 7)

Choice (D)

112.

a + b = 7 , a – b = 3 then the value of ab

Method 1

By solving

a + b = 7

a – b = 3

2a = 10 , ➔ a = 5

b = 7- a = 2 ab = 10

Method 2

By identity $(a + b)^2 – (a- b)^2 = 4ab$

49 – 9 =4ab

40 =4ab

ab =10

Choice A

113.

Mark scored by Rani = 100

Mark scored by Raju = 20 % less than rani = 80

Mark scored by Bharath = 20% more than raju = 80 + 20% of 80

=80 + 16 =96

Choice (C)

114.

Let the Marked price of radio be 100

purchased price = $\frac{9}{10}$ of 100 = 90

sold out price = 100 + 8% of 100 = 108

profit = 108 – 90 = 18

% of profit = $\frac{18}{90} x 100 = 20$ CHoice (D)

116.

Difference between the circumference and radius is =37 cm.

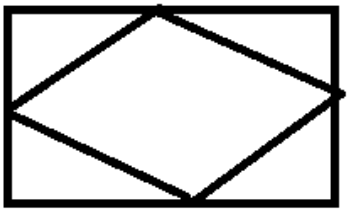
$2\pi r - r = 37$

$r(2\pi - 1) = 37$

$$r = \frac{37}{2\pi - 1} = \frac{37}{2\left(\frac{22}{7}\right) - 1} = \frac{37}{\frac{44-7}{7}} = 7$$

Area = $\pi r^2 = \frac{22}{7} x 7 x 7 = 154$ choice (A)

117.



Area of the rhombus = ½ ($d_1 x d_2$)

here d_1 = l ; d_2 = b

Area = ½ (40x26) = 520 choice (D)

118

(A) DIstributive

119. By trial the choice (

120.

A = P + pnr

A = P (1 + nr)

6800 = P (1+ 5r)

6080 = P(1 + 3r)

solving the above P = 5000

WISH YOU ALL SUCCESS

Maths Solution Attached In Last Page