1. Integration $\int \frac{secx}{\sqrt{sinx}\,cos^5 x}$ dx

$$= \frac{2\sqrt{\tan(x)}\,(5\tan^4(x) + 18\tan^2(x) + 45)}{45} + C$$

.

2. Sum of the infinite series 1+2+⅔+6/(3^2)+10/(3^3)+14/(3^4).....
   ANS:=2 + 3 = 5

3.
$6cos^2\theta - 2cos2\theta = 0$ *then* $tan^3 3\theta$ =?
Question is wrong

4. $\lim_{x\to 3}\left(\frac{\sqrt{x+6} - \sin(x-3) - 3}{(x-3)\cos(x-3)}\right) = ?$
Ans = -⅝

5. $\sim (p \leftrightarrow q)$
Ans=

p	q	¬(p ↔ q)
F	F	**F**
F	T	**T**
T	F	**T**
T	T	**F**

6.
$$\int_{-3}^{3} \frac{5x^4}{1+e^{-x}} dx$$
Ans = 243

7. P(A|B) =⅘ and P(B|A) = ¼ Then P(A|AUB)=?
ans=½

8.
Set of all 3 digit natural number B = $\{x \in A : HCF, (x, 15) = 1\}$ number of elements in B Is
Ans =480

9.

Let $Z(\neq 1)$ *be a complex number such that* $|z| = 1$ *imaginary part of* $\dfrac{\overline{z}(1-z)}{z(1+\overline{z})}$

Ans= $-\dfrac{2xy}{(x+1)^2+y^2}$

10. Area above x-axis bounded by parabola x-y^2-1=0 and x-y-3=0
Ans: 10/3

11
R is reminder of $98^5/12$ coefficient of x^3 in $(1+x/2)$^(2r)
Ans
$\dfrac{^{16}C_3}{8}$

Q: Complete the following series: 38, 190, 950,.....
A: 4750

Q: In an increasing GP if sum of first and sixth term is 66 and product of second and fifth term is 128, then sum of first six terms of this GP is

Q: If OP is a line of slope 1/?3 joining origin and point P on the parabola y² = 3x. A normal is drawn is P which cuts the axis of the parabola at Q. Then the distance QS is (Where S is the focus of the parabola? a) 45/4 b)39/4 c)35/7 d) none of these
A: 39/4

Q: If f (x) = alog |x| + bx³ + cx² and -1 and 1 are the point of inflection, then?
A: f''(1) + f''(-1) = 0