PHM-1.1.2.
REMEDIAL MATHS

(B.Pharmacy, 1st Semester) (2123)

Time : 3 Hours   Maximum Marks : 40

Note :— This paper consists of Three Sections. Section A is compulsory. Attempt any *Four* questions from Section B and *Three* from Section C.

Section–A   Marks : 1 Each

1. (a) Most important objectives of statistical analysis to get :
   (i)   Range
   (ii) A single value
   (iii) Mid-value
   (iv) All

   (b) The pie diagram (pie chart) is used to represent :
   (i)   Frequency
   (ii) Relative frequency
   (iii) Cumulative frequency
   (iv) All

: PHM-1.1.2.   Turn Over

(c) In a bimotal series Mode = ... Median –.......... Mean.

(d) What is the order and degree of the following differential equation :

(i) $\dfrac{d^2y}{dx^2} + y = 0$

(ii) $\left(\dfrac{d^2y}{dx^2}\right)^2 + x^2 \left(\dfrac{dy}{dx}\right)^2 = 0.$

(e) If $\tan\theta = t$, find all t ratios of θ in terms of t.

(f) Find the value of

$\tan^2 60° + 4\cos^2 45° + 3\sec^2 30° + 5\cos^2 90°.$

(g) Prove that :

$$\sqrt{\dfrac{1 + \sin\theta}{1 - \sin\theta}} = \sec\theta + \tan\theta.$$

(h) Prove that :

$\sin 51° + \cos 81° = \cos 21°.$

(i) Mean of a finite number of observation is 5. If each observation is increased by 2, find the new mean.

(j) Differentiate $e^{2x}.\sin 3x$.

(k) $\int \sin x.\cos x.\, dx = $ ....

(l) Evaluate $\int_0^1 (2x + 3).\, dx.$

(m) $\begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix}$

    (i) Sharp

    (ii) Natural

    (iii) Scalar matrix

    (iv) None.

(n) Find $3A -$

    $B = \begin{bmatrix} 7 & 6 & 3 \\ 1 & 4 & 5 \end{bmatrix}$

(o) Find the slope of a line
    is $\pi/3$.

Section—

2. The postal expenses on the letters
   from the office and given day is the
   following distribution :

   | Postage (in Paise) | 15 | 30 |
   | No. of letters | 47 | 30 |

   Find the mean postage per letter.

3. Prove that :

   $$\frac{\sin 8\theta . \cos\theta - \cos 3\theta}{\cos 2\theta . \cos\theta - \sin} = \tan 2\theta$$

4. Evaluate $\int \tan^3 2x$

5. Find the value of
   equation :

   $\begin{vmatrix} & & \\ x - 2 & -3 & 3x \end{vmatrix}$

P-

(4)

...passes through the point (1, 1)
...the line intercepted between
...is divided at this points in
...equation of line.

Marks : 5×3=

...sin dy/dx and prove

...) − cot (60° − A) = 3 cot 3A.

...en below, find the mean and

...	No. of condidates
...	7
...	10
...	16
...	30
...	24

...that :

2