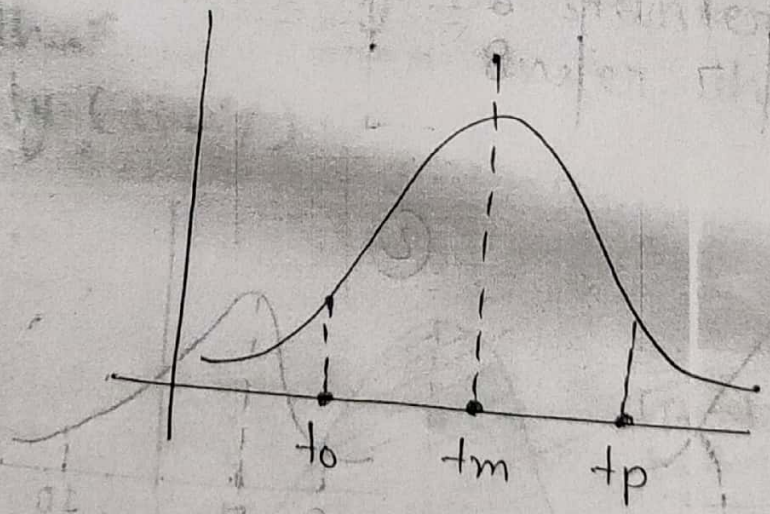
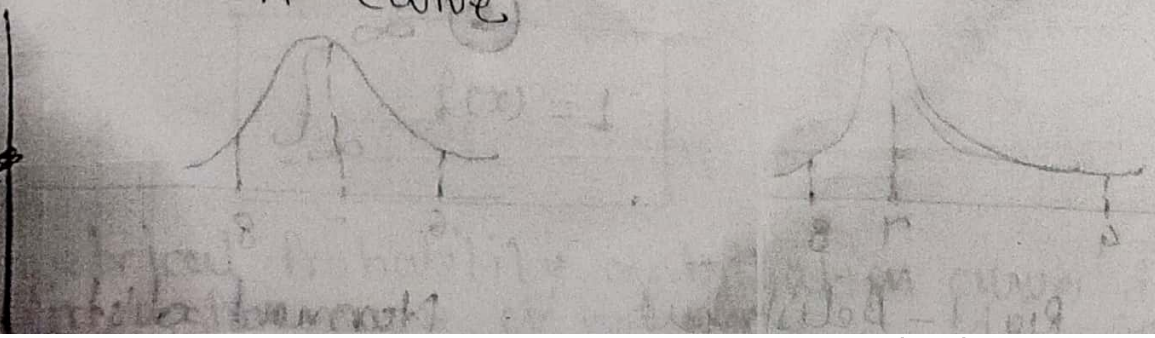
FREQUENCY DISTRIBUTION / PROBABILITY DI

ship can be stablished b/w no. of activity of particular
and the various time estimate taken for their
completion. Such a relationship may be espresse
by occure by plotted b/w the time of compliti
and the frequency of activity (No. of activity) of
a particular time is called frequency distributi
curve.

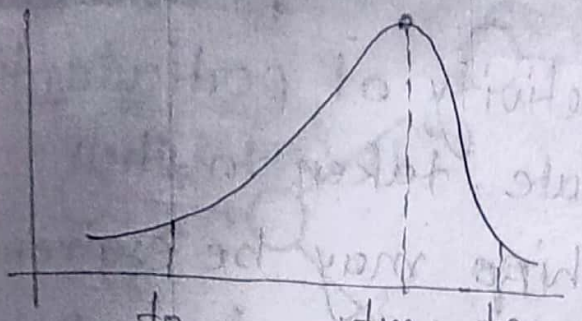
* Frequency distribution curve may be symmetri
or unsymmetrical about it's appere.
* Symmetrical frequency distribution curve is
called normal distribution curve.



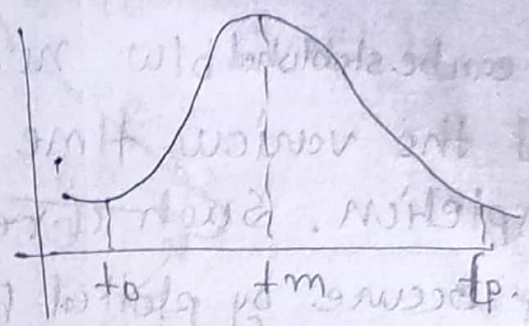
* Unsymmetrical frequency distribution curve is known as
β distribution curve



①



Skew Right



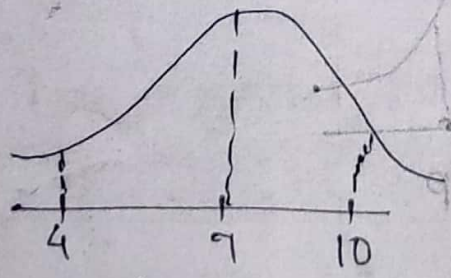
Skew left

Question: Draw Plot the frequency D.C. for the different activity in the table.

Activity	to	tm	tp
1	4	7	10
2	6	7	10
3	4	7	8
4	6	7	8

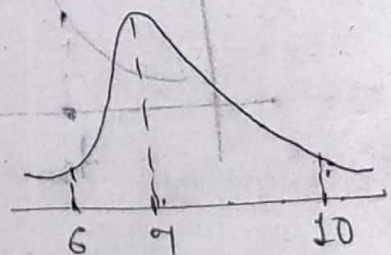
Solution:-

①



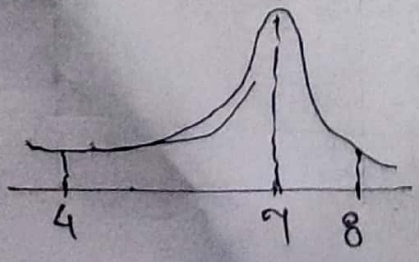
Normal distribu.

②

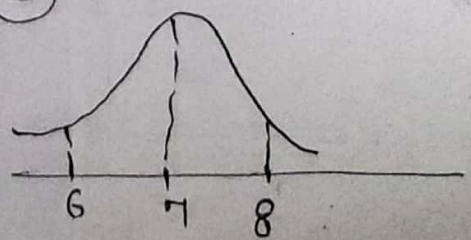


Skew - Left - B distribu

②



③



Normal distribution

IN FREQUENCY DISTRIBUTION CURVE

if $t_1, t_2, t_3 \cdots$ t_n is completion time for an activity.

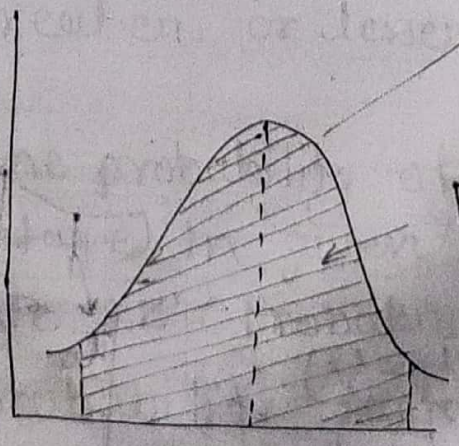
(i) Mean Time $= t_m = \frac{\Sigma t_i}{n} = \frac{t_1 + t_2 + t_3 + \cdots + t_n}{n}$

(ii) deviation $= (t_i - t_m)$

(iii) Variance, $\sigma^2 = \frac{\Sigma (t_i - t_m)^2}{n}$

(iv) Std. deviation $\sigma = \sqrt{(\sigma)^2} = \sqrt{\frac{\Sigma (t_i - t_m)^2}{n}}$

PROBABILITY DISTRIBUTION CURVE :- P.D.C. is a plote of function fx (Probability density function). Probability function is axiectly or standerized at height such that the area under the curve is equal to unity (100%).



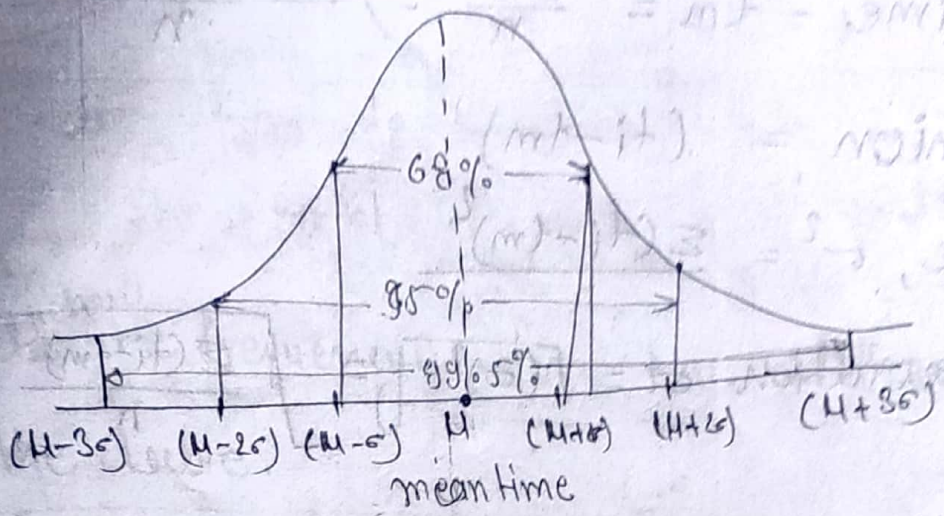
$A = 1 = 100\%$

$$\int_{-\infty}^{\infty} f(x) = 1$$

(1) Symmetrical Probability distribution curve is also

(2) Unsymmetrical distribution curve is called β - distribution curve

(3) In probability distribution curve

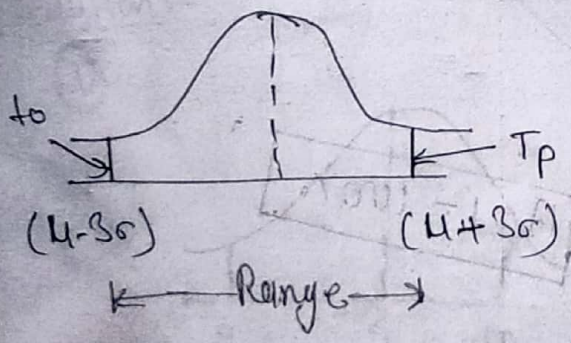


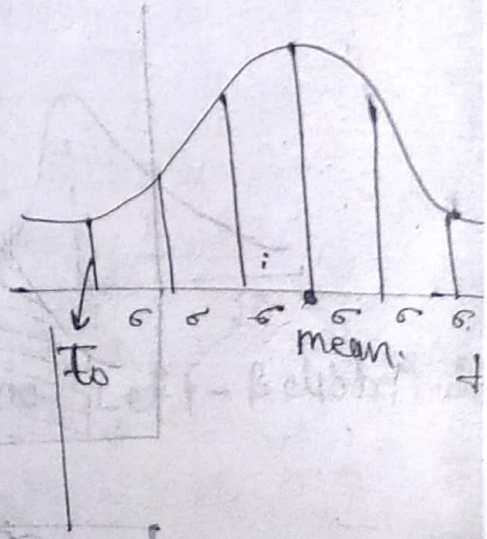
(1) Area under the curve term $(\mu-\sigma)$ to $(\mu+\sigma) = 68\%$

Area under the curve term $(\mu-2\sigma)$ to $(\mu+2\sigma) = 95\%$

Area under the curve term $(\mu-3\sigma)$ to $(\mu+3\sigma) = 99.7\%$

(2) Range of completion curve





$$\text{Range} = (t_p - t_o)$$

$$(\mu+3\sigma)-(\mu-3\sigma) = t_p - t_o$$

$$6\sigma = t_p - t_o$$

$$\boxed{\sigma = \frac{t_p - t_o}{6}}$$