

38.  $\left(-1, \frac{1}{3}\right)$
40.  $x = \frac{1}{2}$
41. 367.75
42. 96.36; 103.77; 104.55; 107.39; 105.26
43.  $r \cong 0.78$
44. 660 units.
45.  $\hat{y} = 12 + 0.88x$
46.  $\hat{y} = 65.05 - 4.9 t$
47.  $\frac{1}{30}$
48.  $P(C) = \frac{3}{7}$
49.  $\frac{7}{12}$
50. 0.37
51. 0.1382
52.  $\frac{dR}{dx} = 126$
53. (A) 40.
53. (B) (1) 0.3785
54. (1) 0.1151  
(2) 0.1151
55.  $\frac{5}{2}$
56. -34; 91
57. ₹ 14000
58.  $I_L = 109.52$   
 $I_P = 110.29$   
 $I_F = 109.90$
59.  $r \cong 0.45$
60.  $r \cong 0.90$
61.  $\hat{y} = 168.44$  cm
62.  $\hat{y} =$  Rs 50.8 lakh
63. 2012 = -; 2013 = -; 2014 = 16.8;  
2015 = 18.6; = 21.2; = 22.6; 2018 =  
23.2; 2019 = - ; 2020 = -
- □ □

### QUESTION PAPER-8 : MARCH 2022

#### SECTION-A

1. (C) 550
2. (C) 133.33
3. (C)  $-1 \leq r \leq 1$
4. (B) -0.5
5. (A)  $(\bar{x}, y)$
6. (B) Square of correlation coefficient
7. (A) Random
8. (D) Method of moving average
9. (A) Mathematical Definition
10. (A) Independent events
11. (D) Birth year of a student
12. (D) 10
13. (B) 3

14. (A) Mean=0, variance = 1
15. (B) 0.5
16. (C) (14, 26)
17. (A) 10
18. (D) 108
19. (A)  $a$
20. (D)  $u \frac{dv}{dx} + v \frac{du}{dx}$

#### SECTION-B

21. The important basic tests of index number are : (1) Time reversal test  
(2) Factor reversal test.
22. The main limitation of scatter diagram is that it gives only nature of correlation and some idea about the strength of correlation, but it does not give exact degree of relationship

23. Me obt
24. The acc seri obs per.
25. P(A - F C)
26. Sup exp (S) is con  $p <$  tria call
27.  $\pi = e =$
28. 94.4 non to |
29. If  $a$  nun ( $a$  neig
30.  $y =$   
 $\therefore$
31. 10.3
32. 0.5
33.  $e =$
35. P(A

between two variables.

- 23. Method of least square is used to obtain the best fitted regression line.
- 24. The data collected and arranged according to the time is called time-series. **OR** A time series is a set of observations taken at specified time periods.
- 25.  $P(A \cup B \cup C) = P(A) + P(B) + P(C) - P(A \cap B) - P(A \cap C) - P(B \cap C) + P(A \cap B \cap C)$
- 26. Suppose dichotomous random experiment has two outcomes, success (S) and failure (F). If this experiment is repeated  $n$  time under identical conditions and the probability  $p(0 < p < 1)$  of getting a success at each trial is constant then such trials are called Bernoulli Trials.

2014 = 16.8;  
2.6; 2018 =

- 27.  $\pi = 3.1416$   
 $e = 2.7183$
- 28. 94.45% of area is covered under the normal curve within the range  $\mu - 2\sigma$  to  $\mu + 2\sigma$
- 29. If  $a \in \mathbb{R}$  and  $\delta$  is non-negative real number then the open interval  $(a - \delta, a + \delta)$  is called  $\delta$  neighbourhood of  $a$ .

30.  $y = 6x^3 + \frac{7}{2}x^2 + \frac{6}{5}x - 8$   
 $\therefore \frac{dy}{dx} = 18x^2 + 7x + \frac{6}{5}$

s of index  
versal test

- 31. 10.32%
- 32. 0.5
- 33.  $e = 1$

ter diagram  
nature of  
about the  
it does not  
relationship

35.  $P(A) = \frac{m}{n} = \frac{24}{120} = \frac{1}{5}$

- 36. 13
- 37.  $(-1.5, -0.5)$
- 38. 6
- 40. 129.64
- 41. 2016 = 12,500; 2017 = 10,000; 2018 = 9268.29; 2019 = 9090.91; 2020 = 9361.7; 2021 = 9615.38
- 42.  $r \cong 0.23$
- 43.  $\hat{y} = 58 + 3.2x$
- 44. (i) 0.8  
(ii) 1.6  
(iii) 0.08
- 45.  $65.05 - 4.9t$
- 46.  $P(B) = \frac{m}{n} = \frac{3}{4}$
- 48.  $\frac{7}{13}$
- 50. 0.3446
- 51.  $\frac{-3x^2 + 12x + 15}{(x^2 + 5)^2}$
- 52. Mode = 40
- 52.  $\mu = 2000$
- 53. (1) 409 persons  
(2) 11 persons
- 54.  $\frac{1}{2}$
- 55. 20
- 56.  $I_L = 90.67; I_P = 91.31; I_F = 90.99$
- 57.  $r \cong 0.98$
- 58.  $r \cong 0.91$
- 59. 9.97
- 60.  $\hat{y} = 6.78$

