

16. For $n = 6$ in general formula, rule is obtained
 a) Trapezoidal b) Simpson's $\frac{1}{3}nd(or)\frac{3}{r}$
 c) Boole's d) Weddle's
17. Simpson's $\frac{3}{8}$ rule is applicable, when n is an integral multiple of
 a) 2 b) 3 c) 4 d) 6
18. The error term in the Boole's rule is,
 a) $\frac{-h^3}{12} y''(x)$ b) $\frac{-3h^5}{80} y^{iv}(x)$ c) $\frac{-8h^7}{945} y^{vi}(x)$ d) $\frac{-h^7}{140} y^{vi}(x)$
19. In Newton – cotes open integration formulae, step size, $h =$
 a) $\frac{b-a}{n+2}$ b) $\frac{b-a}{n+1}$ c) $\frac{b-a}{n}$ d) None of the above
20. The Co-efficient in the Newton-cotes formulas can be determined by using
 a) Method of least squares b) Method of undetermined coefficients
 c) Both (a) and (b) d) None of the above

II. Fill in the Blanks.

- The most common method of curve fitting is _____
- In the method of least squares, sum of the squares of the errors is _____
- The curve $y = ae^{bx}$ is a _____ model.
- If $\frac{dy}{dx}$ is required at the beginning of the table then _____ formula is used. $d/dx (y)$
- Replacing the tabulated function by means of an interpolating polynomial results in _____
- For a natural cubic spline, $M_2 = M =$ _____
- In Trapezoidal rule, $\int_a^b f(x) =$ _____
- _____ rule is obtained by substituting $n = 2$ in general formula.
- In Boole's rule, the number of subintervals must be the multiple of _____
- If the endpoints are included in evaluating the integral then the Newton-Cotes integration formulae are _____
- Formula for Taylor series method is _____
- Formula for Picard's method is _____
- Modified Euler's method formula is _____
- In _____ method, the range of h is small.
- The expression for local error is _____
- _____ is the result of replacing the given differential equation,
- The total error is given by _____
- The error in second order R-K method is of order _____.
- The fourth-order R-K-method has the error of order _____
- The highest order for R-K method is _____ order.

III. Short Questions.

- Write the normal equation required to fit straight line?
- Write Simpson's $\frac{1}{3}$ rule formula?
- Write the formulae for second order Runge-kutta?
- Write the formula for Taylor's series?
- Write the formula for Picard's?

IV. Assignment.