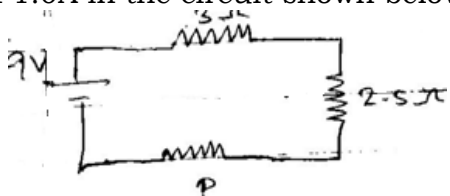


I. Choose the correct answer:

5x1=5

1. There is a current of 1.0A in the circuit shown below. What is the resistance of P?



- a) 1.5Ω      b) 2.5Ω      c) 3.5Ω      d) 4.5Ω

2. The temperature co-efficient of resistance of a wire is 0.00125 per °C. At 300K, its resistance is 1Ω. The resistance of the wire will be 2Ω as \_\_\_\_\_.

- a) 1154k      b) 1100k      c) 1400k      d) 1127k

3. The internal resistance of a 2.1V cell which gives a current of 0.2A through a resistance of 10Ω is \_\_\_\_\_.

- a) 0.2Ω      b) 0.5Ω      c) 0.8Ω      d) 1.0Ω

4. A carbon resistor of  $(47 \pm 4.7)k\Omega$  to be marked with rings of different colours for its identification. The colour code sequence will be \_\_\_\_\_.

- a) Yellow - Green - Violet - Gold  
 b) Yellow - Violet - Orange - Silver  
 c) Violet - Yellow - Orange - Silver  
 d) Green - Orange - Violet - Gold

5. Two wires of A and B with circular cross section made up of the same material with equal lengths. Suppose  $R_A = 3R_B$ , then what is the ratio of radius of wire A to that of B?

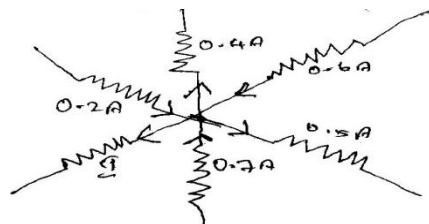
- a) 3      b)  $\sqrt{3}$       c)  $\frac{1}{\sqrt{3}}$       d)  $\frac{1}{3}$

II. Answer any 3 of the following:

3x2=6

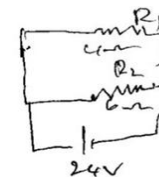
6. Find the heat energy produced in a resistance of 10Ω when 5A current flows through it for 5 minutes.

7. From the given circuit find the value of I.



8. If the resistance of coil is 3Ω at 20°C and  $\alpha = 0.004/1^\circ\text{C}$  then determine its resistance at 100°C.

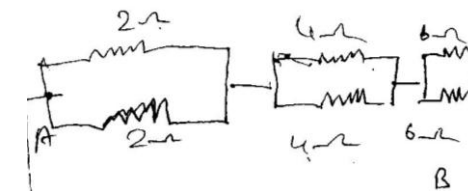
9. Calculate the equivalent resistance in the following circuit and also find the current I,  $I_1$  and  $I_2$  in the given circuit.



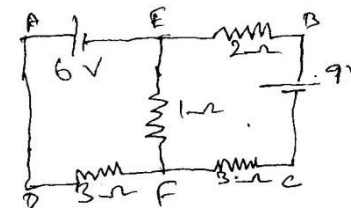
III. Answer any 3 of the following:

3x3=9

10. Calculate the equivalent resistance between A and B in the given circuit.



11. Calculate the current that flows in the 1Ω resistor in the following circuit.



12. An electric heater of resistance 10Ω connected to 220V power supply is immersed in the water of 1kg. How long the electrical heater has to be switched on to increase its temperature from 30°C to 60°C (The specific heat of water is  $S = 4200 \text{ JKg}^{-1}$ )

13. The resistance of a wire is 20Ω. What will be new resistance, if it is stretched uniformly 8 times its original length?

IV. Answer the following:

2x5=10

14. When two resistances connected in series and parallel their equivalent resistances are 15Ω and  $\frac{56}{15}\Omega$  respectively. Find the individual resistances.

15. Two electric bulbs marked 20W-220V and 100W-220V are connected in series to 440V supply. Which bulb will be fused?

EVERWIN MATRIC. HR. SEC. SCHOOL

16.07.19 T.T Accountancy Time: 45 Mins

STD: XII (F,G,H) Marks:30

I. Choose the correct answer: 10x1=10

1. The excess of assets over liabilities is \_\_\_\_\_.  
a) locus      b) cash      c) capital
2. Statement of affairs is a \_\_\_\_\_.  
a) Statement of income & expenditure  
b) Statement of assets & liabilities  
c) Summary of Cash Transactions
3. The amount of credit sales can be computed from \_\_\_\_\_.  
a) Total debtors account    b) Total creditor's account  
c) Bills payable account
4. Opening balance of debtors ₹30,000, cash received, ₹ 1,00,000, Credit sales ₹90,000, the closing debtors is \_\_\_\_\_.  
a) 20,000    b) 30,000    c) 10,000
5. What is the amount of capital, asset 85,000, liabilities 25,000?  
a) 85,000    b) 64,000    c) 1,04,000
6. Subscription due but not received for current year is \_\_\_\_\_.  
a) An asset    b) A liability    c) an expenses
7. Legacy is a \_\_\_\_\_.  
a) Revenue receipt    b) Capital receipt    c) Capital expenses
8. Income and expenditure account is prepared to find out  
a) Profit & loss    b) Financial position    c) Surplus & deficit
9. Receipt & payment is a \_\_\_\_\_.  
a) Real account    b) Personal account    c) Nominal account
10. Income & expenditure account is a \_\_\_\_\_.  
a) Nominal account    b) Real account    c) Personal account

II. Answer the following: 2x2=4

11. What is incomplete records?
12. What is lifetime membership for?

III. Answer the following: 2x3=6

13. What is statement of affairs?
14. Write a note on Receipt & Payment account.

IV. Answer any 2 of the following: 5x2=10

15. Write the difference between Single entry & Double entry.
16. Write the difference between Statement of affairs & Balance sheet.
17. Write the difference between Income & Expenditure, Receipts & Payment Account.

16.07.19 T.T Business Maths Time: 45 Mins  
 STD: XII (I,J) Marks:30  
 I. Choose the correct answer: 5x1=5

1.  $\left[\frac{1}{2}\right] =$  \_\_\_\_\_  
 a)  $\frac{1}{2} \left(\left[\frac{1}{2}\right]\right)$     b)  $\frac{3}{2} \left(\left[\frac{1}{2}\right]\right)$     c)  $\sqrt{\pi}$     d)  $\frac{\sqrt{\pi}}{2}$
2.  $\int_a^b f(x) dx =$  \_\_\_\_\_  
 a)  $\lim_{h \rightarrow 0} \sum_{r=1}^n h f(ra + h)$     b)  $\lim_{h \rightarrow 0} \sum_{r=1}^n h f(a + rh)$   
 c)  $\lim_{h \rightarrow 0} \sum_{r=1}^n h f(a + rh)$     d)  $\lim_{r \rightarrow 0} \sum_{n=1}^h h f(a + rh)$
3.  $\int_a^b [f(x) \pm g(x)] dx =$  \_\_\_\_\_  
 a)  $\int_{-a}^{-b} [f(x) \pm g(x)] dx$     b)  $\int_a^b f(x) dx \pm \int_a^b g(x) dx$   
 c)  $\int_a^b f(x) dx \pm \int_b^a g(x) dx$     d)  $\left[\frac{g(x)}{2} + \frac{f(x)}{2}\right] + c$
4.  $\int_0^{\infty} x^4 e^{-x} dx$  is \_\_\_\_\_  
 a) 12    b) 4    c) 4!    D) 64!
5. If  $n > 0$ , then  $\int (x^n)$  is \_\_\_\_\_  
 a)  $\int_0^1 e^{-x} x^{n-1} dx$     b)  $\int_0^1 e^{-x} x^n dx$     c)  $\int_0^{\infty} e^x x^{-n} dx$   
 d)  $\int_0^{\infty} e^{-x} x^{n-1} dx$

II. Answer any 3 of the following: 3x2=6

6.  $\int_1^2 3x^2 dx = -1$  then find the value of a(a ∈ R).
7.  $\int_0^{\frac{1}{4}} \sqrt{1-4x} dx$     8.  $\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} x^3 \cos^3 x dx$     9.  $\int_0^{\infty} e^{-2x} x^5 dx$

III. Answer any 3 of the following: 3x3=9

10.  $\left[\left(\frac{9}{2}\right)\right]$     11.  $\int_{-1}^1 \log\left(\frac{2-x}{2+x}\right) dx$

12. Using second fundamental theorem, evaluate

$$\int_1^e \frac{dx}{x(1+\log x)^3}$$

13. Evaluate the integral as limit of a sum:  $\int_0^1 x dx$

IV. Answer any 2 of the following: 2x5=10

14. Evaluate the integral as limit of a sum  $\int_1^2 x^2 dx$

15. Using the properties of definite integral:

$$\int_0^1 \log\left(\frac{1}{x} - 1\right) dx$$

16. Evaluate:

$$\text{i) } \int_1^4 f(x) dx \text{ where } f(x) = \begin{cases} 4x+3, & 1 \leq x \leq 2 \\ 3x+5, & 2 < x \leq 4 \end{cases}$$

$$\text{ii) } \int_0^3 e^{7x} dx$$

16.07.19 T.T Computer Application Time: 45 Mins  
 STD: XII (I,J) Marks:30

I. Write the abbreviation for the following: 10x1=10

- |        |         |         |           |         |
|--------|---------|---------|-----------|---------|
| 1. PHP | 2. URL  | 3. CSS  | 4. ASP    | 5. JSP  |
| 6. CGI | 7. OOPS | 8. HTTP | 9. TCP/IP | 10. IIS |

II. Answer any 4 of the following: 4x2=8

11. What is web server?
12. How to declare variables in PHP?
13. Write the difference between client and server.
14. What are the common usages of PHP?
15. Give few examples of Web Browser.

III. Answer any 4 of the following: 4x3=12

16. Write short notes on PHP operator.
17. Explain the integer and float datatype with eg.
18. Define assignment operator with eg.
19. Write a note on string operator.
20. Define datatypes and write its types.

16.07.19

T.T Maths

Time: 45 Mins

STD: XII (D,E)

Marks:30

I. Choose the correct answer:

5x1=5

1. A zero of  $x^3+64$  is \_\_\_\_\_.

- 1) 0                  2) 4                  3) 4i                  4) -4

2. If  $\alpha, \beta$  and  $\gamma$  are the zeros of  $x^3+px^2+qx+4$ , then  $\sum \frac{1}{\alpha}$  is

- 1)  $\frac{q}{r}$                   2)  $\frac{-q}{r}$                   3)  $\frac{-p}{r}$                   4)  $\frac{-q}{p}$

3. According to the rational root theorem, which number is not possible rational zero of  $4x^7+2x^4-10x^3-5$ ?

- 1) -1                  2)  $\frac{5}{4}$                   3)  $\frac{4}{5}$                   4) 5

4. The polynomial  $x^3-kx^2+9x$  has three real zeros if and only if, k satisfies

- 1)  $|k| \leq 6$           2)  $k=0$                   3)  $|k| > 6$                   4)  $|k| \geq 6$

5. The number of positive zeros of the polynomial  $\sum_{r=0}^n nC_r (-1)^r x^r$  is \_\_\_\_\_.

- 1) 0                  2) n                  3)  $< n$                   4) r

II. Answer for any 5 of the following:

5x3=15

6. Construct a cubic equation with roots  $2, \frac{1}{2}, 1$ .7. If  $\alpha, \beta$  and  $\gamma$  are the roots of the cubic equation  $x^3+2x^2+3x+4=0$ , form a cubic equation whose roots are  $2\alpha, 2\beta, 2\gamma$ .8. Find the sum of the square of the roots of the equation  $2x^4-8x^3+6x^2-3=0$ 9. If p and q are the roots of the equation  $lx^2+nx+n=0$ , show that

$$\sqrt{\frac{p}{q}} + \sqrt{\frac{q}{p}} + \sqrt{\frac{n}{l}} = 0$$

10. If  $\alpha, \beta, \gamma, \delta$  are the roots of the polynomial equation  $2x^4+5x^3-7x^2+8=0$  find a quadratic equation with integer coefficients whose roots are  $\alpha + \beta + \gamma + \delta$  and  $\alpha\beta\gamma\delta$ .11. If  $\alpha, \beta, \gamma$  are the roots of the polynomial equation  $ax^3+bx^2+cx+d=0$ , find the value of  $\sum \frac{\alpha}{\beta\gamma}$  in terms of the coefficients.

III. Answer for any 2 of the following:

2x5=10

12. If the equations  $x^2+px+q=0$  have a common root, show

that it must be equal to  $\frac{pq^1-p^1q}{q-q^1}$  (or)  $\frac{q-q^1}{p^1-p}$

13. Solve the equation  $x^3-9x^2+14x+24=0$  if it is given that two of its roots are in the ratio 3:2.14. Form the equation whose roots are the squares of the roots of the cubic equation  $x^3+ax^2+bx+c=0$ .