

**ENGLISH CORE**

**Q1. Find out the meanings of the words already highlighted in pink colour.**

**Q2. Read the Extracts given below and answer the questions that follow:**

a) I jumped over the bench and sat down at my desk. Not till then, when I had got a little over my fright, did I see that our teacher had on his beautiful green coat, his frilled shirt, and the little black cap, all embroidered, that he never wore on inspection or prize days. Besides, the whole world seemed so strange and solemn. But, the thing that surprised me the most was to see, on the back benches that were always empty, the village people sitting quietly like ourselves.

- I. Who was 'I'? Also write his teacher's name.**
- II. How was the teacher dressed?**
- III. How did the school seem to be on that day?**
- IV. What was the thing that surprised 'I' the most?**

b) But he had the courage to hear every lesson to the very last. After the writing, we had a lesson in history, and then the babies chanted their *ba, be bi, bo, bu*. Down there at the back of the room old Hauser had put on his spectacles and, holding his primer in both hands, spelled the letters with them. You could see that he, too, was crying; his voice trembled with emotion, and it was so funny to hear him that we all wanted to laugh and cry. Ah, how well I remember it, that last lesson!

- I. Who was 'he'? What courage is referred to?**
- II. Who was crying? Why was he present in the class?**
- III. Why was the teacher crying?**
- IV. Why does 'I' remember that day's lesson?\_**

**SHORT ANSWER TYPE QUESTIONS**

**Q3. Why was Franz afraid to go to school that day?**

**Q4. What temptations did Franz overcome to proceed to school that day? Q5. What were the words that acted as a thunderclap to little Franz?**

**Q6. Whom does the teacher blame for the neglect of the learning at school and why? Q7. How does M. Hamel praise the French language?**

**LONG ANSWER TYPE QUESTIONS**

**Q8. "We've all a great deal to reproach ourselves with" said M. Hamel. Refer to the context and explain what he wanted to convey to his students?**

**Q9. Is it possible to carry pride in one's language too far? Do you know what "linguistic chauvinism" means?**

**Q10. What changes did the order from Berlin cause in the school that day?**

## ACCOUNTANCY

- Q1. From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	15,000
Creditors for Stationery on 1 <sup>st</sup> April, 2019	10,000
Amount paid for stationery during the year ended 31 <sup>st</sup> March, 2019	54,000
Stock of stationery on 31 <sup>st</sup> March, 2019	2,500
Creditors for stationery on 31 <sup>st</sup> March, 2019	6,500

- Q2. From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	15,000
Creditors for Stationery on 1 <sup>st</sup> April, 2018	10,000
Advance paid to Creditors as on 1 <sup>st</sup> April, 2018	10,000
Amount paid for stationery during the year ended 31 <sup>st</sup> March, 2019	54,000
Stock of stationery on 31 <sup>st</sup> March, 2019	2,500
Creditors for stationery on 31 <sup>st</sup> March, 2019	6,500
Advance paid to Creditors as on 31 <sup>st</sup> March, 2019	8,000

- Q3. From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

	1 <sup>st</sup> April, 2018	31 <sup>st</sup> March, 2019
Stock of Stationery	75,000	65,000
Creditors for Stationery	85,000	1,30,000

Amount paid for stationery during the year ended 31<sup>st</sup> March, 2019 ` 54,000.

- Q4. From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

	1 <sup>st</sup> April, 2018	31 <sup>st</sup> March, 2019
Stock of Stationery	75,000	65,000
Creditors for Stationery	85,000	1,30,000

Stationery purchased for cash during the year ` 20,000. And payment made for stationery during the year ended 31<sup>st</sup> March, 2019 ` 50,000.

- Q5. From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

	1 <sup>st</sup> April, 2018	31 <sup>st</sup> March, 2019
Stock of Stationery	75,000	65,000
Creditors for Stationery	85,000	1,30,000

Stationery purchased for cash during the year ` 20,000. Stationery purchased during the year on credit ` 35,000.

- Q6.** From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	35,000
Creditors for Stationery on 1 <sup>st</sup> April, 2018	25,000
Advance paid to Creditors as on 1 <sup>st</sup> April, 2018	5,000
Amount paid for stationery during the year ended 31 <sup>st</sup> March, 2019	1, 50,000
Stock of stationery on 31 <sup>st</sup> March, 2019	7,000
Creditors for stationery on 31 <sup>st</sup> March, 2019	15,000
Advance paid to Creditors as on 31 <sup>st</sup> March, 2019	8,000

- Q7.** From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	70,000
Creditors for Stationery on 1 <sup>st</sup> April, 2018	50,000
Stock of stationery on 31 <sup>st</sup> March, 2019	14,000
Creditors for stationery on 31 <sup>st</sup> March, 2019	30,000
Advance paid to Creditors as on 31 <sup>st</sup> March, 2019	16,000

- Q8.** From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	70,000
Creditors for Stationery on 1 <sup>st</sup> April, 2018	50,000
Stock of stationery on 31 <sup>st</sup> March, 2019	14,000
Creditors for stationery on 31 <sup>st</sup> March, 2019	30,000
Stationery purchased for cash during year	10,000
Amount paid for stationery	20,000

- Q9.** From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Stock of Stationery on 1 <sup>st</sup> April 2018	1,20,000
Creditors for Stationery on 1 <sup>st</sup> April, 2018	80,000
Advance paid to Creditors as on 1 <sup>st</sup> April, 2018	45,000
Amount paid for stationery during the year ended 31 <sup>st</sup> March, 2019	1,50,000
Stationery purchased for cash during year	35,000
Stock of stationery on 31 <sup>st</sup> March, 2019	70,000
Creditors for stationery on 31 <sup>st</sup> March, 2019	60,000

**Q10.** From the following particulars determine the amount to be debited to the income and expenditure account, for the year ending 31<sup>st</sup> March 2019.

Advance paid to Creditors as on 1 <sup>st</sup> April, 2018	5,000
Amount paid for stationery during the year ended 31 <sup>st</sup> March, 2019	1,50,000
Stock of stationery on 31 <sup>st</sup> March, 2019	7,000
Creditors for stationery on 31 <sup>st</sup> March, 2019	15,000
Advance paid to Creditors as on 31 <sup>st</sup> March, 2019	8,000

## **ECONOMICS**

- Q1.** \_\_\_\_\_ is the main source of money supply in the economy.  
a) Central Bank. b) Commercial Bank c) Both (a) & (b). d) Government
- Q2.** Which of the following is not the instrument of credit control?  
a) CRR. b) SLR c) Bank Rate. d) Managed floating
- Q3.** Define primary deposit?
- Q4.** A thing which is commonly accepted as a medium of exchange is called \_\_\_\_.  
(commodity/money)
- Q5.** What is a barter system? What are its drawbacks?
- Q6.** What are the main functions of money? How does money overcome the shortcomings of a barter system?
- Q7.** What is 'liquidity trap'?
- Q8.** What is a 'legal tender? What is 'fiat money'?
- Q9.** Explain the functions of a commercial bank.
- Q10.** What is money multiplier?
- Q11.** What role of RBI is known as lender of last resort?
- Q12.** Explain the working of money Multiplier with the help of a numerical example?
- Q13.** If the legal reserve ratio is 20% and new deposit is rupees 1000. Explain the process of credit creation by commercial bank?

## **BUSINESS STUDIES**

1. The Activities involved in managing an enterprise are common to all organizations whether economic, social or political. Which characteristics of management are highlighted by this statement?

OR

- The management principles can be applied to all types of activities. Which type of characteristics is highlighted by this statement?
2. In order to be successful an organization must change its goals according to the need of the environment. Which characteristic of management is highlighted in the statement?
3. To meet the objectives of the firm the management of Angora Ltd. offer employment to physically challenged persons. Identify the organizational objective it is trying to achieve.
4. "A collection of diverse individuals with different needs but working towards fulfilling the common organizational goals" this statement highlights which characteristic of management?
5. 'Is Management concerned only with doing the right task, completing activities and achieving goals? Without taking into consideration the cost benefit'? Give reason in support of your answer?
6. Ashutosh Goenka was working in 'Axe Ltd.', a company manufacturing air purifiers. He found that the profits had started declining from the last six months. Profit has an implication for the survival of the firm, so he analysed the business environment to find out the reasons for this decline.
- (a) Identify the level of management at which Ashutosh Goenka was working.
- (b) State three other function being performed by Ashutosh Goenka.
7. Rishitosh Mukherjee has recently joined AMV Ltd, A company manufacturing refrigerators. He found that his department was under-staffed and other departments were not cooperating with his

department for smooth functioning of the organisation. Therefore, he ensured that his department has the required number of employees and its cooperation with other departments is improved.

- (a) Identify the level at which Rishitosh Mukerjee was working.
  - (b) Also, state three more functions required to be performed by Rishitosh Mukerjee at this level.
8. A company manufacturing mobiles is facing the problem of decreasing sales in the market. You can imagine any product about which you are familiar. What decisions/ steps, each level of management should take to give effect to this decision?
9. ABC Limited is a company producing IT services. The company profits are enough for the survival and growth. The management of the company believes that satisfied employees create a satisfied customer. Who in turn creates profit that leads to satisfied shareholders. So it pays competitive salaries and perks to all its employees. All the employees are happy working in the organisation because of personal growth and development.  
The company has a strong sense of social responsibility it has set up an Engineering College in which one third of the students are girls to whom the company gives 50% scholarship.  
Is the management of ABC Limited fulfilling its objective? Justify your answer by quoting the lines from the above.
10. Indian Railway has launched a new broad gauge solar power train which is going to be a path breaking leap towards making trains greener and more environments friendly. The solar power diesel electric multiple unit has 6 trailer coaches and is expected to save about 21000 litres of diesel and ensure a cost saving of rupees 1200000 per year. Identify and explain the objective of Management achieved by Indian railway in the above case.

## **COMPUTER SCIENCE & INFORMATICS PRACTICES**

- 1) What are data types? How are they important?
- 2) Difference between a) plain integer and long integer b) List and Tuple
- 3) How many String types does python support? How are they different from one another?
- 4) What are immutable and mutable types? List immutable and mutable types of python.
- 5) What are augmented assignment operators? How are they useful?
- 6) Difference between  $(555/222) ** 2$  and  $(555.0/222) ** 2$ .
- 7) Evaluate and justify :  $22 / 17 = 37 / 47 + 88 / 83$
- 8) Evaluate :  $22.0 / 7.0 - 22 / 7$
- 9) What will be output produced by following code?  

```
a = 5
b = -3
c = 25
d = -10
a + b + c > a + c - b * d
str ( a + b + c > a + c - b * d ) == str (true)
```
- 10) What will be the output of following code? Explain reason behind output of every line.  

```
5 < 5 or 10
5 < 10 or 5
5 (10 or 5)
5 (5 or 10)
```

## MATHEMATICS

1. Find A, if  $\begin{bmatrix} 4 \\ 1 \\ 3 \end{bmatrix} A = \begin{bmatrix} 4 & 8 & 4 \\ 1 & 2 & 1 \\ 3 & 6 & 3 \end{bmatrix}$

2. If  $A = \begin{bmatrix} 3 & 4 \\ 1 & 1 \\ 2 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 1 & 2 \\ 1 & 2 & 4 \end{bmatrix}$ , then verify  $(BA)^2 \neq B^2A^2$ .

3. If possible, find BA and AB, where  $A = \begin{bmatrix} 2 & 1 & 2 \\ 1 & 2 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 4 & 1 \\ 2 & 3 \\ 1 & 2 \end{bmatrix}$ .

4. Show by an example that for  $A \neq O$ ,  $B \neq O$ ,  $AB = O$ .

5. Given  $A = \begin{bmatrix} 2 & 4 & 0 \\ 3 & 9 & 6 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 4 \\ 2 & 8 \\ 1 & 3 \end{bmatrix}$ . Is  $(AB)' = B'A'$ ?

6. Solve for x and y:  $x \begin{bmatrix} 2 \\ 1 \end{bmatrix} + y \begin{bmatrix} 3 \\ 5 \end{bmatrix} + \begin{bmatrix} -8 \\ -11 \end{bmatrix} = 0$

7. If X and Y are  $2 \times 2$  matrices, then solve the following matrix equations

for X and Y:  $2X + 3Y = \begin{bmatrix} 2 & 3 \\ 4 & 0 \end{bmatrix}$ ,  $3X + 2Y = \begin{bmatrix} 2 & 2 \\ 1 & 5 \end{bmatrix}$ .

8. If  $A = \begin{bmatrix} 3 & 5 \end{bmatrix}$ ,  $B = \begin{bmatrix} 7 & 3 \end{bmatrix}$ , then find a non-zero matrix C such that  $AC = BC$ .

9. Give an example of matrices A, B and C such that  $AB = AC$ , where A is non-zero matrix, but  $B \neq C$ .

10. If  $A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$ ,  $B = \begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix}$  and  $C = \begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$ , verify :

(i)  $(AB)C = A(BC)$  (ii)  $A(B + C) = AB + AC$ .

11. If  $P = \begin{bmatrix} x & 0 & 0 \\ 0 & y & 0 \\ 0 & 0 & z \end{bmatrix}$  and  $Q = \begin{bmatrix} a & 0 & 0 \\ 0 & b & 0 \\ 0 & 0 & c \end{bmatrix}$ , prove that

$$PQ = \begin{bmatrix} xa & 0 & 0 \\ 0 & yb & 0 \\ 0 & 0 & zc \end{bmatrix} = QP.$$



12. If:  $\begin{bmatrix} 2 & 1 & 3 \end{bmatrix} \begin{bmatrix} -1 & 0 & -1 \\ -1 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 0 \\ -1 \end{bmatrix} = A$ , find A.

Long Answer (L.A.)

13. If  $AB = BA$  for any two square matrices, prove by mathematical induction that  $(AB)^n = A^n B^n$ .

### Objective Type Questions

Choose the correct answer from the given four options in each of the Exercises 53 to 67.

14. If A and B are two matrices of the order  $3 \times m$  and  $3 \times n$ , respectively, and  $m = n$ , then the order of matrix  $(5A - 2B)$  is

- (A)  $m \times 3$                       (B)  $3 \times 3$                       (C)  $m \times n$                       (D)  $3 \times n$

15. If  $A = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$ , then  $A^2$  is equal to:

- (A)  $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$                       (B)  $\begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$   
(C)  $\begin{bmatrix} 0 & 1 \\ 0 & 1 \end{bmatrix}$                       (D)  $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

16. If matrix  $A = [a_{ij}]_{2 \times 2}$  where  $a_{ij} = 1$  if  $i \neq j$   
 $= 0$  if  $i = j$ , then  $A^2$  is equal to:

- (A) I                      (B) A                      (C) 0                      (D) None of these

17. The matrix  $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 4 \end{bmatrix}$  is a

- (A) identity matrix                      (B) symmetric matrix  
(C) skew symmetric matrix                      (D) none of these

18. The matrix  $\begin{bmatrix} 0 & 5 & 8 \\ 5 & 0 & 12 \\ 8 & 12 & 0 \end{bmatrix}$  is a

- (A) diagonal matrix                      (B) symmetric matrix  
(C) skew symmetric matrix                      (D) scalar matrix

Fill in the blanks in each of the Exercises 68–81.

19. Matrix multiplication is \_\_\_\_\_ over addition.



20. If  $A$  is a symmetric matrix, then  $A^3$  is a \_\_\_\_\_ matrix.

21. If  $A$  is a skew symmetric matrix, then  $A^2$  is a \_\_\_\_\_.

22. If  $A$  and  $B$  are square matrices of the same order, then

(i)  $(AB)' = \underline{\hspace{2cm}}$ .

(ii)  $(kA)' = \underline{\hspace{2cm}}$ . ( $k$  is any scalar)

(iii)  $[k(A - B)]' = \underline{\hspace{2cm}}$ .

23. If  $A$  is skew symmetric, then  $kA$  is a \_\_\_\_\_. ( $k$  is any scalar)

State Exercises 82 to 101 which of the following statements are **True** or

**False**

24. Matrix multiplication is commutative.

25. A square matrix where every element is unity is called an identity matrix.

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