SCIENCE OLYMPIAD FOUNDATION

SAMPLE PAPER SYLLABUS 2017-18

Total Questions: 50

| PATTERN \& MARKING SCHEME | Time : 1 hr. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Section | (1) Quantitative <br>  <br> Reasoning | (2) Economics | (3) Business <br> Studies | (4) Accountancy | (5) Achievers <br> Section |
| No. of Questions | 15 | 10 | 10 | 10 | 5 |
| Marks per Ques. | 1 | 1 | 1 | 1 | 3 |

## SYLLABUS

Section - 1 : Sets and Relations, Functions, Complex Numbers \& Quadratic Equations, A.P \& G.P, Permutations \& Combinations, Probability, Linear Inequality, Matrices \& Determinants, Limits \& Derivatives, Applications of Derivatives, Verbal and Non- Verbal Reasoning.
Section - 2 : Indian Economics, Statistics, Micro, Macro.
Section - 3 : Nature and Significance of Management, Principles of Management, Business Environment, Planning, Function of Management, Financial Management.
Section - 4 : Introduction to Accounting, Theory Base of Accounting, Recording of Transaction, Bank Reconciliation Statement, Depreciation, Provision and Reserves, Bills of Exchange, Rectification of Errors, Financial statement for Sole Proprietorship/Not-For-Profit Organisation, Accounting for Partnership Firms, Accounting for Companies, Analysis of Financial Statements and Ratio Analysis, Cash Flow Statements.
Section - 5 : Higher Order Thinking Questions - Syllabus as per Section - 2, Section - 3 and Section - 4.

## QUANTITATIVE APTITUDE \& REASONING

1. A die is thrown twice and the sum of the numbers appearing is observed to be 9 . What is the conditional probability that the number 4 has appeared atleast once?
(A) $1 / 2$
(B) $2 / 3$
(C) $3 / 4$
(D) None of these
2. Divide 20 into four parts which are in A.P. and such that the product of the first and fourth is to the product of the second and third in the ratio $2: 3$. Find the product of the first and fourth terms of the A.P.
(A) 12
(B) 16
(C) 20
(D) 25
3. Mehul went to the market and bought a few apples, mangoes and bananas. He bought a total of 42 fruits. The details of the fruits purchased is as follows :
(i) The number of bananas is less than half the number of apples.
(ii) The number of mangoes is more than $1 / 3$ rd the number of apples.
(iii) The number of mangoes is less then $3 / 4$ th the number of bananas.
How many apples and mangoes did Mehul buy?
(A) 17
(B) 21
(C) 26
(D) None of these

## ECONOMICS

4. A consumer buys 17 units of a good at a price ₹ 10 per unit. When price falls to ₹ 8 per unit, the consumer buys 23 units. Using the expenditure approach, what will you say about price elasticity of demand of the good?
(A) More than unit elastic
(B) Less than unit elastic
(C) Unit elastic
(D) Perfectly elastic
5. Why externalities are a limitation of taking GDP as an index of welfare?
(A) It helps GDP to rise.
(B) GDP fails to value the cost of such factors.
(C) It results in a decrease in GDP.
(D) It will have no effect on GDP.
6. From the following data about government, find revenue deficit, fiscal deficit and primary deficit :
Plan capital expenditure $=120$
Revenue expenditure $=100$
Non plan capital expenditure $=80$
Revenue receipts $=70$
Capital receipts net of borrowings $=140$

Interest payments $=30$
(A) Revenue deficit $=40$, Fiscal deficit $=90$, Primary deficit = 60
(B) Revenue deficit $=30$, Fiscal deficit $=90$, Primary deficit $=60$
(C) Revenue deficit $=40$, Fiscal deficit $=60$, Primary deficit = 30
(D) Revenue deficit $=30$, Fiscal deficit $=60$, Primary deficit $=30$

## BUSINESS STUDIES

7. Management is a process of
(A) getting things done
(B) achieving goals effectively
(C) achieving goals efficiently
(D) all of the above
8. The principles of management are significant because of
(A) increase in efficiency
(B) initiative
(C) optimum utilization of resources
(D) adaptation to changing technology
9. Planning may not guarantee success because
(A) top level plans and middle level management implements
(B) dynamics of business, environment may change
(C) planning is futuristic
(D) all of the above

## ACCOUNTANCY

10. $X, Y$ and $Z$ are partners sharing profit in the ratio of $5: 3: 2$. They decide to share future profits in the ratio of $2: 3: 5$ with effect from $1^{\text {st }}$ April, 2016. They also decide to record the effect of following revaluations without affecting the book values of assets and liabilities, by passing single adjusting entry :

|  | Book | Revised |
| :--- | ---: | :---: |
|  | Figure (in ₹) | Figure (in ₹) |
| Land and Building | $3,00,000$ | $4,50,000$ |
| Plant and Machinery | $4,50,000$ | $4,20,000$ |
| Trade Creditors | $1,50,000$ | $1,35,000$ |
| Outstanding Rent | $1,35,000$ | $1,80,000$ |
| The |  |  |

(A) Dr. $Z$ and Cr. $X$ by $₹ 27,000$
(B) Dr. $X$ and Cr. Z by ₹ 27,000
(C) Dr. Y and Cr. $X$ by ₹ 27,000
(D) Dr. $X$ and Cr. Y by ₹ 27,000
11. $M$ Ltd issued 10,000 shares of $₹ 50$ each. The amount of share was payable as follows:
₹ 15 on application, ₹ 10 on allotment and balance of first and final call. Applications for 15,000 shares were received and allotment was made to all the applicants on pro-rata basis. Directors decided to adjust excess application money towards allotment. Calculate the amount transferred to Share Allotment.
(A) ₹ 60,000
(B) ₹ 70,000
(C) ₹ 85,000
(D) None of these
12. Depreciation is charged on
(A) Current Assets
(B) Fixed Assets
(C) Both Current and Fixed Assets
(D) None of these

## ACHIEVERS SECTION

13. From the following information, calculate return on investment (or return on capital employed) :

| Particulars | $₹$ |
| :--- | :--- |
| Share Capital | $5,00,000$ |
| Reserves and Surplus | $2,50,000$ |
| Net Fixed Assets | $22,50,000$ |
| Non-current Trade Investments | $2,50,000$ |
| Current Assets | $11,00,000$ |
| $10 \%$ Long-term Borrowings | $20,00,000$ |
| Current Liabilities | $8,50,000$ |
| Long-term Provisions | NiL |

Net Profit before Tax is ₹ $6,00,000$.
(A) 29.09\%
(B) $39.09 \%$
(C) $49.09 \%$
(D) $9.09 \%$
14. Liberalisation means
(A) Integration among economies
(B) Reduced government controls and restrictions
(C) Policy of planned Disinvestments
(D) None of these
15. Explain how the production possibility curve is affected when resources are inefficiently employed in an economy?
(A) PPC will shift downward.
(B) PPC will shift upward.
(C) No change in PPC.
(D) Will move from one point to another on the same PPC.

SPACE FOR ROUGH WORK

