Sample Questions

Total time: 3 hours

General Information

1) There are five parts in the question paper: (A) Quantitative Ability, (B) Verbal Ability, (C) Data Interpretation and Logical Reasoning, (D) Government Rules and Regulations, and (E) Writing Skills. All parts carry nearly equal weight.

2) There is no separate answer book or paper for rough work.

3) Answers should be written using blue or black pen in the space provided after each question. For 'multiple choice' questions, write the letter (A/B/C/D/E) corresponding to the correct answer. For 'fill in the blank' type questions, the answer should be limited to the space provided. In case of questions involving descriptive answers, the answer should be provided in the blank space following the question, and within the prescribed limit of the number of words.
Part A: Quantitative Ability

1. The figure shows the plan of a garden plot. It is a square with two semicircular parts on opposite sides. Its width is 21 m. Its area in m² is
   (A) 154  (B) 196  (C) 350  (D) 504

   Answer: __

2. A triangle cannot be drawn with the following three sides:
   (A) 2 m, 3 m, 4 m
   (B) 3 m, 4 m, 8 m
   (C) 4 m, 6 m, 9 m
   (D) 5 m, 7 m, 10 m

   Answer: __

3. A closed water tank has internal size of 10 m x 15 m x 20 m. It needs to be lined with waterproofing cement on all its internal sides. At the rate of Rs 250 per m², the total cost of lining will be Rs
   (A) 237,500  (B) 325,000  (C) 400,000  (D) 475,000

   Answer: __

4. The geometric mean of 6 and 54 is

   Answer: ______

5. A student has appeared for six papers and scored 56, 80, 76, 65, 60, and 59 marks. The average mark is

   Answer: ____

6. P, Q, and R are three locations on a map. The distance by road from P to Q is 100 km, and that from Q to R is 60 km. The distance by road between P and R will be
   (A) 40 km
   (B) 80 km
   (C) 160 km
   (D) between 40 and 160 km

   Answer: __

7. The solutions of the equation \( x^2 = 4 - 3x \) are
   (A) +1 and -4  (B) +1 and +4
   (C) -1 and -4  (D) -1 and +4

   Answer: __
8. The solution of the pair of simultaneous equations
   \[3x + 4y = -6\]
   \[4x + 3y = -1\]
   is
   (A) \(x = +3\) and \(y = -2\)  
   (B) \(x = +2\) and \(y = -3\)  
   (C) \(x = -3\) and \(y = +2\)  
   (D) \(x = -2\) and \(y = -3\)

Answer: ___

9. A series of numbers is given as 1, 1/2, -4, 4, 1/8, -16, …. The next number in the series is

Answer: ______

10. The sum of the infinite series \(1 + 1/2 + 1/4 + 1/8 + \ldots\)
    (A) cannot be determined.
    (B) equals 15/8.
    (C) equals 2.
    (D) will be higher than 2.

Answer: __

11. In a selection process, a hundred candidates participate in Group Discussion sessions (GD) and Personal Interview (PI). The possibilities of a candidate’s good performance in GD and in PI are independent of each other. It was found that 20 candidates were good in GD and 30 were good in PI. The number of candidates good in both GD and PI is expected to be about:
    (A) 6  
    (B) 10  
    (C) 20  
    (D) 30

Answer: ___

12. An unbiased six-sided die (a cube) has numbers 1 to 6 on its sides. The probability that one gets 1, 6, 6 in three consecutive throws is
    (A) 1/2  
    (B) 1/3  
    (C) 1/8  
    (D) 1/216

Answer: __

13. A large number of copies of the annual report of an organization are to be printed. There are two printing machines. Machine A will need 10 days to print them. Machine B will need 15 days. If both machines are put to use, the number of days needed for printing is

Answer: ___
14. In the figure below, the square represents men and the triangle represents women. The ellipse represents residents of Powai and the circle represents dog-lovers. The part representing 'dog-lover ladies in Powai' is
(A) 1  (B) 2  (C) 3  (D) 5

Answer: __

15. A solar energy system uses a photovoltaic panel to convert solar energy into electricity, to charge a battery, and provide electricity as needed by the consumer. The photovoltaic panel intercepts 1000 units of solar energy and converts 20% of that into electricity. There is a loss 10% energy while charging the battery. The battery can be used to supply only half of the stored energy to the consumers. Assuming 40% energy loss in the distribution, the number of units of energy received by the consumers is
(A) 6  (B) 36  (C) 54  (D) 80

Answer: __

16. A goods train of length 500 m traverses a 2-km-long tunnel at a constant speed of 36 km/hour. The time needed for the train to completely pass through the tunnel is
(A) 3 minutes 20 seconds  (B) 4 minutes 10 seconds
(C) 4 minutes 40 seconds  (D) 6 minutes 10 seconds

Answer: __

17. There are two examination rooms A and B. If 10 students are sent from A to B, then the numbers of students in the two rooms become equal. If 20 students are sent from B to A, then the number of students in A is double the number of students in B. The number of students in room A is
(A) 20  (B) 80  (C) 100  (D) 200

Answer: __

18. A house has six 40-watt lamps that are on for 5 hours a day and it has three 80-watt fans that are on for 10 hours a day. The cost of electricity is Rs. 2 per kilowatt-hour. For a 30-day month, the electricity bill of the house is

Answer: Rs ___
19. The average weight of 3 men A, B, and C in a group is 84 kg. Another man D joins the group and the average weight now becomes 80 kg. Another man E, whose weight is 3 kg more than that of D, replaces A and the average weight of the group (B, C, D and E) becomes 79 kg. The weight of A is
(A) 70 kg  (B) 72 kg  (C) 75 kg  (D) 80 kg

Answer: ____

20. The difference between a two-digit number and the number obtained by interchanging the digits is 36. The two digits are in the 2:1 ratio. The number is

Answer: ____

21. A purchased certain goods and sold them to B at a profit of 20%. B sold the goods to C at a loss of 30% for Rs 9,000. The purchase price for A was

Answer: ______
Part B: Verbal Ability

Questions 1 to 5: Read the following passage carefully and answer the questions given below it.

"July 15, 2010 turned out to be a historic day, as the Indian Rupee got the much-awaited symbol, just like other leading currencies of the world, viz Dollar, Euro, Pound Sterling, and the Yen. The new symbol of Rupee is an amalgamation of Devanagari 'Ra' and the Roman 'R' without the stem. Till now, the Rupee was written in various abbreviated forms in different languages. The new symbol designed by IIT Bombay postgraduate student Mr. D. Udaya Kumar was approved by the Union Cabinet on July 15, 2010. "It's a big statement on the Indian currency. The symbol would lend a distinctive character and identity to the currency and further highlight the strength and global face of the Indian economy," said Information and Broadcasting Minister Smt. Ambika Soni while briefing the media on the Cabinet decision. The new symbol will not be printed or embossed on currency notes or coins, but it would be included in the 'Unicode Standard' to ensure that it is easily displayed and printed in the electronic and print media. The encoding of the rupee symbol in the Indian Standards is estimated to take about six months while encoding in the Unicode and ISO/IEC 10646 will take about 18 months to two years. It will also be incorporated in software packages and keyboards for use in India. On March 5, 2009, the Government announced a contest to create a symbol for the Rupee, inviting entries for the symbol, which would reflect and capture the Indian ethos and culture. Over 3000 entries were received, which were evaluated by a jury headed by the Deputy Governor, RBI and which also included experts from three reputed art and design institutes. The Jury selected five entries and also gave its evaluation of these five entries to the Government to take a final decision. Mr. Udaya Kumar's entry was the 'Best of Five'. He will get an award of Rs. 2.5 lakh and more than that an incredible fame, as the designer of the Rupee symbol. "My design is a perfect blend of Indian and Roman letters capital 'R' and Devanagri 'Ra' which represents rupaiah, to appeal to international and Indian audiences. It is based on the tricolour, with two lines at the top and white space in between," a visibly happy Kumar said. The genesis of the word 'rupee' is in the Sanskrit word 'raupya', which means silver. Indian Rupee is variously called 'rupaya' in Hindi, 'rupiya' in Gujarati, 'oopayi' in Telugu and Kannada, 'rubai' in Tamil, and 'rupyakam' in Sanskrit. However, in Eastern India it is called 'Taka/Toka' in Bengali and Assamese and 'Tanka' in Oriya. India stands among the earliest to issue coin, and as a result, it has seen a wide range of monetary units throughout its history. There is some historical evidence to show that coins might have been introduced the first time between 2500 and 1750 BC."

1. Importance of 15th July in the history of Indian rupee is that
   (A) the new Rupee symbol replaced the old.
   (B) the international community approved the Rupee symbol.
   (C) the Union Cabinet approved the much awaited Rupee symbol.
   (D) the Reserve Bank of India introduced new currency notes.

   Answer: __
2. The newly approved Rupee symbol has been designed by
   (A) a teacher posted at IIT Bombay.
   (B) Uday Kumar of Tamil Nadu.
   (C) Udaya Kumar, a postgraduate student at IIT Bombay.
   (D) Information and Broadcasting Minister.

   Answer: __

3. The new design of rupee finds its origin in
   (A) Devanagari  
   (B) Roman
   (C) Devanagari and Sanskrit  
   (D) Devanagari and Roman

   Answer: __

4. In Sanskrit, 'Raupya' means
   (A) gold   
   (B) diamond
   (C) silver   
   (D) bronze

   Answer: __

5. The first coin was possibly introduced between
   (A) 750 BC and 250 BC.  
   (B) 2500 BC and 1750 AD.
   (C) 250 BC and 750 AD  
   (D) 2500 BC and 1750 BC

   Answer: __

Questions 6 to 9: Choose the synonym (a word that means exactly or nearly the same) for the
underlined word/phrase (the answer is a single choice).

6. The canteen is expensive and it serves small quantities of food.
   (A) sections  
   (B) steaks
   (C) sums  
   (D) portions

   Answer: __

7. Many modern diseases can be connected to stress and pollution.
   (A) accidents  
   (B) illusions
   (C) illnesses  
   (D) omen

   Answer: __

8. The building next to us obstructs our view of the lake.
   (A) kills  
   (B) bothers
   (C) blocks  
   (D) establishes

   Answer: __

9. The rules were put together with the help of several faculty members and students.
   (A) summarized  
   (B) compiled
   (C) concocted  
   (D) consulted

   Answer: __
Questions 10 to 12: Choose the antonym (a word that means exactly or nearly the opposite) for the underlined word/phrase (the answer is a single choice).

10. Ramesh is experienced and **proficient** in accounts.
   (A) competent  (B) expert  (C) incompetent  (D) skilled

Answer: __

11. The climate in the north of India in winters is really **dreadful**.
   (A) terrible  (B) horrible  (C) frightful  (D) very warm

Answer: __

12. This shop sells only **genuine** jewellery.
   (A) authentic  (B) fake  (C) expensive  (D) original

Answer: __

Questions 13 to 15: Out of the four given alternatives, choose the closest substitute for the word/phrase.

13. List of the business or subjects to be considered at a meeting.
   (A) schedule  (B) timetable  (C) agenda  (D) plan

Answer: __

14. That which cannot be read.
   (A) negligible  (B) illegible  (C) ineligible  (D) incorrigible

Answer: __

15. That which cannot be seen.
   (A) insensible  (B) invisible  (C) intangible  (D) unseen

Answer: __

16. "The attainment of individual and organisational goals is mutually interdependent and linked by a common denominator—employee work motivation. Organisational members are motivated to satisfy their personal goals and they contribute their efforts to the attainment of organisational objectives as means of achieving these personal goals."

The above passage best supports the following statement:
(A) Motivation encourages an individual to give priority to personal goals over organisational goals.
(B) Motivation is crucial for the survival of an individual and organisation.
(C) Motivation is the product of an individual's physical and mental energy.
(D) Motivation is the external force which induces an individual to contribute his efforts.
(E) Motivation makes organisation and society inseparable.

Answer: __

Questions 17-19: Select the most appropriate word to complete the sentence.

17. The evidence ___ it is quite tenuous.
   (A) with   (B) at   (C) for   (D) on
   Answer: __

18. He has been working on this project ___ Monday.
   (A) for   (B) since   (C) from   (D) up to
   Answer: __

19. The country owes a deep debt of ___ for the freedom fighters.
   (A) patriotism  (B) sincerity  (C) remembrance  (D) gratitude
   Answer: __

20. I said, “Let me prove my statement.”

   The best indirect narration of the above sentence is
   (A) I told to prove my statement
   (B) I proposed that I should prove my statement
   (C) I suggested proving my statement.

   Answer: __
Part C: Data Interpretation and Logical Reasoning

1. If $7 \times 1 = 64$ and $3 \times 9 = 144$, then the value of $5 \times 6$ is 
   (A) 22   (B) 55   (C) 66   (D) 121
   Answer: __

2. The missing number in the series 6, 11, 21, 36, __, 81,... is 
   Answer: ______

3. BEGK is related to ADFJ in the same way as PSVY is related to 
   (A) LOQT   (B) ROUX   (C) OTUZ   (D) ORUX
   Answer: __

Questions 4 to 7: These questions are with reference to the table below giving data on percentage change in export sales in dollar terms by certain firms from 2012 to 2014.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Percentage Change in Export Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2012 to 2013</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>–4</td>
</tr>
<tr>
<td>J</td>
<td>–5</td>
</tr>
<tr>
<td>K</td>
<td>+15</td>
</tr>
<tr>
<td>L</td>
<td>–15</td>
</tr>
<tr>
<td>M</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>2013 to 2014</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>+6</td>
</tr>
<tr>
<td>J</td>
<td>+12</td>
</tr>
<tr>
<td>K</td>
<td>–5</td>
</tr>
<tr>
<td>L</td>
<td>+6</td>
</tr>
<tr>
<td>M</td>
<td>+3</td>
</tr>
</tbody>
</table>

4. Consider the case of the firm K. What was the dollar amount of the export sales for 2013 as percentage (approximate) of the dollar amount of the export sales for 2014? 
   (A) 76%   (B) 82%   (C) 105%   (D) 118%   (E) 127%
   Answer: __

5. Consider the year 2014. For which of the firms was the dollar amount of the export sales highest? 
   (A) I   (B) J   (C) K   (D) L   (E) None of these
   Answer: __

6. Consider the case of the firm L. What was the dollar amount of the export sales for 2014 as percentage (approximate) of the dollar amount of the export sales for 2012? 
   (A) 72%   (B) 80%   (C) 102%   (D) 90%   (E) 120%
   Answer: __
7. Which of the following firms has registered the highest increase in exports during the period 2016–2018?
   (A) I  (B) J  (C) K  (D) M  (E) none of these
   Answer: __

8. A, B, C, D, E, and F are sitting in a row. D and E are in the centre. A and B are at the ends. C is sitting to the left of A. Who is to the right of B?
   Answer: ______

9. In a survey of university students, 64 had taken mathematics course, 94 had taken chemistry course, 58 had taken physics course, 28 had taken mathematics and physics, 26 had taken mathematics and chemistry, 22 had taken chemistry and physics course, and 14 had taken all the three courses. Find the number of students who had taken only one course.
   (A) 106  (B) 110  (C) 108  (D) 107
   Answer: __

10. In a school competition, 1/5 of the girls and 1/8 of the boys participated. What fraction of the total number of students participated?
    (A) 2/13  (B) 13/40  (C) Data inadequate
    Answer: __

11. A guarantee is a promise or assurance that attests to the quality of a product that is given either (i) in writing by the manufacturer or (ii) verbally by the person selling the product. Which situation below is the best example of a Guarantee?
    (A) John purchases a camera with the highest consumer ratings in its category.
    (B) The salesperson advises John to buy a camera with a guarantee.
    (C) The local electronic shop specializes in refurbishing and selling cameras.
    (D) John buys a camera from his coworker who says that money will be refunded if the camera's performance is not of the highest quality.
    Answer: __

12. Consider three statements.
    (i) Tanya is older than Eric.
    (ii) Cliff is older than Tanya.
    (iii) Eric is older than Cliff.
    If the first two statements are true, the third statement is
    (A) true  (B) false  (C) uncertain
    Answer: __
Questions 13 to 15: Study the following information and answer the questions that follow.

i) Neha has to coach seven batches viz. M, N, O, P, Q, R and S of students during 9 a.m. to 6 p.m.
ii) She takes 1 hour for each batch and keeps a gap of 15 minutes between two batches except that she takes 45 min break for lunch after the third batch.
iii) She has to conduct batch M immediately before Q but immediately after batch R, which is the third batch.
iv) S cannot be conducted before 10:15 a.m. and after 11:30 a.m.
v) Batches P and N can be conducted only after 3 p.m.

13. Which of the following batches is the first batch?
(A) S (B) P (C) O (D) Data inadequate

Answer: __

14. Which of the following is the last batch?
(A) Q (B) P (C) N (D) Either P or N (E) Data inadequate

Answer: __

15. What is Neha’s lunch time?
(A) 12:00 to 12:30 p.m. (B) 01:00 to 01:45 p.m.
(C) 11:30 to 12:30 p.m. (D) 01:30 to 02:15 p.m.
(E) None of these

Answer: __

Questions 16 to 18: Answer the questions using the data on enrollment of students in a university in the following two tables.

<table>
<thead>
<tr>
<th>Gender</th>
<th>No. of undergraduate students</th>
<th>No. of postgraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>820</td>
<td>200</td>
</tr>
<tr>
<td>Female</td>
<td>290</td>
<td>90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>No. of undergraduate students</th>
<th>No. of postgraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>620</td>
<td>128</td>
</tr>
<tr>
<td>Physics</td>
<td>82</td>
<td>46</td>
</tr>
<tr>
<td>Botany</td>
<td>134</td>
<td>70</td>
</tr>
<tr>
<td>Zoology</td>
<td>94</td>
<td>46</td>
</tr>
</tbody>
</table>

16. The percentage (rounded to one decimal digit) of Biology students among the postgraduate students is
Answer: ______

17. If 20 males are replaced by 20 females in the undergraduates, the percentage (rounded to integers) of male students in the total number of undergraduates will be

Answer: ______

18. Among the students studying either Physics or Chemistry, the ratio of the number of postgraduate students to the number of undergraduate students is

Answer: ______

Questions 19 and 20: Answer the questions based on the below graph on the Income and Expenditure of a company over the year (in lakhs of rupees).

19. The ratio of the average income to the average profit is
   (A) 24 : 13   (B) 48 : 17   (C) 12 : 7   (D) 6 : 5

   Answer: ______

20. The number of years in which the income is more than the average income over the five years is
   (A) 1   (B) 2   (C) 3   (D) 4

   Answer: ______
Part D: Government Rules and Regulations

1. Fiduciary relationship is a relationship based on
   (A) Money, (B) Contract, (C) Trust, (D) Mutual interest
   Answer: __

2. The Right to Information Act does NOT prescribe the following:
   (A) Recording and communication of the reasons for refusal to provide information to the applicant.
   (B) Communication of the period within which an appeal can be filed against refusal of information.
   (C) Providing the particulars of the Appellate Authority.
   (D) Providing the reasons for taking a particular decision.
   Answer: __

3. Public holidays are declared under
   (A) Negotiable Instruments Act, 1881
   (B) Contract Act, 1872
   (C) Public Employees Act, 1967
   (D) None of the above
   Answer: __

4. Casual Leave can be prefixed or suffixed with
   (A) Earned Leave, (B) Hospital Leave, (C) Holidays, (D) Study leave
   Answer: __

5. Earned leave can be carried forward and accumulated up to a maximum of
   (A) 180 days, (B) 240 days, (C) 300 days, (D) 365 days
   Answer: __

6. If a Government department considers it necessary to seek competitive offers from abroad for any goods, it may send copies of the tender notice to
   (A) The Indian embassies abroad
   (B) The foreign embassies in India
   (C) Both (a) and (b)
   (D) None of the above
   Answer: __

7. A Government servant may make his representation on any service matters to
   (A) The Minister in charge of the concerned Ministry/Department
(B) The Secretary of the concerned Ministry/Department
(C) His immediate official superior or the Head of Office
(D) Any of the above

Answer: __

8. Sexual harassment includes any act of
   (A) Making sexually coloured remarks
   (B) Showing pornography
   (C) Unwelcome physical, verbal, or non-verbal conduct of sexual nature
   (D) All of the above

Answer: __

9. An employee removed or dismissed from service may be allowed
   (A) Pension, (B) Gratuity, (C) Compassionate Allowance, (D) Subsistence Allowance

Answer: __

10. The following has the effect of interruption in service:
    (A) Authorized leave of absence
    (B) Suspension followed by reinstatement or death of Government Servant
    (C) Joining time while on transfer
    (D) Period of absence not covered by grant of leave and treated as ‘dies non’

Answer: __

11. DA is counted as emoluments for the following:
    (A) Superannuation Pension, (B) Family Pension,
    (C) Invalid Pension, (D) Gratuity

Answer: __

12. Money received by the Institute on account of Grant-in-aid project is
    (A) Liability in the books of accounts of the Institute
    (B) Capital receipts in the books of accounts
    (C) Not part of the accounts of the Institute
    (D) None of the above.

Answer: __

13. A government servant shall normally not be granted leave of any kind for a continuous period exceeding the following number of years:
    (A) 2, (B) 3, (C) 4, (D) 5

Answer: __
14. The following cannot be recovered from the Subsistence Allowance granted to a Government servant under suspension:
   (A) Contribution under CGHS Scheme
   (B) Subscription to the Central Government Employees Under Group Insurance Scheme, 1980
   (C) Subscription to General Provident Fund
   (D) House rent and allied charges (i.e.) electricity, water, furniture, etc.

   Answer: __

15. On promotion, option for pay fixation from the date of accrual of normal increment is to be exercised within a period of
   (A) Three months   (B) Six months   (C) One month   (D) One year

   Answer: __

16. Earnest Money deposited by a Contractor with the Institute is
   (A) Current asset in the Balance Sheet of the Institute
   (B) Current liability in the Balance Sheet of the Institute
   (C) Cash balance in the Balance Sheet of the Institute
   (D) None of above

   Answer: __

17. Accounts of Institutions funded by the Union Govt. are compiled on
   (A) Cash basis, (B) Accrual basis,
   (C) Partially on cash basis, (D) None of these

   Answer: __

18. Honorarium can be paid for
   (A) Preparation of annual report
   (B) Stock verification of stationery stores
   (C) Dealing with Parliament questions
   (D) None of the above

   Answer: __

19. Suspension of a Government employee is
   (A) Temporary removal from duty
   (B) A punishment for suspicion of being involved in an offence or misconduct
   (C) Attending office without being assigned any duty
   (D) None of the above

   Answer: __
Part E: Writing Skills

1. Write an essay on one of the following two topics in about 250 words:
(A) Privatisation of higher education in India.
(B) E-governance in Institutes of higher learning.

<< ANSWER SPACE>>

2. In order to streamline the attendance system in the Institute, it has been decided to implement a Biometric Attendance System in the Institute with effect from 1st August 2018. In this connection, a circular has to be issued by the Registrar. Prepare a draft Circular from the Registrar addressed to all concerned on the matter describing the background and need for same.

<< ANSWER SPACE>>