

Common Papers
JS, JTS, JA

Key
Level 1

Date of Examination: 14.03.2020

Time: 2 Hrs

Name of the Candidate:										
Application No:	1	9	0	4	J	T	S			

Candidate's Signature

Invigilator's Signature

Instructions to Candidates:

1. Use of Calculators, cell phones and other electronic devices IS NOT permitted inside Examination Hall.
2. Candidate should fill the details on both Question paper booklet and OMR sheet carefully without any corrections.
3. Candidate should carefully read the instructions given on Question paper and OMR sheet.
4. Candidate should mark correct answer only on OMR sheet provided against each question.
5. Question paper consists of 80 questions. The questions are divided into Part A and Part B. Part A consists of 60 questions carrying one mark each. Part B consists of 20 questions carrying two marks each.
6. Wrong answer for each question in Part-A carries negative of 0.25 mark. Wrong answer for each question in Part - B carries negative of 0.5 marks.
7. Clarifications on questions are not permitted.
8. Rough work can be done in the blank space provided at the end of the last question in the Question booklet.
9. No candidate is allowed to leave the examination hall till the examination is over.
10. Candidate should return both question paper booklet along with OMR sheet after completion of the examination.

Part – A (60 x 1 = 60 Marks)

1.	There are nine coins, eight coins are of same weight; but one is light. If you have a simple balance with two pans, find the LEAST number of times to use the balance to find the light coin? A) 2 B) 3 C) 8 D) 5
2.	If $\sqrt{2^n} = 64$, then the value of n is A) 2 B) 4 C) 6 <input checked="" type="checkbox"/> D) 12
3.	The sum of digits of a two digit number is 15 and their difference is 3. The number is A) 69 B) 96 C) 74 <input checked="" type="checkbox"/> D) Cannot be determined
4.	If January month in a certain year had exactly 4 Mondays and 4 Fridays, then January 24 th of that year was A) Sunday B) Wednesday C) Saturday <input checked="" type="checkbox"/> D) Thursday
5.	Given that X and Y are positive integers, and X – Y is an even number, which of the following statements is <u>necessarily</u> true? A) Either X – Y or X + Y is divisible by 4 B) $X^2 - Y^2$ is divisible by 6 <input checked="" type="checkbox"/> C) X + Y is divisible by 2 D) $X^2 - Y^2$ is divisible by 8
	<p>Questions 6 and 7 are based on the following: For an Office conference, the employees, Three men (Ram, Rajiv and Sam) and three women (Sita, Aruna and Reena) are spending a few days at a hotel. They are to stay in a row of nine rooms, each one living in his or her own room. There are no others staying in the same row of rooms.</p> <ol style="list-style-type: none">Aruna, Ram and Sam do not want to stay in any room, which is at the end of the row.Sita and Aruna are unwilling to stay besides any occupied room..Reena is next to Rajiv and Sam.Between Aruna and Sam's room there is just one vacant house.None of the girls occupy adjacent rooms.The room occupied by Ram is next to an end room.
6.	How many of them occupy a room next to a vacant room? A) 2 B) 3 <input checked="" type="checkbox"/> C) 4 D) 5
7.	Which among these statement(s) are true ? I. Aruna is between Sita and Sam. II. At the most four persons can have occupied rooms on either side of them. III. Ram stays besides Rajiv. A) I and II only <input checked="" type="checkbox"/> B) I and III only C) II and III only D) I, II and III
8.	If you are using MS Word, "Ctrl + right arrow" is used to move the cursor to: <input checked="" type="checkbox"/> A) To one word right B) To the end of the line C) To the end of the document D) One paragraph down

9.	If $1234_{(x)} = 466_{(10)}$, then what is the value of x A) 5 B) 6 C) 7 D) 8
10.	Which one of the following discovered the Heliocentric theory that Earth and planets revolve around Sun? A) Aristotle B) Ptolemy C) Eratosthenes D) Copernicus
11.	In a three digit number, the middle digit is the sum of its neighbors. Then it must be a multiple of: A) 3 B) 7 C) 11 D) 2
12.	A person walks from home and travels South 12km. Then he turns East and travels 4km. Then he turns North and travels 9km and from that point reaches home by shortest path. If he was walking at 6 km/hour, how long was his total trip in minutes? A) 300 B) 205 C) 320 D) 240
13.	A six faced die is a biased one. It is thrice more likely to show an odd number than to show an even number. It is thrown twice. The probability that the sum of the numbers in the two throws is even is A) 4/8 B) 5/8 C) 6/8 D) 7/8
14.	A blacksmith has five iron articles A, B, C, D and E, each having a different weight. <ul style="list-style-type: none"> • A weighs twice as much as B • B weighs four and half times as much as C • C weighs half as much as D • D weighs half as much as E • E weighs less than A but more than C Which of the following article is heaviest in weight? A) A B) B C) C D) D
15.	Out of the given alternatives, choose the word that best expresses the meaning of the word ABRIDGE. A) Judge B) Release C) Shorten D) Dissolve
16.	The product of the two binary numbers 10111 and 1110, written in hexadecimal format is A) 150 B) 14C C) 142 D) 13E
17.	The number of even numbers that can be formed by using all the digits 2, 3, 4, 5, 6 is A) 25 B) 72 C) 120 D) 1875
18.	If certain number of workers can do a piece of work in 25 hours, in how many hours can another team of equal number of workers do another piece of work, which is double that of the first, complete the work if 2 workers of the first team can do as much work as 3 workers of the second team A) 60 B) 75 C) 90 D) 100
19.	A person purchased an item at a discount of 30% on the labeled price and sells it for Rs. 8750. He gains a profit of 25% on his purchase price. The labeled price of the item is A) 10000 B) 12500 C) Data inadequate D) None of these

20.	Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50, then the sum of the ages of R and Q is A) 2 years B) 5 years C) 25 years <input checked="" type="checkbox"/> D) Cannot be determined
21.	If 2 men and 7 boys can do a piece of work in 14 days; 3 men and 8 boys can do the same amount of work in 11 days, then 8 men and 6 boys can do three times the amount of work in A) 18 days <input checked="" type="checkbox"/> B) 21 days C) 24 days D) 30 days
22.	Two trains of equal length are running on parallel tracks in the same direction at speeds of 46 kmph and 36 kmph respectively. The faster train passes the slower train completely in 36 seconds. The length of each train in meters is <input checked="" type="checkbox"/> A) 50 B) 72 C) 80 D) 82
23.	Which of the following companies has launched Tangi application? A) Facebook <input checked="" type="checkbox"/> B) Google C) Microsoft D) TCS
24.	Government of India has made hall marking compulsory to which of the following metals? <input checked="" type="checkbox"/> A) Gold B) Silver C) Platinum D) All three metals
25.	Which of the following political parties has won the recently held Assembly elections of Delhi to form the Government? A) BJP <input checked="" type="checkbox"/> B) AAP C) JJP D) INC
26.	The present Chief Justice of Supreme Court of India is A) Justice Ranjan Gogoi B) Justice Deepak Mishra <input checked="" type="checkbox"/> C) Justice Sharad Aravind Bobde D) None of these
27.	Two persons have attended an interview and their chances of getting selected are $\frac{1}{5}$ and $\frac{1}{7}$. The chances of only one of them getting selected is A) $\frac{4}{5}$ B) $\frac{6}{7}$ C) $\frac{24}{35}$ <input checked="" type="checkbox"/> D) $\frac{2}{7}$
28.	The number of four digit numbers that can be formed using the digits 0, 1, 2, 3, 4, 5, 6 without repetition of digits is A) 840 <input checked="" type="checkbox"/> B) $7! / 4!$ C) 720 D) 120
29.	A man is watching from the top of a tower a boat speeding away from the tower. At a distance of 60 meters from the tower, the boat makes a depression of 45° . After 5 seconds, the angle of depression becomes 30° . The approximate speed of the boat running in still water is <input checked="" type="checkbox"/> A) 32 kmph <input checked="" type="checkbox"/> B) 36 kmph C) 38 kmph D) 40 kmph.
30.	The numbers in the following series follow a pattern excepting one number. Identify the odd number 1, 5, 14, 30, 50, 91, 140 A) 5 B) 30 <input checked="" type="checkbox"/> C) 50 D) 91

31.	Two words in each of the following are related in some way. Identify the pair that is differently related A) Tea and Coffee B) Pencil and Pen C) Cycle and Scooter <input checked="" type="checkbox"/> D) Shirt and pocket
<p>Questions 32 to 35 are based on the following: Six scientists A, B, C, D, E, and F are to present a paper each in a conference. Three of them are to present in morning session and the rest to present in the afternoon session. The presentations are scheduled such that B should present his paper immediately before C's presentation in a single session. D must be either the first presenter or the last presenter.</p>	
32.	If C is the sixth presenter, then B must present his paper at which position? A) Third <input checked="" type="checkbox"/> B) Fifth C) Fourth D) Second
33.	B can present his paper at any of the following positions excepting A) First <input checked="" type="checkbox"/> B) Third C) Fourth D) Fifth
34.	If F presents his paper immediately after D, then C can present his paper at which of the following positions. <input checked="" type="checkbox"/> A) Third B) Fourth C) Fifth D) None of these positions
35.	If F presents his paper at fifth position, which of the following is necessarily true? A) A and D are to present as first presenters in morning session and afternoon sessions B) A presents before E makes his presentation C) A and D make their presentation in the morning session <input checked="" type="checkbox"/> D) B and C make their presentation in the afternoon session
36.	The missing number in the series 4, 7, 11, 18, 29, 47, --, 123, 199, ... is A) 67 B) 74 <input checked="" type="checkbox"/> C) 76 <input checked="" type="checkbox"/> D) 84
<p>Questions 37 and 38 are based on the following: Five fishermen Paul, John, Peter, Henry and Walter went for fishing. Peter and John together have caught 5 fishes between them. Henry and Walter together have caught 8, Paul and Henry together have caught 11, John and Paul together have caught 9. The number of fishes caught by Walter is three times more than that of Henry</p>	
37.	The total number of fishes caught by all the five fishermen together is <input checked="" type="checkbox"/> A) 22 B) 24 C) 32 D) 34
38.	Among the following pairs, which pair has caught maximum number of fishes? A) Peter and Paul <input checked="" type="checkbox"/> B) Paul and Walter C) Peter and Walter D) Paul and John
39.	Identify the most nearest synonym for the word Cognizance A) Policy <input checked="" type="checkbox"/> B) Knowledge C) Advance D) Examination
40.	Which of the following is the most nearest for the word Erudite <input checked="" type="checkbox"/> A) Ignorant B) Unknown C) Short D) Stately
41.	Choose the phrase from the options to complete the statement which is grammatically correct The decoration of the new house, including the furniture and curtains ----- <input checked="" type="checkbox"/> A) is more pleasing B) are more pleasing C) is most pleasing D) are pleasing

42.	Which of the following is sentence is a correct alternative for the sentence "The earth is always revolving round the Sun" <input checked="" type="checkbox"/> A) The earth revolves round the Sun <input type="checkbox"/> B) The earth is revolving round the Sun <input type="checkbox"/> C) The earth revolving round the Sun <input type="checkbox"/> D) None of these
43.	Octal equivalent of the hexadecimal number 4DF is <input type="checkbox"/> A) 2333 <input checked="" type="checkbox"/> B) 2337 <input type="checkbox"/> C) 2773 <input type="checkbox"/> D) 2373
44.	Which of the following is hexadecimal representation the product of two binary numbers 10111 and 1110? <input type="checkbox"/> A) 150 <input type="checkbox"/> B) 14C <input checked="" type="checkbox"/> C) 142 <input type="checkbox"/> D) 13E
45.	The position of a student Raju in his class is 5 th from top. The position of another student Ramani in the class is 7 th from the bottom. Another student Ravi is in 6 th place after Raju and 6 th place before Ramani. The total number of students in the class is <input type="checkbox"/> A) 26 <input type="checkbox"/> B) 24 <input checked="" type="checkbox"/> C) 22 <input type="checkbox"/> D) 20
46.	Change the speech in the following sentence: Dad said to David, "Please help me by washing the dishes" <input checked="" type="checkbox"/> A) Dad said to David help me by washing the dishes <input checked="" type="checkbox"/> B) Dad asked David to help him by washing the dishes <input type="checkbox"/> C) Dad asked David to help me by washing the dishes <input type="checkbox"/> D) Dad asked David help in washing the dishes
47.	Which of the following is not an Operating System? <input type="checkbox"/> A) Linux <input type="checkbox"/> B) OS/2 <input checked="" type="checkbox"/> C) DB2 <input type="checkbox"/> D) ANDROID
48.	The missing number in the series 4, 7, 11, 18, 29, 47, ---, 123, 199 is <input type="checkbox"/> A) 70 <input checked="" type="checkbox"/> B) 76 <input type="checkbox"/> C) 84 <input type="checkbox"/> D) 90
49.	How many cubes of size 3cm can be inserted into a box with length 15cm, breadth 12 cm and height 6cm? <input type="checkbox"/> A) 48 <input checked="" type="checkbox"/> B) 40 <input type="checkbox"/> C) 45 <input type="checkbox"/> D) 42
50.	Choose appropriate word/phrase that is of the same meaning as that of the underlined word in the sentence "Corona virus had <u>broken out</u> in some countries" <input type="checkbox"/> A) eradicate <input type="checkbox"/> B) run away <input checked="" type="checkbox"/> C) spread <input type="checkbox"/> D) escape
51.	Fill in the blank: She was late. She _____ to set her alarm clock <input type="checkbox"/> A) forgotten <input type="checkbox"/> B) forgot <input checked="" type="checkbox"/> C) had forgotten <input type="checkbox"/> D) had forgot
52.	A man takes 5 hours 45 minutes in walking to a certain place and riding back. If he gains 2 hours in riding both ways, how much time does he take to walk both ways? <input type="checkbox"/> A) 7 hours <input type="checkbox"/> B) 7 hours 30 minutes <input checked="" type="checkbox"/> C) 7 hours 45 minutes <input type="checkbox"/> D) 8 hours

53.	One of the numbers in the following series does not follow the pattern as followed by the others. Find is the wrong number in the series 3, 8, 15, 24, 34, 48, 63	A) 15	B) 24	<input checked="" type="checkbox"/> C) 34	D) 48
54.	The number of non-negative integers less than 1000 that contain the digit 1 is	A) 9^2	B) 9^3	C) $10^2 - 9^2$	<input checked="" type="checkbox"/> D) $10^3 - 9^3$
55.	Total number of numbers that can be formed using the digits 2, 4, 6, and 8 without repetition of digits is	A) 12	B) 4^2	<input checked="" type="checkbox"/> C) 4^3	D) 24
56.	Sharma saw the time while going to tennis court. He saw the hour hand is 20° away from 4. After returning, he noticed that the hour hand is 20° away from 4. He has taken 10 minutes each way to go to the tennis court. The time spent by Sharma at the tennis court is	A) 50 mins	<input checked="" type="checkbox"/> B) 60 mins	C) 70 mins	D) 80 mins
57.	Which part of the following sentence has error? <u>My elder brother is a MA whereas I am only a BA</u>	A) My elder brother	<input checked="" type="checkbox"/> B) is a MA	C) whereas I am	D) only a BA
58.	Out of the following alternatives, choose the word that is opposite in meaning to the word AFFLUENT	A) Reluctant	<input checked="" type="checkbox"/> B) Poor	C) Clear	D) Enthusiastic
59.	Out of the following, identify the person who is NOT a Nobel Prize Winner?	<input checked="" type="checkbox"/> A) J C Bose	B) Rabindranath Tagore	C) C V Raman	D) Subamanayan Chandrasekhar
60.	Indian woman sports person Shafali Verma represented India in which of the following sports?	A) Tennis	B) Hockey	<input checked="" type="checkbox"/> C) Cricket	D) Wrestling

Part – B (20 x 2 = 40 marks)

61.	The average age of the students in the class is 14. The average age of half of the students in the class and their class teacher is 16. The average age of the remaining half of the students in the class is 15. The number of students in the class is	A) 30	B) 40	C) 50	<input checked="" type="checkbox"/> D) Data inadequate
62.	A tree breaks due to a storm and the broken part bends so that the top of the tree touches the ground making an angle of 30° with the ground. The distance from the foot of the tree to the point where the top touches the ground is 10 meters. The height of the tree is	A) $9\sqrt{3}$ mts	<input checked="" type="checkbox"/> B) $10\sqrt{3}$ mts	C) $9\sqrt{5}$ mts	D) $10\sqrt{5}$ mts
63.	The average value of five observations is 4 and their variance is 5.2. If three of the five observations are 1, 2 and 6, the other two observations are	A) 2 and 9	B) 2 and 8	<input checked="" type="checkbox"/> C) 4 and 7	D) 4 and 8

64.	Two-thirds of a consignment was sold at a profit of 5% and the remaining one-third was sold at a loss of 2%. If the total profit on the entire consignment is Rs. 400, the value of the entire consignment in Rs. is A) 10000 B) 12000 <input checked="" type="checkbox"/> C) 15000 D) 18000
65.	Two dice are tossed. The probability that the total score is a prime number is A) 1/6 <input checked="" type="checkbox"/> B) 5/12 C) 1/2 D) 7/9
<p>Questions 66 to 68 are based on the following” In a family of six persons, there are two couples. Lawyer is the head of the family and has two children and both of them are teachers. Mrs. Reena and her mother-in-law are both lawyers. Lawyer’s daughter-in-law is a doctor and has a son Ajay.</p>	
66.	Which of the following is definitely a couple? A) Doctor – Lawyer <input checked="" type="checkbox"/> B) Lawyer – Teacher C) Teacher – Teacher D) None of these
67.	The number of doctors in the family is A) 1 B) 2 <input checked="" type="checkbox"/> C) 1 or 2 D) None of these
68.	How is Ajay related to Mrs. Reena? A) Son B) Grandson <input checked="" type="checkbox"/> C) Nephew D) None of these
<p>Questions 69 to 72 are based on the following: Six employees are to be allotted office cubicles arranged in a row and are separated by partitions with the top of the partition left open so that voices, sounds and smoke flow from one to the other cubicle. Ms. Harika is the senior most and has to be allotted cubicle 5, which has biggest window. Mr. Deepak requires silence in the office next to his and Mr. Tarun prefers to be as far as possible from Ms. Raveena. Mr. Madan and Mr. Bhupen need adjacent rooms as they need to consult each other frequently during office hours. Mr. Tarun, Mr. Madan and Mr. Deepak are all smokers while Ms. Harika is allergic to cigarette smoke, hence the cubicles adjacent to hers can be occupied by non-smokers only. Unless otherwise explicitly mentioned, all employees maintain silence in their offices.</p>	
69.	The ideal candidate to occupy the cubicle farthest from that of Mr. Brown would be A) Ms. Harika B) Mr. Madan C) Mr. Tarun <input checked="" type="checkbox"/> D) Mr. Deepak
70.	Which of the following could be the cubicles that can be allotted to the three smoking employees? A) 1, 2, and 4 B) 2, 3, and 6 <input checked="" type="checkbox"/> C) 1, 2, and 3 D) 1, 3, and 6
71.	The ideal cubicle for Mr. Madan would be A) 6 B) 4 <input checked="" type="checkbox"/> C) 3 D) 1
72.	Which of the following can be neighbor to Mr. Madan? A) Mr. Deepak <input checked="" type="checkbox"/> B) Ms. Raveena C) Ms. Harika D) Mr. Tarun

	<p>Questions 73 to 74 are based on the following: There are three switches A, B, and C which can be in either on or off positions. The settings of the switches can be changed as per the following rules:</p> <ul style="list-style-type: none"> • If A is the only switch in on, change B to on • If A and B are the only switches in on, change C to on • If all switches are on, change C to off • In all other cases, toggle all the three switches – change the switches in on to off and those which are in off to on
73.	<p>If the only switch which is in on position, the changed position for the switches A, B, and C would be A) on, on and on B) on, off, and on C) on, on, and off D) off, off, and on</p>
74.	<p>If C is the only switch in on position after change of switches, which of the following could be the original setting for the three switches A, B, and C? I. on, on, off II. on, on, on A) I only B) II only C) I or II D) Neither I nor II</p>
75.	<p>What is the average speed of the car for entire distance? In order to answer the question, data from which of the following statements is necessary? I. The car covers whole distance in four equal stretches at speeds of 10kmph, 20kmph, 30kmph and 40kmph respectively. II. The total time taken is 30 minutes. A) I alone B) II alone C) I and II D) Neither I nor II</p>
76.	<p>The value of x and y if $(x567)_8 + (2yx5)_8 = (71yx)_8$ A) 4, 3 B) 3, 3 C) 4, 4 D) 4, 5</p>
77.	<p>The binary equivalent of decimal number 0.4375 is A) 0.0111 B) 0.0101 C) 0.1100 D) 0.1010</p>
	<p>Questions 78 to 80 are based on the following: An office has three managers A, B, and C and five secretaries D, E, F, G, and H. It is proposed to establish another office at a different place using two managers and three secretaries from among the existing staff. In order to identify the appropriate staff to be sent, the following conditions must be satisfied</p> <ul style="list-style-type: none"> • A and C always try to find fault with each other and should not be sent • C and E function well individually but not as a team • D and G are not in talking terms and hence should not be sent together • D and F are competing for a promotion, they should be separated.
78.	<p>If A is to be moved, which of the following cannot be a possible team to be sent A) ABDEH B) ABDGH C) ABEFH D) ABEGH</p>
79.	<p>If C and H are moved to the new office, how many possible teams of 5 members can be formed for sending to the new office A) 1 B) 2 C) 3 D) 4</p>
80.	<p>If C is sent to the new office, which of the following also cannot be sent to the new office? A) B B) D C) E D) G</p>

SPACE FOR ROUGH WORK

	<p>Questions 73 to 74 are based on the information given below. There are three switches A, B and C, which can be in either on or off position. The settings of the switches can be changed as per the following criteria:</p> <ul style="list-style-type: none"> • If A is the only switch in an 'on' state, B to 'off'. • If A and B are the only switches in an 'on' state, C to 'off'. • If all switches are in an 'on' state, C to 'off'. • In all other cases, toggle all the three switches – change the switches in on to off and those which are in off to on. 	
73	<p>If the only switch which is in an 'on' position, the changed position for the switches A, B and C would be</p> <p>(A) on, on and on (B) on, off and on (C) on, on and off (D) off, off and on</p>	
74	<p>If C is the only switch in an 'on' position after a sequence of switches, which of the following would be the original setting for the three switches A, B and C?</p> <p>(A) off only (B) on only (C) off, off (D) off, on, on</p>	
75	<p>What is the average speed of the car for the entire distance?</p> <p>In order to answer the question, data from which of the following statements is necessary?</p> <p>I. The car covers whole distance in four equal stretches at speeds of 10 kmph, 20 kmph, 30 kmph and 40 kmph respectively. II. The total time taken is 30 minutes. III. The total distance is 30 km.</p> <p>(A) I alone (B) II alone (C) I and II (D) I and III</p>	
76	<p>The value of x and y if $(x^2 + y^2) = (x + y)^2$ is</p> <p>(A) 1 (B) 3 (C) 4 (D) 5</p>	
77	<p>The binary equivalent of decimal number 1472 is</p> <p>(A) 10111000 (B) 10110100 (C) 10110101 (D) 10110110</p> <p>Questions 78 to 80 are based on the following information:</p> <p>An office has three managers A, B and C and five secretaries D, E, F, G and H. It is proposed to establish another office at a different place using two managers and three secretaries. It was noted that existing staff in order to identify the appropriate staff to be sent, the following conditions must be satisfied:</p> <ul style="list-style-type: none"> • A and C always try to find each other and would not be sent. • C and E function well individually but not as a team. • D and G are not working terms and hence should not be sent together. • D and F are competing for a promotion, they should be separated. 	
78	<p>If A is to be moved, which of the following cannot be a possible team to be sent?</p> <p>(A) ABDEH (B) ABDEG (C) ABDFH (D) ABDEI</p>	
79	<p>If C and H are moved to the new office, how many possible teams of 3 members can be formed for sending to the new office?</p> <p>(A) 1 (B) 2 (C) 3 (D) 4</p>	
80	<p>If C is sent to the new office, which of the following also cannot be sent to the new office?</p> <p>(A) B (B) E (C) F (D) G</p>	

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