Paper Code B

COURSE CODE: PEA305
Course Title: ANALYTICAL SKILLS

Time Allowed: 2 hrs **Max. Marks: 80**

Read the following instructions carefully before attempting the question paper.

1. Match the Paper Code shaded on the OMR Sheet with the Paper code mentioned on the question paper and ensure that both are the same.

2. This question paper contains 80 questions of 1 mark each. 0.25 marks will be deducted for each wrong answer.

3. Attempt all the questions in serial order.

4. Do not write or mark anything on the question paper and/or on rough sheet(s) which could be helpful to any student in copying, except your registration number on the designated space.

5. Submit the question paper and the rough sheet(s) along with the OMR sheet to the invigilator before leaving the examination hall.

6. Use of calculator/log table is not allowed.

Q1) In how many ways a group of 3 students can be selected from 7 men and 5 women consisting of 1 man and 2 women?
(a) 70 (b) 110 (c) 7 (d) 60

CO4, L1

Q2)
From a box containing 8 yellow and 5 white pens, three are drawn one after the other. Find the probability of all three pens being yellow if the pens drawn are not replaced?
(a) (b) (c) (d)

CO4, L1

Q3)
There are 15 boys and 10 girls in a class. If three students are selected at random, what is the probability that 1 girl and 2 boys are selected?
(a) (b) (c) (d)

CO4, L1

Q4)
A boy walks 21 Km towards south and then turns to the right. After walking 11 Km he turns to the left and walks 21 Km. Now in which direction is he from the starting place?
(a) West (b) East (c) North-East (d) South-West

CO5, L2

Q5) B is the husband of A. B is the father of C. D is the son of A. How is D related to C?
(a) Wife (b) Husband (c) Brother (d) Uncle

CO5, L2

Q6) A is the brother of B and C is the sister of B. D is the father of C and D is husband of E. E has a sister F. Which statement is correct?
(a) A, B,C are sibling (b) D is Uncle of A (c) B is a male (d) A is cousin of C

CO5, L2

Q7) The son of Z is the father of Y and grandfather of X. T is the sister of X. How is Z related to T?
(a) Grand-father (b) Grand-mother (c) Father (d) Can't Determine

CO5, L2

Q8)
D is son of E. M has only two children- D and F. T is the sister of U. F married to V. M has only daughter. W is the mother of E. T married to D. X married to W, and M is the son of Y. How is E related to Y?
(a) Aunt (b) Sister-in-law (c) Daughter-in-law (d) Daughter

CO5, L2

Q9) **If you are facing north-east and move 10 m forward, turn left and move 7.5 m, then you are**
(a) north of your initial position (b) south of your inital position (c) 12.5 m from your inital position (d) Both A and C

CO2, L2

Q10)
Niraj goes 30 metres North, then turns right and walks 40 metres, then again turns right and walks 20 metres, then again turns right and walks 40 metres. Now he is in which direction from the starting point?
(a) North (b) south (c) east (d) west

CO2, L2

Q11)
Abhishek is son of Amitabh's father's sister. Prakash is son of Teji who is mother of Vikash who is a male and grandmother of Amitabh. Harivansh is father of Neela and grandfather of Abhishek. Teji is wife of Harivansh.
How is Abhishek related to Teji?
(a) grand son (b) son (c) brother (d) none

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Q12)
B and C are siblings. M has two children and he is son of E, who is father-in-law of H. H has only one son. C is not granddaughter of E.
How is B related to E?
(a) Granddaughter (b) daughter (c) sister (d) NONE

Q13) A man said to a lady, " Your mother's husband's sister is my aunt" How is that lady related to that man? CO2, L2
(a) Sister (b) Brother (c) Father (d) GrandFather

Q14) If South east becomes East, North-East becomes North and so on. What will West become? CO2, L2
(a) West (b) South West (c) North (d) None

Q15) CO2, L2
A man walks 3 Km northwards and then turns right and goes 2 Km. He turns left and goes 3 Km. He turns right and walks straight. In which directions is he walking now?
(a) East (b) West (c) North (d) None

Q16) Man walks southwards, then takes a half left turn. In which direction is he walking now? CO2, L2
(a) North East (b) South East (c) North West (d) None

Q17) CO2, L2
One fine morning on his morning walk, Kapil noticed Seeta who was doing Soorya namaskar facing the rising sun. He went to her, greeted her Good Morning and took a left turn. In which direction, is he walking now?
(a) North (b) South (c) East (d) West

Q18) CO2, L2
Ananya goes to the departmental store, which is to the North of her house, 6 km away by an auto. After the shopping she decides to visit her friend Ayushi. Hence turns to the right and reaches her friend's house which is 8 km away. From there she visits a shop which is 6 km away, taking a right turn. Finally, she turns to the right and phones up to the house to send the car.
How far is Ananya from her house?
(a) 6 km (b) 10 km (c) 12 km (d) 8 km

Q19) Pointing out a man receiving the prize, Malaika said, "He is the brother of my uncle's daughter." Who is the man to Malaika? CO2, L2
(a) Son (b) Brother-in-law (c) Nephew (d) Cousin

Q20) CO2, L2
In a family of six persons – Anu, Ayushi, Sohan, Ajay, Anupam and Anuj – there are three males and three females. There are two married couples and two persons are unmarried. Each one of them has different professions, viz. Doctor, Engineer, Lawyer, Teacher, Writer and Architect.
Anupam, who is a Engineer, is mother-in-law of Anu, who is the wife of Sohan. Ajay is the father of Anuj and he is neither Doctor nor Architect. Ayushi is a Writer and is the sister of Anuj, who works as Lawyer. Sohan is not an Architect. How many sons does Anupam have?
(a) Four (b) Three (c) Two (d) None

Q21) CO2, L2
A invests Rs.700 for 6 months, B invests Rs.600 for 7 months and C invests Rs.300 for 14 months in a business. If profit is Rs.1800 then what is the share of B?
(a) 100 (b) 200 (c) 600 (d) None

Q22) K is younger than B by 8 years and their ages are in the respective ratio of 5 : 9, how old is K? CO4, L1
(a) 10 (b) 21 (c) 33 (d) None

Q23) CO1, L3
P starts business with Rs.4500 and after 9 months, Q joins with P as his partner. After a year, the profit divided in the 3 : 5. What is Q's contribution in the capital?
(a) Rs. 5000 (b) Rs. 10000 (c) Rs. 20000 (d) Rs. 30000

CO1, L3

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Q24) P, Q, R hired Taxi for Rs. 680 and used it for 3, 5, 9 hours, respectively hire charges paid by Q are
(a) Rs. 100 (b) Rs 200 (c) Rs. 300 (d) Rs. 350 CO1, L3

Q25)
Alpana started a business investing Rs. 45,000. After 3 months Priyanka joined her with a capital of Rs. 60,000. After another 6 months Kalpana joined them with a capital of Rs. 90,000. At the end of the year, they made a profit of Rs. 16,500. Find the share of Kalpana.
(a) Rs. 2100 (b) Rs. 3300 (c) Rs. 3500 (d) Rs. 3800 CO1, L3

Q26)
A solution of 'THANDA SHARBAT' has 15% sugar. Another solution has 5% sugar. How many liters' of the second solution must be added to the 20L of first solution to make a solution of 10 % sugar?
(a) 10 L (b) 5 L (c) 15 L (d) 20 L CO1, L3

Q27) How many 4 digit numbers can be made from the digits 7, 8, 5, 6, 0, and 4 without repetition?
(a) 300 (b) 400 (c) 200 (d) 500 CO4, L1

Q28) In How many different ways the letters of the word 'DREAM' can be arranged, if it starts with a vowel?
(a) 96 (b) 48 (c) 120 (d) 540 CO4, L1

Q29)
An urn contains 3 red balls, 4 green balls and 5 white balls, if one ball is drawn at random, find the probability that it is neither Red ball nor white
(a) 1/4 (b) 1/3 (c) 1/5 (d) 2/3 CO4, L1

Q30)
A bag contains 6 red balls and 7 white balls. Another bag contains 5 red balls and 3 white balls. One ball is selected from each. Find the probability that one ball is red and one is white?
(a) 53/104 (b) 47/104 (c) 63/104 (d) 51/104 CO4, L1

Q31) Find number of diagonals in hexagon
(a) 1 (b) 9 (c) 2 (d) 3 CO4, L1

Q32)
Find the rank of the word "TIME" if all the words can be formed by permuting the letters of this word without repetition are arranged in dictionary order.
(a) 11 (b) 22 (c) 33 (d) None CO4, L1

Q33)
Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?
(a) 5/17 (b) 9/20 (c) 3/17 (d) none CO4, L1

Q34) Two cards are drawn at random from a pack of 52 cards what is the probability that either both are black or both are queen?
(a) 55/221 (b) 55/219 (c) 55/213 (d) none CO4, L1

Q35) In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?
(a) 2/7 (b) 1/7 (c) 3/7 (d) none CO4, L1

Q36)
I forgot the last digit of a 7-digit telephone number. If I randomly dial the final 3 digits after correctly dialing the first four, then what is the chance of dialing the correct number?
(a) 1/1000 (b) 1/999 (c) 1/500 (d) none CO4, L1

Q37) In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected, is
(a) 21/46 (b) 19/46 (c) 23/47 (d) none CO4, L1

Q38)
A box contains 10 bulbs,of which just three are defective. If a random sample of five bulbs is drawn, find the probability that the sample contains exactly one defective bulb.
(a) 5/12 (b) 1/3 (c) 7/12 (d) none

CO1, L1

Q39)
Five students are to be arranged on five chairs for a photograph. Three of these are girls and the rest are boys. Find out the number of ways in which all three girls do not occupy consecutive seats.
(a) 120 (b) 36 (c) 84 (d) 136

CO4, L1

Q40) Using all the letters of the word LINEAR.
How many words start with a vowel but end with a consonant?
(a) 224 (b) 316 (c) 212 (d) 216

Q41) Choose the correct alternative from the given ones that will complete the series.
AD EI IN OS ?
(a) UX (b) XY (c) WY (d) UY

CO6, L4

Q42) Choose the correct alternative from the given ones that will complete the series.
66 40 67 45 69 ?
(a) 50 (b) 60 (c) 75 (d) 49

CO6, L4

Q43)
How many such pairs of letters are there in the word ADJUSTMENT each of which has as many letters between them in the word as in the English alphabet?
(a) None (b) One (c) Two (d) Three

CO6, L4

Q44)
Each consonant of the word 'TERMINATION' is changed to the previous letter in the English alphabetical series and each vowel is changed to the next letter in the English alphabetical series. If the new alphabets thus formed are arranged in alphabetical order (from left to right), which of the following will be the sixth letter from the right end?
(a) M (b) S (c) P (d) L

CO6, L4

Q45)
If in a certain language, 'oka peru' means 'fine cloth', 'meta lisa' means 'clear water' and 'dona lisa peru' means 'fine clear weather', which word in that language means 'weather'?
(a) peru (b) oka (c) meta (d) dona

CO6, L4

Q46) Study the following information carefully and answer the questions given below:
In a certain code language,
'good time to buy' is written as 'sy bo nj kw'
'invest money and time' is written as 'sy ta ge mr'.
'buy good stuff only' is written as 'kw bo rd fp'.
'only work and money' is written as 'ta fp mr ux'.
What is the code for 'stuff' in the given code language?
(a) fp (b) rd (c) kw (d) bo

Q47) Study the following information carefully and answer the question given below:
In a certain code language,
'good time to buy' is written as 'sy bo nj kw'
'invest money and time' is written as 'sy ta ge mr'.
'buy good stuff only' is written as 'kw bo rd fp'.
'only work and money' is written as 'ta fp mr ux'.
What is the code for "invest time to work" in the give code language?
(a) ta nj kw rd (b) ta fp ux nj (c) mr sy bo ta (d) ux ge nj ry

CO6, L4

Q48)
If 'sand' is called 'air', 'air' is called 'plateau', 'plateau' is called 'well', 'well' is called 'island' and 'island' is called 'sky', then from where will a woman draw water?
(a) well (b) island (c) sky (d) air

CO6, L4

Q49)
If BE QUICK is coded as ZC OSGAI, then the code of the last letter of the third word in the sentence I LOVE MY COUNTRY is _____.
(a) A (b) T (c) U (d) W

CO6L4

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Q50) In a certain code, SPRING is written as UNUFRC. How will the word MOBILE be written in that code language?
(a) KQEFPA (b) OMDGNC (c) OMDGPA (d) OMEFPA
CO6, L4

Q51) The ratio of Boys & Girls is 2:5, when 50 girls more joined the ratio becomes 4 : 15. Find the initial number of boys
(a) 40 (b) 67 (c) 50 (d) 78
CO2, L2

Q52) If x:y is 2:3, find the value of (4x + 3 y) :(3x+7y)
(a) 17 : 27 (b) 19:7 (c) 21 :23 (d) None
CO2, L2

Q53)
Three friends went for a picnic. First brought five apples and the second brought three. The third friend however brought only Rs.8. What is the share of the first friend?
(a) 7 (b) 1 (c) NONE (d) 6
CO1, L3

Q54)
Two full tanks, one shaped like a cylinder and the other like a cone, contain jet fuel. The cylindrical tank olds 500 litres more than the conical tank. After 200 litres of fuel has been pumped out from each tank the cylindrical tank contains twice the amount of fuel in the conical tank. How many litres of fuel did the cylindrical tank have when it was full?
(a) 1200 (b) 1000 (c) 1500 (d) NONE
CO1, L3

Q55)
The cost of diamond varies directly as the square of its weight. Once, this diamond broke into four pieces with weights in the ratio 1 : 2 : 3 : 4. When the pieces were sold, the merchant got Rs.70,000 less. Find the original price of the diamond.
(a) 1 LAC (b) 2 LAC (c) NONE (d) 3 LAC
CO1, L3

Q56)
The ratio of the age of Tom and Bob is 9:10 respectively. 20 years ago, the ratio of their ages was 4:5 respectively. What is the present age of Bob?
(a) 10 years (b) 20 years (c) 40 years (d) 60 years

Q57)
A jar contains a mixture of two liquids A and B is the ratio 11:9. When 9 liters of mixture are drawn off and the jar is filled with B, the ratio of A and B becomes 1:1. How many liters of liquid A was contained by the can initially? (approximately)
(a) 44 L (b) 49.5 L (c) 55 L (d) 50.5 L
CO3, L3

Q58)
In what ratio should almond costing Rs. 535 per kg be mixed with almond costing Rs.375 per kg so that the cost of the mixture is Rs.465 per kg?
(a) 9:7 (b) 7:9 (c) 5:7 (d) 7:5
CO3, L3

Q59)
In what ratio must a shopkeeper mix two varieties of Tea costing Rs. 40 and Rs. 76 per kg respectively so as to get a mixture worth Rs. 56 kg?
(a) 2:3 (b) 5:4 (c) 1:9 (d) None
CO2, L3

Q60)
In what ratio must a shopkeeper mix two varieties of pulses costing Rs. 10 and Rs. 26 per kg respectively so as to get a mixture worth Rs. 18 kg?
(a) 1:1 (b) 1:9 (c) 9:1 (d) None
CO4, L3

Q61) The sum of the rational and its reciprocal is 13/6. Find the number.
(a) 5/3 (b) 2 (c) 3/2 (d) 5
CO1, L3

Q62) What is the units place digit in the expansion of $(249)^{647}$
(a) 5 (b) 3 (c) 1 (d) 9
CO1, L3

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Q63) When a number divided by 288, the remainder is 47. Find the remainder when the same number is divided by 24 CO1, L3
(a) 24 (b) 21 (c) 23 (d) 25

Q64 CO1, L3
In a class with a certain number of students if one new student weighing 50 kg is added, then average weight of class is increased by 1 kg. If one more student weighing 50 kg is added, then the average weight of the class increases by 1.5 kg over the original average. What is the original average weight (in kg) of the class?
(a) 46 (b) 42 (c) 27 (d) 47

Q65
The average salary of male employees in a firm was Rs. 6000 and that of females was Rs. 5600. The mean salary of all the employees was Rs. 5800. What is the % of female employees? CO1, L3
(a) 60% (b) 50% (c) 70% (d) 20%

Q66) CO1, L3
The average sales of a mobile shopkeeper was 15 mobiles per week, to increase the sales he decided to tie up with a finance company for providing mobiles to customers on installment. After the launch of this scheme his average sales increased to 21 mobile per week. The annual percentage increase in the sales of mobile was
(a) 40% (b) 140% (c) 42.66% (d) 39.33%

Q67 CO1, L3
In a class of 'x' students, if a new student weighing 30 kg joins the class, then the average weight of the class increases by 1 kg. If the new student's weight is 18 kg, then the average weight of the class decreases by 1 kg. Find 'x'
(a) 4 (b) 5 (c) 6 (d) 7

Q68) What is the sum of the following series? -64, -66, -68, ... CO1, L3
100 (a) -1458 (b) -1558 (c) -1568 (d) -1664

Q69) Second term in an AP is 8 and the 8th term is 2 more than thrice the second term. Find the sum up to 8 terms of this AP CO1, L3
(a) 124 (b) 108 (c) 96 (d) 116

Q70) The last term of the 10 number series 1, 2, 4 ... is_____ CO1, L3
(a) 512 (b) 256 (c) 1024 (d) Cannot be determined

CO1, L3

Q71)
Shobha's Mathematics test had 75 problems i.e. 10 arithmetic, 30 algebra and 35 geometry problems. Although she answered 70% of the arithmetic, 40% of the algebra and 60% of the geometry problems correctly, she did not pass the test because she got less than 60% of the problems right . How many more question she would have needed to answer correctly to earn a 60% passing grade?
(a) 2 (b) 4 (c) 5 (d) 7

CO2, L2

Q72) Fourty-five percent of a number is 30 less than three-fifth of that number . What is the number?
(a) 100 (b) 120 (c) 130 (d) 200

CO2, L2

Q73)
When the price of a product was decreased by 10%, then the number of sell increased by 30%. What was the effect on the total revenue?
(a) 5% (b) 10% (c) 12% (d) 17%

CO2, L2

Q74)
If the numerator of a fraction be increased by 15% and its denominator be diminished by 8%, the value of the fraction is 15/16 . Find the original fraction.
(a) 1/2 (b) 3/2 (c) 3/4 (d) 4/3

CO2, L2

Q75) A woman buys a toy for Rs 25 and sells it for Rs 30. Find her gain percent.
(a) 5% (b) 8% (c) 13% (d) 20%

CO2, L2

Q76)
A reduction of 20% in the price of rice enables a person to buy 2 kg more for Rs 30. Find the reduced and the original price per kg of rice.
(a) Rs 3 and 3.75 per kg (b) Rs 3 and 2.75 per kg (c) Rs 2 and 3.75 per kg (d) Cannot be determined

CO2, L2

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CO2, L2

Q77) If the marked price of an article is Rs. 380 and a discount of 5% is given on it, what is the selling price?
(a) Rs. 261 (b) Rs. 361 (c) Rs. 371 (d) Rs. 431

CO2, L2

Q78) A seller buys mangoes at Rs. 2 for 3 mangoes and trade them at a rupee each. To make a profit of Rs. 10, he must sell
(a) 10 mangoes (b) 20 mangoes (c) 30 mangoes (d) 40 mangoes

CO2, L2

Q79) The rate at which a sum becomes four times of itself in 15 years at S.I, will be:
(a) 12% (b) 15% (c) 20% (d) 25%

CO2, L2

Q80) Find the compound interest on Rs. 10,000 at 20% per annum for 6 months compounded quarterly.
(a) Rs. 4353 (b) Rs. 1329 (c) Rs. 1025 (d) Rs. 2649

CO2, L2

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