Instructions

Duration: 150 minutes

Maximum Marks: 120

Read the following instructions carefully

1. The question paper contains 23 pages including the instruction page and 3 additional pages for rough work. Please check all pages and report discrepancy, if any.
2. The examination is of 2 ½ hour duration and is of 120 marks.
3. Write your name and registration number at the specified locations in the Optical Response Sheet (ORS).
4. Using pencil (HB) darken the appropriate bubble under each digit of your registration number.
5. This question paper consists of 3 sections, Verbal Communication Section for 40 marks, Analytical and Logical Reasoning Section for 40 marks, and Quantitative and Data Interpretation Section for 40 marks. All the three sections are compulsory.
6. Each Section consists of 40 Multiple Choice Questions (MCQ). Each Multiple choice question has four choices out of which only ONE is the correct answer.
7. Each question carries 1 mark. There is no negative marking for a wrong answer.
8. Use the data given in the question while answering the question.
9. Questions must be answered on the ORS by darkening the appropriate bubble (Marked A, B, C, D) using HB pencil against the question number on the left hand side of the ORS. For each question, darken the bubble of the answer selected. In case you wish to change an answer, erase the old answer completely. If more than one option is selected it will be treated as no response and will fetch ZERO marks.
10. You are not allowed to leave the examination hall until the completion of the examination.
11. Charts, graph sheets, calculators and mathematical tables are NOT allowed in the examination hall.
12. Rough work can be done on the question paper itself. Additional blank pages are provided at the end of the question paper for rough work.
13. Please write your name and registration number at the top of this page.
SECTION 1: VERBAL COMMUNICATION

Q.1 Fill in the blank with the appropriate option.
The leaders of the ruling party are struggling to put their ________ on what is antagonizing their vote bank.

(A) toe      (B) thumb      (C) hand      (D) finger

Q.2 The relationship between the word pair GLOOMY: VIVACIOUS is similar to the relationship of which of the following pair of words?

(A) CLOUDY: RAINY     (B) CLOUDY: SUNNY
(C) CLOUDY: TRANSLUSCENT (D) CLOUDY: CONFUSED

Q.3 Consider the following four sentences:

i. If you are late for the exam, one might not have the time to read the instructions.
ii. If one is late for the exam, one might not have the time to read the instructions.
iii. If one is late for the exam, you might not have the time to read the instructions.
iv. If you are late for the exam, you might not have the time to read the instructions.

Which of the following options is a correct statement?

(A) Sentences (ii) and (iii) are grammatically wrong.
(B) Sentences (ii) and (iii) are grammatically right.
(C) Sentences (ii) and (iv) are grammatically right.
(D) Sentences (ii) and (iv) are grammatically wrong.

Q.4 Fill in the blank with the appropriate option.
In a homogeneous porous medium, the capillary driven invasion of a wetting fluid is known ________ diffuse Lucas-Washburn like behavior.

(A) to follow (B) follow (C) following (D) to following

Q.5 Which of the following sentences is grammatically correct?

(A) Hilsa fish can now swim down the Ganges from Bengal to Allahabad this Monsoon after a gap of 50 years by the navigation lock at the Farakka barrage that blocked the journey of the fish has been redesigned.

(B) Hilsa fish can swim down the Ganges to Allahabad this Monsoon after a gap of 50 years as the navigation lock at the Farakka barrage in Bengal has been redesigned to facilitate it.

(C) The redesigning now of the navigation lock at the Farakka barrage in Bengal, which was built across the Ganges in the 70s, will allow the Hilsa fish to swim all the way up to Allahabad this Monsoon 50 years since.

(D) The redesigning of the navigation lock at the Farakka barrage in Bengal, which was built across the Ganges in the 70s, will allow the Hilsa fish to swim all the way up to Allahabad this Monsoon 50 years later.
Please Read the following paragraphs carefully. They are followed by four questions. Please use only the given content to answer the questions (Q6 to Q9).

Due to the proliferation of yapping, sniping, and tail-wagging canis lupus familiaris amidst us, humans in our locality can no longer remain indifferent to their existence. Society is divided between dog-lovers and dog-haters. Of late, many of us have wondered how the relationship between us and the family of foxes, wild dogs, jackals and wolves, etc., might have started. They say that way back when we were hunter-gatherers, the first bonds between human and canine might have been forged. The canine family’s ancestors must have followed human bands, perhaps scavenging from remnants of our hunts, and then gradually integrating themselves into our lives, till at least one branch of the canine family turned into what we have for long deemed our “best friend”: domestic dogs.

Canines are a diverse family that have used brain and cooperation over brawn and solitariness to spread right across the world. Each group has pragmatically chosen its own niche, so that there was no ruthless competition between them. Nevertheless, due to the rapid loss in habitat due to human action, many of the wild species are at present on the verge of extinction.

In contrast, one member of the clan, the dog, has done better than it needs to. Its ingenuity, ingratiating manner, pack mentality and general sturdiness makes it an excellent survivor. However, as the number of “strays” in an area increases, so does ruthless competition for territory and food. The same canine brain and cooperation that integrated dogs within the human society, threatens to split our locality into warring factions today.

Q.6 According to the passage, which of the following statements is true?

(A) Humans captured some wild canines and domesticated them.
(B) Some wild canines followed humans around till they became co-inhabitants.
(C) All wild canines followed humans around till they became co-inhabitants.
(D) Humans are the major source of food for all wild canines.

Q.7 According to the passage, which of the following is not a canine trait?

(A) Pack mentality
(B) Ingratiating manner
(C) Ingenuity
(D) Solitariness

Q.8 It is pragmatic for different canine groups to live in different parts of the earth because____

(A) they are territorial animals who don’t like to share territory.
(B) they do not compete for the food resources.
(C) habitat is getting limited to human action.
(D) they are man’s “best friend”.

Q.9 ____________ is the common theme that runs through every paragraph of the passage.

(A) The permanent bond between humans and dogs
(B) The changes in the nature of the conflict between humans and dogs
(C) The changing terms of interaction between humans and dogs
(D) The perpetual conflict between humans and dogs
Q.10 Consider the following four sentences:

i. Many people do not want to enroll their children in government schools.
ii. Not many people want to enroll their children in government schools.
iii. Some people do not want to enroll their children in government schools.
iv. Some people want to enroll their children in government schools.

Which of these statements in true in a context where there is exactly one person who wants to enroll his children in a government school?

(A) Only statements (i) and (ii)  (B) Only statements (ii) and (iii)
(C) Only statements (ii) and (iii)  (D) All the four statements

Q.11 The relationship between the word pair ROAD: JOURNEY is similar to the relationship of which of the following pair of words?

(A) DIE: LIVE  (B) LIFE: SOUL
(C) HOT: LIVE  (D) LIFE: LIVE

Q.12 Fill in the blanks with the appropriate option.
These results confirm ______ possibility of ______ enhanced vulnerability of millions of people to hydrological extremes in a warming climate.

(A) the, a  (B) the, an  (C) a, the  (D) an, the

Please Read the following paragraph carefully. It is followed by four questions. Please use only the given content to answer the questions. (Q13 to Q16)

Even though, the very fact that the current carrying wire in your circuit should be made of copper and not antimony owes its explanation to quantum mechanics, you do not need to know any quantum mechanics to design an electrical or electronics circuit. Similarly, quantum mechanics also explains the reason your gift-shop magnets stick to the refrigerator door. But, the people who build such magnets do not need to know about symmetric or anti-symmetric quantum mechanical wave function. The point to note is that in spite of the fact that quantum mechanics is the only means to explain the working of the microscopic world that holds the key to the macroscopic properties of materials, much of the technology developed during the 20th century that shaped and transformed our world, does not require any knowledge of quantum mechanics at the operational or designing level.

Q.13 According to the passage, which of the following statement is true?

(A) Quantum mechanics is the only way to explain the microscopic world of matter.
(B) Quantum mechanics is one of the ways to explain the microscopic world of matter.
(C) Quantum mechanics is one of the ways to describe the macroscopic properties of materials.
(D) Quantum mechanics describes the macroscopic properties of materials.
Q.14 According to the passage, which of the following statement is true?
   (A) Some gift-shop magnets may stick to the refrigerator doors.
   (B) Some antimony wires should be used to design electrical circuits.
   (C) Only copper wires should be used to design electrical circuits.
   (D) Only gift-shop magnets stick to the refrigerator doors.

Q.15 Fill in the blank with the appropriate option.
   According to the passage, knowledge of symmetric and anti-symmetric quantum mechanical wave function is _________.
   (A) indispensable to develop technological innovations.
   (B) irrelevant to develop technological innovations.
   (C) inessential to develop technological innovations.
   (D) inappropriate to develop technological innovations.

Q.16 The central point of the passage is that
   (A) you can design technology, only if you don’t know quantum mechanics.
   (B) you can design technology, even if you don’t know quantum mechanics.
   (C) if you don’t know quantum mechanics, you cannot design technology.
   (D) if you know quantum mechanics, you can always design technology.

Q.17 Fill in the blank with the appropriate option.
   It all started last April when he ________ to bowl the opening over in the Australia Tri-series.
   (A) had volunteer          (B) was volunteer
   (C) had volunteered      (D) has volunteered

Q.18 Fill in the blanks with the appropriate option.
   The language and aspirations of a writer and a journalist are quite different. While the ________ presents a bouquet of facts for the reader’s consumption, the ________ endeavor’s to make the reader say, “I thought this all my life but never quite considered or articulated it.”
   (A) latter, former       (B) former, latter
   (C) later, former          (D) former, later

Q.19 Which one of the following sentences is correct?
   (A) If skipping breakfast contributes to weight gain then it does not mean that not skipping breakfast will help with weight loss.
   (B) If not eating breakfast contributes to weight gain then it does not mean that not eating breakfast will help with weight loss.
   (C) The idea that skipping breakfast contributes to weight gain does not mean that eating breakfast can help with weight loss.
   (D) Eating breakfast can help with weight loss is not meant by the idea that skipping breakfast contributes to weight gain.
Q.20 Fill in the blank with the appropriate option.
In India there _____ a few groups like ours that _____ working primarily on theoretical problems in “quantum simulation”.
(A) is, are     (B) are, are     (C) are, is     (D) is, is

Please Read the following paragraph carefully. They are followed by four questions. Please use only the given content to answer the questions. (Q21 to Q24)

Many middle-aged marathon runners and other endurance athletes are familiar with concerns from their loved ones- and sometimes their physicians- that they might be exercising too much and straining their hearts.

For all of them, a large scale study published recently in the JAMA Cardiology should be mollifying. It finds that though middle-aged men who work out often and vigorously do tend to develop worrisome plaques in their cardiac arteries, those men are less likely than more sedentary people to die prematurely from a heart attack or other cardiac causes.

Q.21 In the context of the passage, what is the meaning of the word “mollifying”?
(A) appeasing     (B) worrying     (C) modifying     (D) gratifying

Q.22 According to the passage, which of the following statement is true in the case of middle-aged men?
(A) The probability of a premature heart attack decreases with decrease in the intensity of workouts.
(B) The probability of a premature heart attack decreases with increase in activity.
(C) The probability of a premature heart attack increases with decrease in activity.
(D) The probability of a premature heart attack increases with increase in the intensity of workouts.

Q.23 According to the passage, which of the following statement is NOT true in the case of middle-aged men?
(A) Exercise may protect the heart against heart attack.
(B) Strenuous exercise may damage cardiac arteries.
(C) Not exercising may lead to premature heart attack.
(D) Not exercising may prevent the development of plaques in cardiac arteries.

Q.24 In the context of the passage, what is the meaning of the word “premature”?
(A) immature     (B) early     (C) underdeveloped     (D) quickly
Q.25 Fill in the blank with the appropriate option.
Non-woven textile is one of _______ growing sectors in the current trends where the researchers are actively trying to introduce newer functionalities.
(A) the faster (B) the fastest (C) a fastest (D) a faster

Q.26 Which one of the following sentences is grammatically correct?
(A) A state-of-the-art algorithm has been developed which utilizes local knowledge to compute the agent's objective.
(B) A state-of-the-art algorithm is developed which utilize local knowledge to compute agent's objective.
(C) A state-of-the-art algorithm will be developed which utilized local knowledge to compute the agent's objective.
(D) A state-of-the-art algorithm would have been developed which utilized local knowledge to compute agent's objective.

Q.27 Fill in the blank with the appropriate option.
Access to clean water is essential for life. It is a ____________ to sustainable development because it improves health, supports jobs, and enables food production.
(A) chopping block (B) stumbling block (C) rolling stone (D) stepping stone

Q.28 Which one of the following sentences is grammatically correct?
(A) Not yet all domains of inquiry have fallen within the system of scientific knowledge.
(B) All domains of inquiry have not yet fallen within the system of scientific knowledge.
(C) Not all yet domains of inquiry have fallen within the system of scientific knowledge.
(D) Not all domains of inquiry have yet fallen within the system of scientific knowledge.

Q.29 Niels Bohr suggests that "science is the observation of phenomena and the communication of the results to others who must check them".

According to Bohr's suggestion Scientific results must be _____________.
(A) observable (B) suggestible (C) verifiable (D) arguable

Q.30 Complete the following sentence:
As a result of the collective work of a body of scientists over time, _____________.
(A) have arrived at suitable standards of measure for most physical domains
(B) have arrived at suitable standards of measure for much physical domains
(C) suitable standards of measure for much physical domains have been arrived at
(D) suitable standards of measure for most physical domains have been arrived at
Q.31 Rene Descartes, the inventor of the coordinate system, developed the idea of representing cognitive and cultural processes as motions in a multidimensional continuum.

The word ‘developed’ in this context means _____________.
(A) advanced  (B) discovered  (C) created  (D) accomplished

Please Read the following paragraph carefully. They are followed by four questions. Please use only the given content to answer the questions. (Q32 to Q35)

Watching the jaggery harvesters ply their trade is a treasured winter-vacation memory from my childhood. The calls of these traders mixed with the smoky, woody fragrance of their wares would rouse us out of our sleep at the crack of dawn.

Literally “new jaggery,” nolen gur is extracted from date palm. At dusk, men whose nimble limbs will put any acrobat to shame, scale the trees to cleave a thin slice of the trunk. A terracotta pitcher is positioned strategically for the sap to drip into all night. The light brown liquid is cooked over fire, whose temperature is strictly regulated, till it turns slightly viscous and becomes amber coloured. Much of it is condensed and solidified into discs of jaggery. But to me the magic lay in what was left behind- the date-palm tree nectar.

Q.32 According to the passage, which of the following statement is true?

(A) Jaggery is made by cooking thin slices of the trunk of the date-palm tree.
(B) Jaggery is made by strictly regulating the temperature of the date palm.
(C) Jaggery is made by cooking the sap in terracotta pitchers.
(D) Jaggery is made by cooking the sap of the date-palm.

Q.33 In the above passage the word “nimble” refers to ____________.

(A) muscular  (B) dark-skinned  (C) agile  (D) long

Q.34 According to the passage, the author would wake up at the crack of the dawn to ____________.

(A) watch the jaggery harvesters sell the nolen gur
(B) sell the nolen gur to the jaggery harvesters
(C) buy the nolen gur from the jaggery harvesters
(D) drink the nolen gur extracted from date palms

Q.35 In the above passage the phrase “scale the trees” refers to ____________.

(A) climb the trees  (B) count the number of trees
(C) peel the barks of the trees  (D) measure the heights of the trees
Q.36 Fill in the blank with the appropriate option.

A recent study found that a small tropical reef fish was able to recognize _____ in a mirror. This finding raises provocative questions about the methods of assessing _____ and cognitive abilities in animals.

(A) it, self-doubt  
(C) itself, self-doubt  
(B) it, self-awareness  
(D) itself, self-awareness

Q.37 While science clearly increases our collective ability to act precisely and in coordination with others, many thinkers have held that science can have little or nothing to say about which of the array of possible behaviors ought to be performed.

In the context of the above sentence, which of the following meanings is inappropriate?

(A) collective = shared  
(B) precisely = accurately  
(C) performed = dramatized  
(D) array = multitude

Q.38 Fill in the blanks with the appropriate option.

Many writers both in the social sciences _________ elsewhere have attributed the differential development of physical sciences _________ social sciences to inherent differences in the phenomena studied.

(A) as well as, or  
(B) or, or  
(C) and, and  
(D) as well as, and

Q.39 The notion of rationality implies that intelligent goal-seeking agents consider alternative means towards achieving their goals, and base their selection of appropriate means on a calculation of costs and benefits.

In the context of the above sentence, which of the following meanings is inappropriate?

(A) implies = means  
(C) consider = appraise  
(B) calculate = estimate  
(D) benefits = charities

Q.40 Which of the following sentences is grammatically correct?

(A) The university had organized a design competition last year to identify problems in rural areas and suggest technical innovations to solve them.  
(B) The university has organized a design competition last year to identify problems in rural areas and suggest technical innovations to solve them.  
(C) A design competition had organized last year by the university to identify problems in rural areas and suggest technical innovations to solve them.  
(D) A design competition has organized last year by the university to identify problems in rural areas and suggest technical innovations to solve them.
SECTION 2: ANALYTICAL LOGICAL REASONING

Q.41 If GATE=1 and READ=0, then ALUE=______
(A) 1 (B) 0 (C) 2 (D) 3

Q.42 Which number will come next in the sequence: 2, 3, 5, 7
(A) 9 (B) 11 (C) 12 (D) 10

Q.43 The LCM and HCF of two numbers are 240 and 4, respectively. If one number is 48, then the other number is
(A) 20 (B) 28 (C) 44 (D) 52

Q.44 A person saves 1 rupee on the first day of the month and on any other day he saves 1 rupee more than he saves in the previous day. The total savings, in rupees, of the person in the whole month of February 2008 is ________
(A) 435 (B) 406 (C) 450 (D) 465

Q.45 Three numbers are in Arithmetic progression. If their sum is 207, then the second largest number among the three is ________
(A) 69 (B) 94 (C) 99 (D) 50

Q.46 The length and breadth of a rectangular field are increased by 10% and 20%, respectively. Then the percentage of increase in the area of the field is
(A) 32 (B) 30 (C) 20 (D) 16

Q.47 PP is the father of QQ. SS is sister of TT. RR is son of QQ. TT is son of QQ. Who is the grandfather of SS?
(A) PP (B) QQ (C) RR (D) TT

Q.48 AA is elder to BB but younger to CC. BB is younger to DD but elder to EE. DD is elder to AA. Which of the following is true?
(A) CC is younger to DD
(B) DD is younger to CC
(C) AA is younger to EE
(D) It cannot be concluded whether CC is younger to DD or DD is younger to CC.
Q.49 PP is son of QQ. RR, who is SS’s sister has a son TT and a daughter UU. VV is the maternal uncle of SS. What is the relationship of TT with UU?

(A) Uncle  (B) Brother  (C) Maternal Uncle  (D) Nephew

Q.50 How many days are there in x weeks and x days?

(A) 7x²  (B) 8x  (C) 14x  (D) 8x²

Q.51 In which of the following years, February month will have 29 days?

(A) 2020  (B) 2021  (C) 2022  (D) 2023

Q.52 The angle between the minute hand and the hour hand of a clock when the time is 4.20 PM is

(A) 0°  (B) 5°  (C) 10°  (D) 20°

Q.53 How many degrees the hour hand of a clock rotate from 8 AM to 1 PM?

(A) 100°  (B) 120°  (C) 150°  (D) 180°

Q.54 An aeroplane covers a certain distance at an average speed of 800 kmph (kilometer per hour) in 5 hours. To cover the same distance in 4 hours, it must travel at an average speed of____

(A) 800 kmph  (B) 900 kmph  (C) 1000 kmph  (D) 1200 kmph

Q.55 In how many ways can a committee of 5 persons can be formed from a group of 7 men and 6 women so that at least 3 men are there in the committee?

(A) 756  (B) 624  (C) 702  (D) 812

Q.56 Out of 5 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

(A) 7200  (B) 6000  (C) 60  (D) 120

Q.57 The HCF (highest common factor) of two numbers is 15. If these two numbers are in ratio 13: 11, then the numbers are:

(A) 195 and 165  (B) 155 and 135  (C) 135 and 120  (D) 120 and 105

Q.58 The greatest number which on dividing 398 and 285 leaves the remainder 6 and 5, respectively, is

(A) 56  (B) 8  (C) 7  (D) 65
Q.59 If the selling price is doubled, the profit becomes triple. The profit percentage, before doubling selling price, is
(A) 100%  (B) 150%  (C) 50%  (D) 150%

Q.60 A shop keeper mixes 25 kg of sugar at Rs 40 per kg with 30 kg of sugar of another variety at Rs 30 per kg and sells the mixed sugar at Rs 38 per kg. His profit percentage is
(A) 10%  (B) 15%  (C) 20%  (D) 25%

Q.61 The difference between simple interest and compound interest compounded annually on a certain sum of money for 2 years at 4% per annum is Rs 10. The sum, in Rs, is
(A) 6250  (B) 6000  (C) 6500  (D) 6520

Q.62 A bank offers 10% compound interest calculated on yearly basis. A person deposited Rs 20000 in the bank. How much interest he will get after 2 years?
(A) 4200  (B) 2000  (C) 4000  (D) 4400

Q.63 Consider the sequence: 15, 25, 90, 35, ___, 90, 55, 65, 90, ... What number should fill the blank?
(A) 45  (B) 55  (C) 35  (D) 25

Q.64 Look at the sequence: V, VIII, XI, XVI, ___, XX, ... Which of the following should fill the blank?
(A) IX  (B) XXIII  (C) XV  (D) XVII

Q.65 The average rainfall in January, February and March was 10 mm and the average rainfall in February, March and April was 12 mm. If the rainfall in January was 12 mm, then the rainfall in April was ___.
(A) 18 mm  (B) 12 mm  (C) 10 mm  (D) 16 mm

Q.66 A fair die is thrown twice. What is the probability of getting same number in both the throws?
(A) 1/2  (B) 1/6  (C) 1/4  (D) 1/36

Q.67 The Age of AA, the father of BB, was twice the age of BB ten years ago. Now AA is 30 years older than BB. The age of BB in years is
(A) 40  (B) 30  (C) 70  (D) 20

Q.68 There are 60 students in a class. Every student has to take at least one of Mathematics and Biology. 30 students have taken Mathematics and 40 students have taken Biology. How many students have taken both Mathematics and Biology?
(A) 10  (B) 20  (C) 15  (D) 5

Q.69 A train and a car started from a point A at the same time and reached the point B, which is 75 km away from A, at the same time. The speed of the train was 50% faster than the speed of the car. However, the train lost 12.5 minutes while stopping at stations. The speed of the car was ___.
(A) 100 kmph  (B) 120 kmph  (C) 200 kmph  (D) 50 kmph
Q.70 If each of the numbers X, Y, and Z is an even number, then XYX, the product of these three numbers, must be divisible by
(A) 8  (B) 9  (C) 10  (D) 12

Q.71 A number X when divided by a number Y leaves a remainder of 24. When 2X is divided by Y, the remainder becomes 11. Then, Y is
(A) 13  (B) 59  (C) 35  (D) 37

Q.72 When the numbers from 100 to 999, both inclusive, are written in a piece of paper, the number of times zeroes are used is
(A) 171  (B) 99  (C) 180  (D) 81

Q.73 X can do a work in 15 days and B can do the same work in 20 days. If they together work on it for 5 days, then the fraction of work that is left is
(A) 5/12  (B) 7/12  (C) 7/60  (D) 1/12

Q.74 P is thrice as productive workman as Y and therefore finishes a work in 20 days. How many days will they take to complete the work if they work together?
(A) 15  (B) 10  (C) 18  (D) 17

Answer Q75 to Q80 based on the information given below:

Seven students P, Q, R, S, T, U, and V are studying in three different colleges X, Y, and Z. There are three girls among these seven students who study in each of the three colleges. Two of the seven students study BCA, two study Medicine and one each study Civil Engineering, Mechanical Engineering, and MBA. R studies in the same college as P, who studies MBA in college Y. No girl studies Mechanical Engineering or MBA. T studies BCA in college X, and his brother U studies Civil Engineering in college Z. S studies Mechanical Engineering in same college as Q. Neither R nor V studies BCA. The girl who studies BCA does not study in college Z. V studies in College Z. Q studies in college X.

Q.75 Which of the following is a girl?
(A) P  (B) Q  (C) S  (D) T

Q.76 What is the field of study of V?
(A) BCA  (B) MBA  (C) Medicine  (D) Civil Engineering

Q.77 Which of the following pairs of students study Medicine?
(A) Q, T  (B) U, T  (C) P, V  (D) R, V

Q.78 To which college, none of the students studying medicine did go?
(A) X  (B) Y  (C) Z  (D) Data inadequacy

Q.79 Which of the following represents three girls?
(A) SQR  (B) QRU  (C) SQU  (D) QRV

Q.80 The students who studied in college X are
(A) Q, S, and T  (B) Q, S, and V  (C) Q, T, and P  (D) Q, T, and V
SECTION 3: QUANTITATIVE DATA INTERPRETATION

Answer Q 81 to 85 based on the information given below.

Figure given below shows the budget allocation of Rs. 300.4 lac under various heads during the year.

Q.81 How much money is allocated for Recreation?
   (A) Rs. 5.4 lac  (B) Rs. 54 lac  (C) Rs. 45 lac  (D) Rs. 4.5 lac

Q.82 How much money is allocated for Health and Insurance?
   (A) Rs. 120 lac  (B) Rs. 102 lac  (C) Rs. 125 lac  (D) Rs. 75 lac

Q.83 If there is 10% inflation in prices and the entire allocation is committed based on beginning of year allocation, how much shortfall will be noticed by canteen in meeting its expenses?
   (A) Rs. 330 lac  (B) Rs. 120 lac  (C) Rs. 132 lac  (D) Rs. 140 lac

Q.84 If 50% of Contingencies funds are also allocated towards Health, what would be total approximate allocation in rupees under Health?
   (A) Rs. 39 lac  (B) Rs. 150 lac  (C) Rs. 174 lac  (D) Rs. 51 lac

Q.85 From the total budget, if the Canteen and Insurance heads are reduced by 25% and 10% respectively, what saving could be achieved?
   (A) Rs. 170 lac  (B) Rs. 157.71 lac  (C) Rs. 73.55 lac  (D) Rs. 37.55 lac
Answer Q 86 to Q 90 based on the information given below.

Graph given below shows monthly expenditure (in '000 rupees) of a firm during the period January-July of the years 2016, 2017 and 2018.

Q.86 What was the total expenditure during the given period in the year 2016?
(A) Rs. 2107000  (B) Rs. 2196000  (C) Rs. 2154000  (D) Rs. 2124000

Q.87 What was the highest monthly expenditure during the year 2017 in the period covered in the graph?
(A) Rs. 324000  (B) Rs. 300000  (C) Rs. 312000  (D) Rs. 318000

Q.88 What was the approximate average monthly expenditure during January-July of the year 2018?
(A) Rs. 275000  (B) Rs. 270000  (C) Rs. 314000  (D) Rs. 247000

Q.89 Which month has been the least expensive during the year 2018?
(A) June  (B) May  (C) April  (D) July

Q.90 The expenditure in May 2016 was ___% less than that of corresponding period in the year 2017.
(A) 6 %  (B) 3 %  (C) 4 %  (D) 5 %
Answer Q 91 to Q 95 based on the information given below.

A group of sixty two primary school students participated in a survey to know the eating habits of fruits. It was found that each of the students liked at least one of these fruits i.e. apple, banana, and orange with following information. Thirty four liked apple, thirty liked banana, and thirty three liked orange. Eleven liked apple and banana. Fifteen liked banana and orange. Seventeen liked apple and orange. Nineteen liked exactly two of these fruits: apple, banana, and orange.

Q.91 How many students liked apple, but not banana?
   (A) 23   (B) 24   (C) 25   (D) 26

Q.92 How many students liked orange, but not banana or apple?
   (A) 10   (B) 9    (C) 8    (D) 11

Q.93 How many students liked all three fruits?
   (A) 7    (B) 9    (C) 8    (D) 10

Q.94 How many students liked apple and orange, but not banana?
   (A) 6    (B) 5    (C) 4    (D) 9

Q.95 How many students liked only one fruit?
   (A) 35   (B) 34   (C) 21   (D) 23

Answer Q 96 to Q 100 based on the information given below.

Following table provides expenditure details of a company (in Lac rupees).

<table>
<thead>
<tr>
<th>Year</th>
<th>Salary</th>
<th>Fuel &amp; Transport</th>
<th>Bonus</th>
<th>Interest on Loans</th>
<th>Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>288.00</td>
<td>98.00</td>
<td>3.00</td>
<td>23.40</td>
<td>83.00</td>
</tr>
<tr>
<td>2015</td>
<td>342.00</td>
<td>112.00</td>
<td>2.52</td>
<td>32.50</td>
<td>108.00</td>
</tr>
<tr>
<td>2016</td>
<td>324.00</td>
<td>101.00</td>
<td>3.84</td>
<td>41.60</td>
<td>74.00</td>
</tr>
<tr>
<td>2017</td>
<td>336.00</td>
<td>133.00</td>
<td>3.68</td>
<td>36.40</td>
<td>88.00</td>
</tr>
<tr>
<td>2018</td>
<td>420.00</td>
<td>142.00</td>
<td>3.96</td>
<td>49.40</td>
<td>98.00</td>
</tr>
</tbody>
</table>

Q.96 What is the average amount of annual interest which the company had to pay during entire period?
   (A) Rs. 32.43 lac   (B) Rs. 33.72 lac   (C) Rs. 34.18 lac   (D) Rs. 36.66 lac

Q.97 The total amount of bonus paid by the company during the entire period is approximately _____% of the total amount of salary paid during this period.
   (A) 0.1   (B) 0.5   (C) 1.0   (D) 1.25

Q.98 Total expenditure on all these items in 2014 was approximately _____% of the total expenditure in 2018.
   (A) 62.8   (B) 66.4   (C) 69.5   (D) 70.5

Q.99 Total expenditure of the company over these items during the year 2016 was _____.
   (A) Rs. 544.44 lac   (B) Rs. 501.11 lac   (C) Rs. 446.46 lac   (D) Rs. 478.87 lac

Q.100 The ratio of total expenditure on the Taxes to Fuel & Transport during 2014-2018 is approximately _____.
   (A) 4:7   (B) 10:13   (C) 15:18   (D) 5:8
Answer Q 101 to Q 105 based on the information given below.

Bar graph shown below presents the data of the production of paper (in lac tonnes) by three different companies X, Y, and Z during the years 2014-2018.

Q.101 For which of the following years, no percentage rise/fall in production from the previous year was noticed for Company Y?
(A) 2015  (B) 2016  (C) 2017  (D) 2018

Q.102 What is the ratio of the average production of Company X in the period 2016-2018 to the average production of Company Y in the same period?
(A) 1:1  (B) 15:17  (C) 23:25  (D) 27:29

Q.103 Which company had the maximum average production in five years?
(A) X & Y  (B) Y & Z  (C) X  (D) X & Z

Q.104 Which year was the percentage of production of Company Z to the production of Company Y the maximum?
(A) 2014  (B) 2015  (C) 2016  (D) 2017

Q.105 What was the percentage increase in the production of Company Y in the year 2017 when compared with that of the year 2014?
(A) 30  (B) 45  (C) 50  (D) 60
Answer Q 106 to Q 110 based on the information given below.

Bar chart given below shows the number of students in 6 different campuses (A, B, C, D, E & F) of large central university. The tabular column represents ratio of PG to UG students and percentage of male students in various campuses.

<table>
<thead>
<tr>
<th>Campus</th>
<th>Student ratio (PG: UG)</th>
<th>Male %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2:3</td>
<td>52</td>
</tr>
<tr>
<td>B</td>
<td>11:9</td>
<td>65</td>
</tr>
<tr>
<td>C</td>
<td>13:2</td>
<td>45</td>
</tr>
<tr>
<td>D</td>
<td>4:1</td>
<td>70</td>
</tr>
<tr>
<td>E</td>
<td>1:3</td>
<td>39</td>
</tr>
<tr>
<td>F</td>
<td>11:19</td>
<td>75</td>
</tr>
</tbody>
</table>

Q.106 What is the total number of UG students in the campus B?
(A) 1100    (B) 2000    (C) 900    (D) 1000

Q.107 What is the percentage of PG students residing in the entire university?
(A) 56%    (B) 53%    (C) 50%    (D) 52%

Q.108 What is the total number of female PG students in campus F considering same male to female ratio in both PG and UG?
(A) 275    (B) 750    (C) 475    (D) 2250

Q.109 What is the total number of male UG students in campus C considering same male to female ratio in both PG and UG?
(A) 60    (B) 45    (C) 15    (D) 90

Q.110 What is the total number of PG students in campus D?
(A) 2200    (B) 2750    (C) 2000    (D) 550
Answer Q.111 to Q.115 based on the information given below.

The horizontal bar chart shown below presents the number of Gram Panchayats in four Indian states where electrification was done during 2012 to 2014.

### Q.111 What is the total number of Gram Panchayats where electrification was done in 2013?

(A) 160  
(B) 140  
(C) 100  
(D) 130

### Q.112 What is the percentage of Gram Panchayats electrified in Tripura in the year 2012 considering numbers electrified in Tripura in the three years?

(A) 40%  
(B) 26.67%  
(C) 50%  
(D) 60%

### Q.113 What is the total number of Gram Panchayats electrified during the three years?

(A) 490  
(B) 520  
(C) 510  
(D) 500

### Q.114 What is the ratio of the Gram Panchayats in Assam to Manipur where electrification was done in 2013?

(A) 1:4  
(B) 4:5  
(C) 1:2  
(D) 3:4

### Q.115 Which are the two states where same number of Gram Panchayats were electrified?

(A) Tripura and Assam  
(B) Tripura and Nagaland  
(C) Manipur and Assam  
(D) Tripura and Manipur
Answer Q 116 to Q 120 based on the information given below.

Bar chart shows working population (in lakh) of male and female in six Indian metro cities, and Pie chart presents percent annual income of total Rs. 100 Crore.

![Bar chart and Pie chart](image)

Q.116 What is the difference between the number of working females in Bangalore and working males in Chennai?
(A) Rs. 5 lakh     (B) Rs. 10 lakh     (C) Rs. 30 lakh     (D) Rs. 10 lakh

Q.117 In which city the annual income per working person is minimum?
(A) Delhi     (B) Chennai     (C) Kolkata     (D) Bangalore

Q.118 What is the approximate average of working population of all cities?
(A) Rs. 91.83 lakh     (B) Rs. 87.83 lakh     (C) Rs. 89.83 lakh     (D) Rs. 90.83 lakh

Q.119 What is the approximate difference between annual incomes of total male and total female population in Delhi?
(A) Rs. 8.47 crore     (B) Rs. 9 crore     (C) Rs. 8 crore     (D) Rs. 9.47 crore

Q.120 Which city has the highest female annual income?
(A) Pune     (B) Mumbai     (C) Bangalore     (D) Delhi

END OF THE QUESTION PAPER
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<td>REGISTRATION NUMBER</td>
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