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FULL LENGTH TEST: VPT047
CIVIL SERVICES APTITUDE TEST (CSAT)
TEST BOOKLET

Time Allowed: 120 mins   *Maximum Marks: 200*

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES NOT HAVE ANY UNPRINTED OR TURN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.

2. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.

3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. Do NOT write anything else on the Test Booklet.

4. This Test Booklet contains 80 items (Questions). Each item is printed in English. Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response with you consider the best. In any case, choose ONLY ONE response for each item.

5. You have to mark all your responses ONLY on the separate Answer Sheet provided. See direction in the answers sheet.

6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of correct responses marked by you in the answer sheet. For every incorrect response 1/3rd (0.83) of the allotted marks will be deducted.

7. Before you proceed to mark in the Answer sheet the response to various items in the Test booklet, you have to fill in some particulars in the answer sheets as per instruction sent to you with your Admission Certificate.

8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.

9. Sheet for rough work are appended in the Test Booklet at the end.

<div style="border:1px solid">DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO</div>

Directions for the following 4 (four) items:
Consider the information given below and answer the items that follow.

1, 2, 3, 4, 5, 6, 7 and 8 are eight professors teaching in different departments of a university. They are seated around a rectangular table on chairs, such that each longer side of the table has four chairs each. Further, the following information is known:

i. The professor of Mathematics is seated opposite to the professor of Biology.

ii. 1 is seated opposite to the professor of Chemistry.

iii. The professor of History is seated second to the left of the professor of Economics on the same side of the table. The professor of Economics sits opposite to 4.

iv. Exactly one professor is seated between the professors of Biology and Literature on the same side of the table.

v. The professor of Computer Science is seated third to the right of 8 on the same side of the table. 8 is seated opposite to the professor of Literature.

vi. One professor belongs to the Department of Physics.

1. If 7 is seated second to the right of 3, which of the following departments can 7 belong to?
   (a) Biology
   (b) Economics
   (c) History
   (d) Chemistry

2. If 2 is the only professor who is seated between 6 and the professor of Physics, which department does 2 belong to?
   (a) Mathematics
   (b) Computer Science
   (c) Biology
   (d) Cannot be determined

3. If 8 and the professor of History swap their seats, then which of the following statements cannot be correct?
   (a) Professors of History and Physics are seated farthest apart from each other.

   (b) Professors of History and Physics are seated next to each other.
   (c) Professors of Chemistry and Economics are seated next to each other.
   (d) Professors of Physics and Biology are seated next to each other.

4. If 8 and the professor of History swap their seats, then which of the following statements can be correct?
   (a) The professor of Physics is seated between the professors of History and Mathematics on the same side of the table.
   (b) The professor of Mathematics is seated between the professors of Computer Science and History on the same side of the table.
   (c) The professor of Biology is seated between the professors of Literature and Economics on the same side of the table.
   (d) The professor of Physics is seated between the professors of Computer Science and Economics on the same side of the table.

5. Point A is 4m north of point C. Point F is 10m east of point G, which is 5m south of point H. Point B is north of point D, which is 16m west of point E. Point F is 7m north of point E. Point C is the middle point of the line joining point B and point H. Point B is 6m to the west of H. What is the shortest distance between point B and point E?
   (a) 22 m
   (b) 20 m
   (c) 25 m
   (d) 28 m

6. Abhishek, who is facing towards East, walks 8 metres in that direction. He then turns towards his left and walks for 15 metres, and then turns 135 degree anticlockwise and walks 17 metres. He again turns 45 degree clockwise and walks 9 metres. Finally, he turns to his left and walks 40 metres. Towards which direction would Abhishek be facing now?

(a) West
(b) South
(c) North-East
(d) East

Directions for the following 3 (three) items:

Read the following three passages and answer the items that follow each passage. Your answers to these items should be based on the passages only

Passage-1

Health care covers not merely medical care but also all aspects of preventive care too. Nor can it be limited to care rendered by or financed out of public expenditure within the government sector alone but must include incentives and disincentives for self-care and care paid for by private citizens to get over ill health. Where, as in India, private out-of-pocket expenditure dominates the cost of financing health care, the effects are bound to be regressive. Health care at its essential core is widely recognized to be a public good. Its demand and supply cannot, therefore, be left to be regulated solely by the invisible hand of the market. What makes a just health care system even an ideal? Four criteria could be suggested- First universal access, access to an adequate level, and access without excessive burden. Second fair distribution of financial costs for access and fair distribution of burden in rationing care and capacity and a constant search for improvement to a more just system. Third training providers for competence empathy and accountability, the pursuit of quality care and cost-effective use of the results of relevant research. The last special attention is, to vulnerable groups such as children, women, the disabled and the aged.

7. Based on the above passage, the following assumptions have been made:
   1. In India, the government expenditure on health care is negligible as compared to the amount contributed by the population.

2. It is not possible to make health care inclusive.
   Which of the above assumptions is/are valid?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

8. Which of the following is/are the most rational and logical inference/inferences that can be made from the passage?
   1. Only access to health care is not going to make a health care system just.
   2. Market regulation of health care could lead to its unaffordability for the vulnerable sections of the society.
   Select the correct answer from the code given below:
   (a) 1 only
   (b) 2 only
   (c) 1 and 2
   (d) None

Passage-2

What drives popular opinion on climate change? Recent failures to mobilize popular opinion in favour of the mitigation of greenhouse gas (GHG) emissions have been blamed on the unseasonably cool local weather and the unhealthy state of the economy. On examining the effects of both annual temperature variations and economic growth rates on people's attitudes regarding the mitigation of GHG emissions. It is found that although the state of the economy has a significant effect on people's attitudes towards the mitigation of GHG emissions, variations in the annual temperature do not. Thus, while pessimism regarding policy changes during bad economic times appear justified, pessimism based on isolated spells of unseasonably cool weather does not.

9. Which of the following is/are the most rational and logical Inference/Inferences that can be drawn from the passage?

1. Mobilization of public opinion failed despite people being well informed regarding the mitigation of GHGs.

2. Policy regarding the mitigation of GHGs will be more effective when a society grows economically.

Select the correct answer from the code given below:

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

10. Complete the sequence given below.
gfe_ig_eii_fei_gf_ii
(a) eigfi
(b) ifgie
(c) figie
(d) ifige

11. Mrs. Ranga has three children and has difficulty remembering their ages and the months of their birth. The clues below may help her remember.

(i) The boy, who was born in June, is 7 years old.

(ii) One of the children is 4 years old, but it is not Anshuman.

(iii) Vaibhav is older than Suprita.

(iv) One of the children was born in September, but it was not Vaibhav.

(v) Suprita's birthday is in April.

(vi) The youngest child is only 2 years old.

(vii) The children were born on three different months from amongst April, June, September.

Based on the above clues, which one of the following statements is true?

(a) Vaibhav is the oldest, followed by Anshuman who was born in September, and the youngest is Suprita who was born in April.

(b) Anshuman is the oldest - born in June, followed by Suprita who is 4 years old, and the youngest is Vaibhav who is 2 years old.

(c) Vaibhav is the oldest - 7 years old, followed by Suprita who was born in April, and the youngest is Anshuman who was born in September.

(d) Suprita is the oldest who was born in April, followed by Vaibhav who was born in June, and Anshuman who was born in September.

12. Consider the following numbers:
1267, 3281, 8765, 4328, 3764
The digits of each of the given numbers are arranged in descending order. Which of the following will be the 3rd digit of the 2nd highest number thus formed?
(a) 4
(b) 3
(c) 7
(d) 5

13. In a group of UPSC aspirants, 20 people like cricket, 15 like hockey and 12 like horse riding. One person likes all the three games. 5 people like both cricket & hockey; 3 like both hockey & horse riding and 2 like cricket & horse riding. What is the total number of people in the group?
(a) 40
(b) 38
(c) 48
(d) 45

14. X, Y and Z ran a 50 m race one by one. The time taken by X was recorded by watch W1 and the time taken by Y and Z was recorded by watch W2. The time taken by X, Y and Z to complete the race according to the respective watches used was 5, 6 and 3 seconds respectively. W2 is a faulty clock and loses time uniformly. If X beat Y by 10 m, then what was the speed of Z during the race?
(a) 26 m/s
(b) 96 m/s
(c) 16 m/s
(d) 56 m/s

15. Consider the following series:
51975, 9450, 2100, 600, 240, 160, ?
What will come in place of the question mark in the above series?

(a) 80
(b) 120
(c) 320
(d) 240

Direction for the following 3 (three) items:

Consider the information given below and answer the items that follow. Six persons with different monthly salaries have to be arranged in descending order as per their earnings. Surya earns more than Kunwar but less than Anil, who does not earn the highest salary. Manoj earns less than Yogita but more than Lalit, who earns less than Kunwar. Surya earns more than Manoj. Manoj does not earn the 2nd lowest salary. The second highest and third-lowest salaried persons earn RS. 60000 and 40000 respectively.

16. Who among the following persons earns the highest salary?
    (a) Yogita
    (b) Manoj
    (c) Lalit
    (d) Anil

17. If the difference between the salaries of Lalit and Anil is Rs 30000, then what will be the sum of the monthly salaries of Manoj and Lalit?
    (a) 59000
    (b) 70000
    (c) 57000
    (d) 52000

18. Who among the following persons earn just less than Anil?
    (a) Kunwar
    (b) Manoj
    (c) Surya
    (d) Lalit

Directions for the following 3 (three) items:

Read the following two passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1

While Oral Rehydration Solution (ORS) as a simple, effective remedy for dehydration is known around the world, the physician who pioneered the treatment is less famous. This physician, Dr Dilip Mahalanabis, passed away at a Kolkata hospital on Sunday (October 16). Dr Mahalanabis, 87, was suffering from lung infection and other age-related ailments, the Press Trust of India (PTI) reported. According to the World Health Organisation (WHO), diarrhoeal diseases, such as cholera, are among the leading causes of mortality in infants and young children in many developing countries, where the patient dies of dehydration. ORS, a combination of water, glucose and salts, is a simple and cost-effective method of preventing this. Dr Mahalanabis was working in overflowing refugee camps during the 1971 Bangladesh Liberation war when he came up with ORS, which The Lancet called "the most important medical discovery of the 20th century". From 1975 to 1979 Dr Mahalanabis worked in cholera control for WHO in Afghanistan, Egypt and Yemen. During the 1980s, he worked as a WHO consultant on research on the management of bacterial diseases.

19. Which of the following statements can be inferred from the passage given above?
    1. The inventor of ORS is less known because he gave his findings to the W.H.O.
    2. ORS may be more useful in developing nations.
    3. Mahalanabis served in the Indian Army as a doctor.
    Select the correct answer using the codes given below.
    (a) 1 and 2 only
    (b) 2 only
    (c) 1 and 3 only
    (d) 3 only

Passage-2

A crucial solution for climate change mitigation might become more accessible by

2030, with carbon capture capacity expected to increase six times, according to new research. Carbon capture, utilisation and storage (CCUS) is a key technology needed to decarbonize hard-to-abate sectors such as petrochemicals and cement and to provide 24/7 clean power through gas plants fitted with capture equipment. The amount of CO_2 being captured today is 43 million tons, or 0.1 per cent of global emissions, according to a report by research company Bloomberg NEF. Today, most capture capacity is used to collect carbon dioxide (CO_2) from natural gas processing plants and used for enhanced oil recovery, according to the research report. By 2030, most capture capacity will be used for the power sector, for the manufacture of low-carbon hydrogen and ammonia or to abate emissions from industrial sources. The destination for captured CO_2 is also due to change significantly from the status quo, the report suggested. In 2021, some 73 per cent of captured CO_2 went to enhanced oil recovery operations. By 2030, storing CO_2 deep underground will overtake oil recovery as the primary destination for CO_2, with 66 per cent of it going to dedicated storage sites. The destination for captured CO_2 is also due to change significantly from the status quo, the report suggested. This change is being driven by legislation that incentivises storage over CO_2 utilisation and by projects that aim to use carbon capture and storage (CCS) as a decarbonisation route and must store the CO_2 to meet their goals.

20. Which of the following is/are the most rational and logical Inference/ Inferences that can be made from the passage?
    1. Policy-making can be a useful instrument for mitigating climate change.
    2. Government authorities claim that barely 0.1% of the world's CO_2 emissions are now being captured.
    Select the correct answer using the code given below.
    (a) 1 only
    (b) 2 only
    (c) 1 and 2

(d) None

21. With reference to the above passage, consider the following statements
    1. The increase in carbon capture capacity will reduce carbon emissions by over 10%.
    2. On similar lines, methane capture is also being planned.
    Which of the statements given above is/are correct?
    (a) 1 only
    (b) 2 only
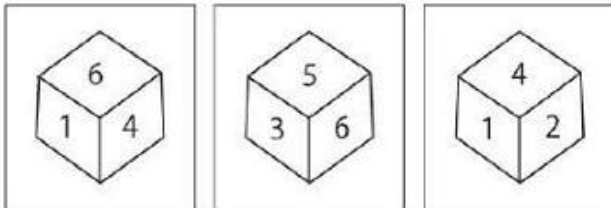   (c) Both 1 and 2
    (d) Neither 1 nor 2

Directions for the following 4 (four) items:

Read the information given below and answer the items that follow.
Aditya, Rahul, Mukesh, Prakash, Satyam and Avnish are six friends. Their favourite genres of TV programs are Cartoons, Daily soaps, Reality shows, Songs, News and Movies (not necessarily in the same order). They give lectures on six different subjects, viz. Sociology, Economics, English, Polity, History and Geography (not necessarily in the same order) in six different cities viz. Pune, Delhi, Jaipur, Patna, Ranchi and Allahabad (again not necessarily in the same order). Further it is given that:
1. The person who teaches History does not watch Movies.
2. The person whose likes watching News, teaches Geography in Jaipur.
3. Avnish likes Movies, and he does not teach in Ranchi or Allahabad. Also, he does not teach Polity.
4. English is taught by Rahul, and he does not teach in Delhi or Ranchi.
5. The person who likes Reality shows teaches Polity in Patna, and is not Aditya.
6. Neither Aditya nor Satyam teach Geography, and they do not like Cartoons and News.
7. Mukesh teaches in Pune and he likes neither Daily soaps nor Songs.
8. The person who likes Daily soaps teaches Economics, but not in Patna.

22. In which city does the person who likes Songs teaches?
    (a) Patna
    (b) Ranchi
    (c) Pune
    (d) Allahabad

23. Who teaches Polity?
    (a) Mukesh
    (b) Satyam
    (c) Aditya
    (d) Cannot be determined

24. What subject is taught by the person who teaches in Delhi?
    (a) History
    (b) Sociology
    (c) Economics
    (d) Polity

25. The person who teaches in Pune likes which genre of TV program?
    (a) Reality shows
    (b) Serials
    (c) Songs
    (d) Cartoons

26. Three positions of a dice are given below.

    Find out which number will be opposite to the face having number 2.
    (a) 6
    (b) 5
    (c) 3
    (d) 1

27. In a watch, the minute hand crosses the hour hand for the third time exactly after every 3 hours 18 minutes and 15 seconds of normal time. What is the time gained or lost by this watch in one day?
    (a) 14 min 10 s lost
    (b) 13 min 48 s lost
    (c) 13 min 20 s gained
    (d) 14 min 40 s gained

Direction for the following 3 (three) items:
Read the following two passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1
Money can help us find more happiness, so long as we know just what we can and cannot expect from it. Many researchers suggest that seeking the good life at a store is an expensive exercise in futility. Money can buy us some happiness, but only if we spend our money properly. We should buy memories. How much money it costs is not the issue, but how much the money costs us is important. Money should not cost us our soul, relationships, dignity, health, intelligence and joy in the simple things of life. People who figure out what they truly value and then align their money with those values have the strongest sense of financial and personal wellbeing.

28. Which one of the following statements best implies the suggestion given by the author of the passage?
    (a) Money can help us buy anything that we wish for, including happiness in our lives.
    (b) To be happy and well off in life, people need to align their money with the things they value the most.
    (c) Running behind money is futile as no amount of money can buy happiness in our lives.
    (d) Money is so crucial for our overall wellbeing that it can be traded with our soul, relationships, dignity, health, intelligence and joy in simple things of life.
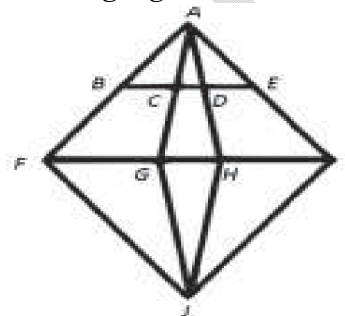
Passage-2
Russia has changed a lot over 30 years; it has changed fundamentally because it has opened up to a globalised world. It has also produced a very open-minded middle class. But certain things have remained unchanged in 200 years. And that has to do with

geopolitics, which was dormant during most of the post-Cold War period. Russia found itself restricted, especially with respect to Ukraine. Unfortunately, we are in a phase where its concerns are being addressed through the use of military force but its inadequate accommodation among the big powers is what is playing out now. The early years of Putin were actually the golden age of democratic Russia. The 1990s were a period of great trauma for the Russian people with a falling GDP, plummeting industrial growth, deep debt, secession, extremism and terrorism in Chechnya. So the turnaround that the Russian President brought about was to consolidate Russia politically, suppress terrorism and the secessionist elements and modernise the economy. Largely, Russia was able to consolidate its financial position and made efforts to integrate with the outside world. US-Russia relations were in particularly good shape, Putin being the first world leader to call US President George Bush to convey his support after the 9/11 attack. Russia supported the US on the latter's forces in Afghanistan to fight the Taliban and al-Qaeda, non-proliferation, arms control and Iran. Similarly, there was a strong cooperation with the EU, which became its largest trading partner. There was a dramatic change in the Russian automobile industry. Diplomatically, Russia engaged actively at the United Nations. And it nurtured its relations with India continuously while improving its ties with China 2000 onwards.

29. Which of the following is/are the most logical/ rational inference/inferences that can be made from the passage?
1. The United States and Russia had significant success in bilateral trade during Putin's leadership.
2. Russia significantly participated in United Nations diplomacy.
Select the correct answer using the code given below.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

30. Which of the following statements best implies the crux of the passage?
(a) For centuries, geopolitics can remain constant.
(b) Globalization pushed Russia to change its geopolitical outlook.
(c) Putin's reign is considered detrimental for Russian Democracy.
(d) A thriving middle class is beneficial for a society's economic growth.

31. What is the number of triangles in the following figure.

(a) 12
(b) 16
(c) 18
(d) 20

Direction for the following 2 (two) items: Read the information given below and answer the items that follow.
There are five teams playing in a tournament- Paraguay, Qatar, Russia, Spain and Turkey. Each team plays against every other team only once. A match can result in a draw, wherein each team scores two points; or a team can win where it scores three points, while the losing team scores one point.

32. If Paraguay has won all the matches, Turkey has lost all the matches and all the remaining three teams scored equal points, then how many points have each of the three remaining teams scored?
(a) 5
(b) 7

(c) 8
(d) None of these

33. If all the five teams scored equal points, then what must be the number of points scored by each team?
(a) 5
(b) 6
(c) 7
(d) None of these

Direction for the following 3 (three) items:
Read the following two passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1
A serious problem facing the urban local bodies in India is the acute scarcity of finance. Generally, their source of income is inadequate as compared to their functions. Their chief sources of income are the varied types of taxes. However, most of the income-generating taxes are levied by the union and state governments and, the taxes collected by the urban bodies are not sufficient to cover the expenses of the services provided. Though they can impose certain new taxes, the elected members of these local bodies hesitate in doing so for fear of displeasing their electorate. Virtually no money is available for development work. Municipal committees of many small towns find it difficult even to disburse salaries to their employees on time. Many civic bodies have not been able to provide even the basic civic amenities in the areas which have been included in their jurisdiction during the last couple of decades.

34. Which of the following is/are the most rational and logical Inference/Inferences that can be made from the passage?
1. Elected members of the body avoid taking unpopular decisions due to fear of losing elections.
2. Corruption by employees is also an important factor for financial stringency.

Select the correct answer from the code given below:
(a) 1 only
(b) 2 only
(c) 1 and 2
(d) Neither 1 nor 2

35. Which one of the following statements best reflects the crux of the passage?
(a) A constitutional amendment is required to change the scenario of finance in the urban local bodies.
(b) Urban local bodies should come up with cost-cutting and innovative financing mechanisms to solve their issue of low finances.
(c) Finance commissions at the union and state levels should reassess the situation of finances with urban local bodies.
(d) The primary reason for the poor performance of urban local bodies is their lack of income

36. A, B, C, D and E play a game of cards. A says to B, "If you give me three cards, you will have as many cards as E has, and if I give you three cards, you will have as many as D has." A and B together have 10 more cards than what D and E together have. If B has two cards more than what C has, and the total number of cards is 133, how many cards do B have?
(a) 22
(b) 23
(c) 25
(d) 35

Directions for the following 2 (two) items:
Read the information given below and answer the items that follow.

There were hundred schools in a town. Of these, the number of schools having a playground was 30, and these schools had neither a library nor a laboratory. The number of schools having a laboratory alone was twice the number of those having a library only. The number of schools having a laboratory as well as a library was one-

fourth the number of those having a laboratory alone. The number of schools having either a laboratory or a library or both was 35.
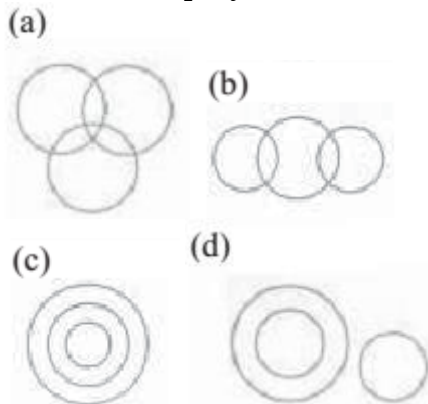
37. How many schools had none of the three, viz., laboratory, library or playground?
    (a) 20
    (b) 5
    (c) 30
    (d) 35

38. What was the ratio of the number of schools having laboratory to those having library?
    (a) 1 : 2
    (b) 5 : 3
    (c) 2 : 1
    (d) 2 : 3

39. If "+" means subtraction, "-" means division, "×" means addition and "÷" means multiplication, then 20÷4-8×2÷3 is
    (a) 2
    (b) 1
    (c) 15
    (d) 16

40. Consider the following series.
    CG, DI, ? , IP, MU
    Questions mark can be replaced by
    (a) DL
    (b) GL
    (c) FL
    (d) IL

41. If in a code language, NATIONAL is written as MZGRLMZO, then how will JAIPUR be written in that language?
    (a) QZRKFI
    (b) PZRKFI
    (c) QZRIFK
    (d) QARKF

42. If BLOCK is written as 25164 and OFFICE is written as 177368, then CELIO will be written as
    (a) 53182
    (b) 31524
    (c) 68531
    (d) 42135

43. In a society, 20% of the members own only two cars each, 40% of the remaining own three cars each, and the remaining members own only one car each. Which of the following statements is definitely true?
    (a) Only 20% of the total members own three cars each.
    (b) 48% of the total members own only one car each.
    (c) 60% of the total members own at least two cars each.
    (d) 80% of the total members own at least one car

44. Anil and Sunil are ranked seventh and eleventh respectively from the top in a class of 31 students. What will be their respective ranks from the bottom?
    (a) 20th and 20th
    (b) 24th and 20th
    (c) 25th and 21st
    (d) 26th and 22nd

45. Read the information given below carefully.
    A + B means A is father of B
    A - B means A is wife of B
    A × B means A is brother of B
    A / B means A is daughter of B
    If P × R - Q, then which of the following must be true?
    (a) P is brother-in-law of Q
    (b) P is brother of Q
    (c) P is uncle of Q
    (d) P is father of Q

46. Amit faces North initially. Turning to his right he walks 25 metres. He then turns to his left and walks another 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally, he turns to the right and moves 40 metres. In which direction is he now from the starting point?
    (a) South-West

(b) South
(c) North-West
(d) South-East

47. Which of the following diagrams correctly represents the relationship among Tennis fans, Cricket players and Students.

48. In a party 6 persons can dance on Punjabi songs, 15 can dance on English songs, and 6 persons can dance on Hindi songs. 2 persons in the party can dance on two categories of songs and one can dance on all the three categories of songs. If each person in the party dance on at least one of the three category of songs viz. Punjabi songs, English songs and Hindi songs, then how many persons must be there in the party?
(a) 23
(b) 22
(c) 21
(d) 24

Directions for the following 4 (four) items:
Read the following two passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1
The physical and behavioural changes that make natural selection possible happen at the level of DNA and genes within the gametes, the sperm or egg cells through which parents pass on genetic material to their offspring. Such changes are called mutations. Mutations can be caused by random errors in DNA replication or repair, or by chemical or radiation damage. Usually, mutations are either harmful or neutral, but in rare instances, a mutation might prove beneficial to the organism. If so, it will become more prevalent in the next generation and spread throughout the population. In this way, natural selection guides the evolutionary process, preserving and adding up the beneficial mutations and rejecting the bad ones.

49. Based on the above passage, the following assumptions have been made:
1. Mutation combined with natural selection is beneficial for a species.
2. Mutations are always a natural phenomena.
Which of the above assumptions is/are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Passage-2
Farmers due to dogged work and low profit shifted from traditional agriculture towards the modern one. Modern agriculture, however, enhanced food productivity but with the acceleration of several environmental problems such as climate change, food unsafety, biodiversity loss, soil degradation and environmental pollution. Modern agriculture is a major driver of the loss of crop genetic resources in the Third World due to the adoption of High Yielding Varieties and the planting of vast fields with genetically uniform cultivars. Traditional agricultural practices are usually restricted to small farmers. Traditional vegetables grow well in drought-prone areas. Traditional vegetable knowledge is under serious threat due to habitat loss, the introduction of new varieties, historical policies, the stigma attached to the use of traditional vegetables and altered lifestyles. In the context of sustainable food production in changing climate, the adoption of climate-smart traditional practices is an urgent

need. It is the right time to rediscover and re-implement traditional practices to improve the socio-ecological integrity of agroecosystems. Integration of traditional agriculture with modern agriculture is a necessity in the current scenario. This integration would bridge the huge gap between indigenous and modern peasants.

50. Based on the above passage, the following assumptions have been made:
1. Traditional agro-ecosystem is recognized as a time-tested model of sustainable agriculture systems.
2. Traditional agricultural system is characterized by high productivity and low energy inputs.
Which of the above assumptions is/are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

51. Which of the following are the issues associated with Modern agriculture?
1. Loss of diversity of genetic resources
2. Effect on human health
3. Erosion of traditional agricultural knowledge
4. Excessive use of agro-chemicals
Select the correct answer from the code given below:
(a) 1 and 3 only
(b) 1, 2 and 3 only
(c) 2 and 4 only
(d) 1, 3 and 4 only

52. Which among the following is the most logical and rational inference that can be drawn from the above passage?
(a) Different farming systems explain the correlation between climate change and agriculture.
(b) We need to reorient agricultural practices to ensure sustainable food production in changing climate.
(c) Farmers engaged in traditional agro ecosystems are dependent on locally available resources and indigenous technology.
(d) A complete shift from modern agriculture to traditional agriculture is needed to mitigate climate change.

53. In this question, there are three sets of statements given. Select the set that is most logical, i.e. in which the third statement can be concluded from the first two statements.
Set-I: Some maps are globe. Some globes are highlighter. Some maps are highlighter.
Set-II: All bikes are cars. Some cars are black. Some bikes are black.
Set-III: No horse is black. Only black have hairs. No horse has hairs.
(a) Only Set I and II
(b) Only Set III
(c) Only Set II
(d) None of these

Directions for the following 5 (five) items:
Read the following two passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1
Common sense suggests that the poverty line should vary over regions mainly because of the variations of tastes and preferences and the price structures over the regions. Hence, determining components of the Poverty Line Basket has been one of the key challenges of poverty line estimation in India due to price differentials (of constituents of the basket) which vary from state to state and period to period. Further, consumption patterns, nutritional needs and prices of components keep on changing as per dynamics of macro economy and demography. Large divergences opened up between the poverty rates calculated by the direct method based on actual calorie intake vis-à-vis the minimum requirements and the indirect method based on per capital expenditures vis-à-vis the periodically updated poverty lines. A

significant percentage of households above the expenditure-based poverty line were unable to meet the minimum calorie requirements. This called into question the practice of defining a poor household solely based on its per capita monthly expenditure vis-à-vis a poverty line expenditure cut off without considering the household's access to a wide set of dimensions.

54. Why is the methodology adopted in India to estimate the Poverty Line debatable?
(a) There is some confusion regarding what should constitute the 'poverty line'.
(b) There are wide diversities in the condition of the rural and urban poor.
(c) There is no uniform global standard for measuring income poverty.
(d) It is based on the proposition of poverty as meagre income or buying capacity

55. Why is income poverty only one measure of counting the 'poor'?
(a) It talks of only one kind of deprivation, ignoring all others.
(b) Other deprivations in human life have nothing to do with a lack of purchasing power.
(c) Income poverty is not a permanent condition; it changes from time to time.
(d) Income poverty restricts human choices only at a point in time

Passage-2
If a man in a given geographical area lacks a job, he is likely to be poor and disenfranchised; if he is poor and disenfranchised, he has an incentive to engage in practices that harm ecology, for example, by cutting down trees for firewood to cook his meals and warm his home. As his actions are aggregated with those of others in his region cutting down trees, deforestation will cause vital minerals to be lost from the soil. If vital minerals are lost from the soil, the inhabitants will be deprived of the dietary nutrients required to sustain the intellectual performance needed

to learn new technologies, for example, how to operate a computer, and this will cause productivity to reduce or stagnate. If productivity stagnates, poor people will remain poor or poorer, and the cycle continues.

56. Based on the above passage, the following assumptions have been made:
1. Everything a man does on earth has implications for the environment.
2. The geography of an area directly affects the economy and environment of the region.
Which of the above assumptions is/are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

57. The cycle of poverty continues due to which of the following?
1. Lack of skills to get a job
2. Environmental degradation
Select the correct answer using the code given below.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) None

58. Which among the following statement represents the crux of the passage?
(a) It is essential to create a balance between environmental, economic, and social sustainability.
(b) The cycle of poverty can be broken with a better diet and technological know-how.
(c) The limited means and resources on the earth cannot be enough for the unlimited needs of the people.
(d) Knowledge of new technologies, especially computers, is essential to get a good job.

59. Examine the following statements:
1. Madhuri is more successful than Kajol.

2. Shyra is more successful than Madhuri.

3. Kajol is not more successful than Sonali.

The conclusion that can be drawn from these statements is that

(a) Sonali is as successful as Madhuri.

(b) Sonali is as successful as Madhuri and Shyra.

(c) Kajol maybe the least successful of the four girls.

(d) Shyra is more successful than Sonali

60. Kamna, Dimple and Pallavi are three married women. Each of them gives two replies to any question, one of which is true and the other is false, not necessarily in the same order.

Following were the replies they gave when it was asked whose husband is the richest:

1. Kamna: My husband is the richest. Pallavi's husband is second richest.

2. Dimple: My husband is the richest. Kamna's husband is second richest.

3. Pallavi: My husband is the richest. Kamna's husband is third richest.

Which of the following is the correct order of the wives with richest, second richest and third richest husband respectively?
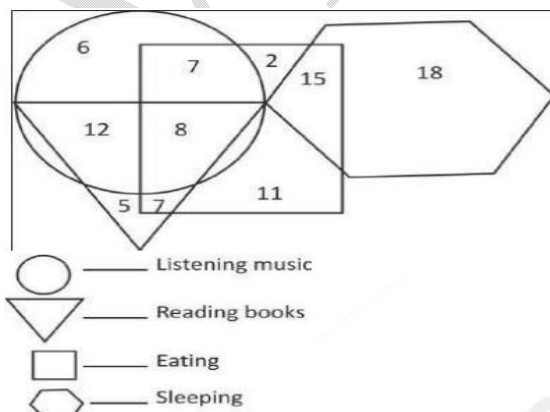
(a) Pallavi, Dimple and Kamna

(b) Dimple, Kamna and Pallavi

(c) Dimple, Pallavi and Kamna

(d) Pallavi, Kamna and Dimple

61. Examine the diagram given here carefully and answer the question that follow.

How many people like listening to music and eating, but not both?

(a) 17

(b) 55

(c) 49

(d) None of these.

62. In a certain police station, 20 officers are in ATS and 14 officers are in cyber security. 8 officers belong to both ATS and cyber security. How many officers belong to cyber security only or ATS only?

(a) 14

(b) 12

(c) 18

(d) 9

Directions for the following 4 (four) items:

Consider the information given below and answer the four items that follow.

Due to astrological reasons, a mother named all her daughters with the alphabet "K" as Kamla. Kamlesh, Kriti, Kripa, Kranti and Kalpana.

(1) Kamla is not the tallest, while Kripa is not the most qualified.

(2) The shortest is the most qualified amongst them all.

(3) Kalpana is more qualified than Kamlesh, who is more qualified than Kriti.

(4) Kamla is less qualified than Kamlesh but is taller than Kamlesh.

(5) Kalpana is shorter than Kriti but taller than Kranti

(6) Kriti is more qualified than Kamla, while Kamlesh is taller than Kriti.

(7) Kripa is the least qualified amongst the daughters, while Kranti is the most qualified.

63. Who is the third tallest?

(a) Kamla

(b) Kamlesh

(c) Kriti

(d) Kranti

64. Who is the most qualified?

(a) Kamlesh

(b) Kriti

(c) Kripa
(d) Kranti

65. What is the rank of Kriti in increasing order of qualification?
(a) 2
(b) 3
(c) 5
(d) 4

66. What is the rank of Kamla in increasing order of height?
(a) 3
(b) 5
(c) 4
(d) 2

Directions for the following 4 (four) items:

Read the following four passages and answer the items that follow each passage. Your answers to these items should be based on the passages only

Passage-1

Giving food to the needy is a tradition all religions follow; food gifts, and hosting community meals are central to festivities around the world. In addition to that, in India, festivals are associated with certain types of foods/ingredients, and that has helped preserve some of our ancient culinary wisdom and ways of cooking. For instance, some wild foods are brought to the plate only once a year as part of a ritualistic meal even though we might have forgotten how to utilise that food in our contemporary kitchens.

67. What does the author refer to as 'wild food'?
(a) Food which is generally cooked in forest areas.
(b) Food which is supposed to be eaten by wild people.
(c) Food which is no more cooked.
(d) Food which is cooked as a part of any ritual.

Passage-2

The programme aims to increase women's participation in space exploration - 30% of its engineers are women. In addition, the Artemis I mission will carry two mannequins designed to study the effects of radiation on women's bodies so that NASA can learn how to protect female astronauts better. Female astronauts are currently less likely to be selected for missions than men because their bodies tend to hit NASA's maximum acceptable threshold of radiation earlier. NASA expects to bring the first woman and person of colour to the Moon on Artemis III sometime after 2024.

68. Which of the following is/are the most rational and logical inference/ inferences that can be made from the passage?
1. The proportion of women involved in space exploration is abysmally low.
2. Females reach threshold of radiation earlier than male astronauts.
Select the correct answer using the codes given below.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Passage-3

I couldn't sleep a wink the night before the release of Kamal Haasan starrer Vikram. I couldn't remember when was the last time a movie got me so amped up. I still wonder exactly what aspect of this film made me feel so excited. Yes, of course, Kamal was making a comeback on the big screen after a gap of four years, and I was excited to see what Lokesh Kanagaraj has done with him. The film also packed a lot of star power, Fahadh Faasil and Vijay Sethupathi. During Kamal's big-screen sabbatical, I watched movies of some of the biggest stars with bigger production value, helmed by superstar directors. Between 2018 and 2021, four Rajinikanth movies came out. None gave me a sleepless night. But, Vikram did. And why? I think it's the sheer anticipation of being the

witness to something bigger than the usual and the joy of being part of a shared celebration over a shared agenda: let's just have some fun at the movies. I think my excitement was powered by the knowledge that I'm not going to the theatre to get my history lesson or see the story of an accomplished real person play out in an overused template, or watch a hyperbolic hero go supersonic on the most outdated version of the villain, or get a dose of morality lesson. Not that movies that fit in these categories are usually bad. But, over the last few years, they have sort of become a norm at the box office.

69. Which of the following is/are most rational and logical inference/ inferences that can be made from the passage?
   1. The genre of movies is getting repetitive.
   2. The author wishes to participate in a community celebration and enjoy viewing movies.
   3. Contemporary movies are packed with a lot of stars.
   Select the correct answer using the codes given below.
   (a) 1 and 2 only
   (b) 2 and 3 only
   (c) 1 and 3 only
   (d) 1, 2 and 3

Passage-4
The melting of the Greenland ice sheet will unavoidably raise the global sea levels by at least 10.6 inches or 27 centimetres, no matter what climate action the world decides to take right now. This is because of 'zombie ice', certain to melt away from the ice cap and blend into the ocean. The calculation comes from a recent study published in the journal Nature Climate Change, where scientists for the first time calculated minimum ice loss in Greenland, and the corresponding rise in global sea level. Also referred to as dead or doomed ice, zombie ice is one that is not accumulating fresh snow even while continuing to be part of the

parent ice sheet. Such ice is "committed" to melting away and increasing sea levels. This is on account of warming that has already happened. The research points to an equilibrium state where snowfall from the higher reaches of the Greenland ice cap flows down to recharge edges of the glaciers, and thicken them. It says that over the last several decades there has been more melting and less replenishment. By calculating minimum committed ice loss based on the ratio of recharge to loss, the scientists have projected that 3.3% of Greenland's total ice volume will melt, and this will happen even if the global temperature is stabilized at the current level. But given that global warming is predicted to get worse, the melting and the corresponding rise in sea level could be much worse. The study says it could reach as much as 30 inches (78 centimetres) if Greenland's record melt year (2012) becomes a routine phenomenon.

70. With reference to above passage, consider the following statements.
   1. The experts have conducted numerous studies on the effects of the melting of the minimum possible amount of Greenland's ice.
   2. Zombie ice does not accumulate fresh snow.
   Which of the statements given above is/are correct?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

71. In a factory of 400 workers, 185 workers come to factory in cars, 212 workers come on bikes, and 127 workers on bicycles. 20 workers come only on car and bicycle, 29 workers come only on car and bike, 35 workers come only on bike and bicycle, and 50 workers come on foot. How many workers use only one vehicle?
   (a) 272
   (b) 172
   (c) 221

(d) 284

72. 40 parents came for a parents-teacher meeting in a school. Some parents can understand only Hindi and some can understand only English, while there are 10 parents who can understand both languages. If the number of parents who can understand Hindi is 20, then how many parents can understand only English and only Hindi respectively?
(a) 10, 30
(b) 20, 10
(c) 30, 20
(d) 20, 30

Direction for the following 3 (three) items:

Consider the information given below and answer the three items that follow.

A, B, C, D, E, F, G and H are eight friends sitting around a circular table and facing outwards. No two women are sitting next to each other. E is sitting second to the right of her husband and third to the left of C. F sits second to the right of his wife H, who is not an immediate neighbour of E's husband. D is a male and he is not E's husband. G is not an immediate neighbour of E. B sits second to the right of A. It is known that there are three females and five males in the group.

73. Who is the husband of E?
(a) B
(b) G
(c) C
(d) A

74. Who is sitting third to the left of E's husband?
(a) C
(b) B
(c) A
(d) D

75. Who is sitting opposite to A?
(a) C
(b) F
(c) D
(d) H

76. Two Statements followed by two Conclusions are given below. You have to take the Statements to be true even if they seem to be at variance from the commonly known facts.
Read all the Conclusions and then decide which of the given Conclusions logically follows/follow from the Statements:
Statement-1: All young population go to Gym.
Statement-2: Abhishek doesn't go to Gym
Conclusion-I: Abhishek is not young.
Conclusion-II: Going to Gym is not essential to be a young population.
Which one of the following is correct?
(a) Only Conclusion-I
(b) Only Conclusion-II
(c) Both Conclusion-I and Conclusion-II
(d) None of the Conclusion follows

Directions for the following 4 (four) items:

Read the following three passages and answer the items that follow each passage. Your answers to these items should be based on the passages only.

Passage-1

The academic structure worldwide is driven by market values, privatisation of higher education and utilitarian degree programmes that produce highly specialised graduates who can quickly become part of a skilled labour force. A general perception is that arts and humanities graduates are less equipped to contribute to the workforce compared to STEM (science, technology, engineering and math) or business degree holders. The pandemic has enhanced this perception, exacerbating a drastic decline of resources, encouraging academic redundancies and closing down of several arts and humanities degree programmes. If anything, the pandemic has taught us that solutions to real-world problems lie in a sustained collaboration across disciplines. Not only do we need more arts and humanities programmes, but we argue that engineering and generally STEM degree

programmes must include arts and humanities courses.

77. According to the passage what are the reasons for closing down of several arts and humanities degree programmes?
1. Pandemic
2. Lack of interest
3. Perceived low utility of these subjects
Which of the statements given above is/are correct?
(a) 1 only
(b) 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

78. According to the passage, solutions to real world problems lie in:
1. Including STEM courses in arts and humanities programmes
2. Collaboration among countries excelling in arts and humanities courses
3. Incorporating arts and humanities courses in STEM degree programmes
Which of the statements given above is/are correct?
(a) 1 only
(b) 3 only
(c) 1 and 2 only
(d) 2 and 3 only

Passage-2
We have become more focused on competing against each other rather than providing children with what they need. Our socialisation makes us applaud only certain types of achievement- we don't even look for other things our children may be good at. But when a system defines successes narrowly, it leaves out a huge number of youngsters. Parents tend to worry about the rising costs of coaching during and after school, the rising costs of college fees, whether their children will find a livelihood and most of all how will they live up to their own and societal expectations. They often end up feeling helpless, with the child becoming the victim of their frustrations.

79. With reference to the above passage, the following assumptions have been made:
1. A child's achievement and its appreciation by parents is externally influenced.
2. In our society, the ambit of achievement is not broadly defined.
3. Parents are worried most about their children's livelihood
Which of the above assumptions are valid?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 2 only

Passage-3
Education and health are foundational to every society. Examples of india's capabilities in these areas are easy to find. Indian education produces global CEOs and Indian private healthcare systems have been providing services to medical tourists from many parts of the world. But these are exceptions and not the rule. Moreover, equity has no place in such outliers.

80. On the basis of the passage given above, the following assumptions have been made:
1. Indian education lags behind the global standards in terms of output.
2. The world is getting benefits of medical services from the Indian healthcare system.
Which of the above assumptions are valid?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2