



All India Civil Services Coaching Centre

(Under the aegis of Government of Tamil Nadu)

TEST BOOKLET

Test 16 – CSAT Paper II

Time Allowed: 2 Hours

Maximum Marks: 200

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET
2. You have to enter your Name on the Test Booklet
3. This Test Book contains 80 items (questions). Each it 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, mark the response, which you consider the best. In any case, choose ONLY ONE response for each item.
4. You have to mark all your response ONLY on the separate sheet provided along with the Test Booklet.
5. All items Carry equal marks. There will be **penalty (negative marking)** for wrong answers marked by you in the Answer sheet.
6. There are four alternatives for the answers to every question. For each question for which a wrong answer has been given by the candidate, one third ($\frac{1}{3}$) of the marks assigned to that question will be deducted as penalty.
7. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will same penalty as above for that question.
8. If a question is left blank i.e., no answer is given by the candidate, there will be no penalty for that question.

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Direction for questions 1 to 8: Read the following passages and answer the questions that follow each passage. Your answers to these items should be based on the passages only.

PASSAGE 1

Homeostasis, an animal's maintenance of certain internal variables within an acceptable range, particularly in extreme physical environments, has long interested biologists. The desert rat and the camel in the most water-deprived environments, and marine vertebrates in an all water environment, encounter the same regulatory problem: maintaining adequate internal fluid balance.

For desert rats and camels, the problem is conservation of water in an environment where standing water is nonexistent, temperature is high, and humidity is low. Despite these handicaps, desert rats are able to maintain the osmotic pressure of their blood, as well as their total body-water content, at approximately the same levels as other rats. One countermeasure is behavioral: these rats stay in burrows during the hot part of the day, thus avoiding loss of fluid through panting or sweating, which are regulatory mechanisms for maintaining internal body temperature by evaporative cooling. Also, desert rats' kidneys can excrete a urine having twice as high a salt content as sea water.

Camels, on the other hand, rely more on simple endurance. They cannot store water, and their reliance on an entirely unexceptional kidney results in a rate of water loss through renal function significantly higher than that of desert rats. As a result, camels must tolerate losses in body water of up to thirty percent of their body weight. Nevertheless, camels do rely on a special

mechanism to keep water loss within a tolerable range: by seating and panting only when their body temperature exceeds that which would kill a human, they conserve internal water. Marine vertebrates experience difficulty with their water balance because though there is no shortage of seawater to drink, they must drink a lot of it to maintain their internal fluid balance. But the excess salts from the seawater must be discharged somehow, and the kidneys of most marine vertebrates are unable to excrete urine in which the salts are more concentrated than in seawater. Most of these animals have special salt-secreting organs outside the kidney that enable them to eliminate excess salt.

1. Which of the following most accurately states the purpose of the passage?
 - a) To compare two different approaches to the study of homeostasis
 - b) To summarize the findings of several studies regarding organisms' maintenance of internal variables in extreme environments
 - c) To argue for a particular hypothesis regarding various organisms' conservation of water in desert environments
 - d) To cite examples of how homeostasis is achieved by various organisms
2. According to the passage, the camel maintains internal fluid balance in which of the following ways?
 - I. By behavioral avoidance of exposure to conditions that lead to fluid loss
 - II. By an ability to tolerate high body temperatures
 - III. By reliance on stored internal fluid supplies
 - a) I only
 - b) II only
 - c) I and II only

d) II and III only

3. It can be inferred from the passage that some mechanisms that regulate internal body temperature, like sweating and panting, can lead to which of the following?
- a) A rise in the external body temperature
 - b) A drop in the body's internal fluid level
 - c) A decrease in the osmotic pressure of the blood
 - d) A decrease in the amount of renal water loss

PASSAGE - 2

The concept of harmonious world encompassing broad notions of multilateralism, prosperity for all through common development and tolerance for diversity has left world opinion perplexed. These are commendable objectives but the theory is short on specifics regarding the means to achieve them.

China's recent willingness to be a more active player internationally stems from complex factors. The country's economic strength- having acquired the largest foreign exchange reserves in the world—is undeniable and reports favour it to be the largest economy in the next quarter of the century. For sustained double-digit economic growth China thus has no choice but to become more active internationally.

4. What has been the fallout of China's increased participation in world affairs?
- a) International scrutiny of its economic policies
 - b) Growth of corruption among politicians
 - c) Its influence and prestige have grown substantially
 - d) Its growth rate has stabilized

PASSAGE 3

From 'apparel to aerospace', 'steel to software', the pace of technological innovation is quickening. No longer can companies afford to miss generation of technology and expect to remain competitive. Adding to the pressure, innovations are increasingly crossing industry boundaries; a new

fibre developed by the textile industry has potential for building materials and medical equipment. Some companies are adept at using a diversity of technologies to create new products that transform markets. But many others are floundering because they rely on a technology strategy that no longer works in such a fast-changing environment.

The difference between success and failure is not how much a company spends on research and development (R&D), but how it approaches it. There are two possible approaches. Either a company can invest in R&D that an older generation of technology the 'break through' approach-or its focus on combining existing technologies into hybrid technologies – the 'technologies fusion' approach.

It blends incremental technical improvements from several previously separate field of technology to create products that revolutionize markets. In a world where the old maxim 'one technology one industry' no longer applies, a singular breakthrough strategy is inadequate; companies need to include both the breakthrough and fusion approaches in their technology strategy.

Relying on breakthroughs alone fails because it focuses the R&D efforts to narrowly, ignoring the possibilities of combining technologies. Yet many western companies still rely almost exclusively – on the breakthrough approach. The reasons are complex: a distrust of outside innovations and not-invented here engineering and arrogance and aversion to sharing research results.

5. Which of the following features of technology has been highlighted most prominently by the author of the passage?
- a) Its improper utilization by some companies
 - b) The speed at which innovations are happening
 - c) The expenses involved in developing technology
 - d) The two approaches to adopting technology

6. What does the author want to highlight by using the example 'apparel to aerospace' and 'steel to software'?
- Many industries are trying to improve technology
 - His knowledge about the various industries
 - The wide spread of technological innovations
 - The speed of the technological innovation
7. What is the immediate effect, according to the passage, if a company does not innovate?
- It closes down.
 - It ceases to be competitive in the market.
 - The prices of its products go up.
 - Its R & D departments close down.
8. Why do Western companies avoid the technology fusion approach?
- Distrust of outside researchers
 - Feeling that what one does alone is right
 - Failure to share results with others
 - All of the above
9. When a particular positive number is divided by 5, the remainder is 2. If the same number is divided by 7, the remainder is 5. If the difference between the quotients of the division is 3, then find the number.
- 78
 - 22
 - 47
 - 25
10. In an election between two candidates, one got 60% of total valid votes, 20% of the votes are invalid. If winning candidate win by 7500 votes then total number of invalid votes
- 3,125
 - 6,250
 - 9,375
 - 12,500
11. A trader mixes 26 kg of potato at Rs. 20 per kg with 30 kg of potato of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:
- No profit, no loss
 - 5%
 - 8%

d) 10%

Direction for questions 12 to 19: Read the following passages and answer the questions that follow each passage. Your answers to these items should be based on the passages only.

PASSAGE 4

We all seek happiness but few, very few, indeed, get it. We are unhappy partly because we desire much more than what we can hope to attain. Our countless desires are hard to be satisfied. And that is what makes us so sad in life. The secret of happiness lies in the simplification of life. Simple living encourages high thinking. It leads to contentment. Contentment gives us inner wealth, the wealth of the mind and of the soul. A contented man devotes himself to virtues; a man can feel true happiness. I do not mean that for simplification of life, a man should become an ascetic. The happiness of a sadhu is of a negative kind. I want a positive kind of happiness. For this, I must live in the midst of life and faithfully carry out my responsibilities to my home and my country. But all this should be done in the spirit of selfless service.

12. What does a contented man do?
- He pursues and assimilates the basic virtues of life
 - He faces boldly the adversities of life
 - He encounters the strings of misfortunes
 - He gives up bad habits effortlessly
13. Which of the following is the correct chain of things, as mentioned in the passage, leading to happiness?
- Contentment, high thinking, simple living, inner wealth
 - High thinking, simple living, inner wealth, contentment
 - Inner wealth, simple living, contentment, high thinking
 - Simple living, high thinking, contentment, inner wealth
14. According to the passage, the essence of happiness lies in _____
- Worldly desires

- b) Matching one's abilities with the work undertaken
- c) Avoiding all unfortunate events
- d) Adopting a simple lifestyle

PASSAGE 5

Although a historical lack of access to formal Spanish-language education initially limited the opportunities of some Chicanos to hone their skills as writers of Spanish, their bilingual culture clearly fostered an exuberant and compelling oral tradition. It has thus generally been by way of the emphasis on oral literary creativity that these Chicano writers, whose English language works are sometimes uninspired, developed the powerful and arresting language that characterized their Spanish-language works. This Spanish-English difference is not surprising. When writing in Spanish, these authors stayed close to the spoken traditions of their communities where publication, support, and instructive response would come quickly in local or regional newspapers. Works in English, however, often required the elimination of nuance or colloquialism, the adoption of a formal tone, and the adjustment of themes or ideas to satisfy the different demands of national publications.

15. The passage is primarily concerned with doing which of the following?
- a) Debating the historical value of a literary movement.
 - b) Describing and accounting for a difference in literary styles
 - c) Explaining a publishing decision and evaluating its results
 - d) Analyzing the expectations of a particular group of readers
16. According to the author, the Chicano oral experience contributed directly to which of the following characteristics in the work of some Chicano writers?
- a) A sensitivity to and adeptness in using the spoken language
 - b) A tendency to appear in national rather than regional publications
 - c) A style reflecting the influence of Spanish

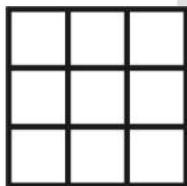
- language education
- d) A reliance on a rather formal style

17. The passage suggests that which of the following was probably characteristic of the "national publications" mentioned in the passage?
- a) They primarily presented scholarly material of little interest to a general audience.
 - b) They sometimes published articles treating controversial themes.
 - c) They encouraged authors to feature local issues in articles in order to increase circulation.
 - d) They took a stylistically formal approach to material of interest to a general audience.

PASSAGE 6

There are many types of experts. Some experts – e.g., physicists, art historians, accountants – have exceptional knowledge. Others – e.g., chess masters, professional violinists, surgeons – have exceptional abilities. Some expertise relates less to doing and more to perceiving: e.g., an expert distiller can taste the nuances in whiskey; an expert radiologist can read an X-ray efficiently. Despite these differences, all experts have a high degree of competence in a specific domain (or subject area) that makes them an authority in that domain. Becoming an expert typically requires thousands of hours of focused study and practice. Other experts usually review this practice and give feedback, leading to more practice. Because expertise develops over time, someone can be more or less of an expert. Expertise requires continual study and practice or else it can be lost. Experts are not simply reservoirs of information; they have a deep understanding of their domain, usually including how and why its claims are accepted. They are not dabblers or merely well-informed: they are authorities. The authority of an expert is epistemic: their knowledge and understanding give us good reason to trust them in matters of their domain of expertise. Our beliefs are more likely to be justified or true if we get them from experts. Experts, then, make us better off, by sharing their knowledge or using their skills.

18. According to the passage, how can we tell whether someone is an expert?
1. They have extensive specialized education and experience.
 2. They have a track record of being right.
 3. Their views are always right.
 4. They have a different view from the public.
- a) Only 1 and 2 follow
 - b) Only 2 and 3 follow
 - c) Only 3 and 4 follow
 - d) All of them follow
19. Which of the following is/are inferred from the passage?
1. To be an expert it is important to have exceptional knowledge
 2. If we get our beliefs from experts then it must be justified or true
- a) Only 1 follows
 - b) Only 2 follows
 - c) Both 1 and 2 follows
 - d) None of these follows
20. How many squares are there in the following figures?



- (a) 10
- (b) 12
- (c) 14
- (d) 16

PASSAGE 7

Bolivia has the world's lowest minimum age for child labour: 10. At that young age, children can work legally for themselves or their families. Once they hit age 12, they can work for others. The controversial law passed in 2014 is unique in the world, but three years later the government is still struggling with how to implement the regulation and protect children from abuse and exploitation. The United Nation's International Labour Organization (ILO) and many other groups oppose the law, saying children under 14 should not work.

An estimated 850,000 Bolivian children work, which is nearly 30% of children ages 5 to 17, according to UNICEF. The ILO has urged Bolivia to repeal the child labour law, but its supporters say children have the right to work. Young Isaac often toils into the night. Just past 10 p.m., after being ignored by a woman in brown boots, he finally found a customer. A man stopped and wouldn't pay full price for a shine, but his shoes needed dusting off. Isaac cleaned the shoes and collected his pay: 14 cents. Isaac said he wears a mask to hide his face because people look down on the poor. He wants to work in a bank one day and doesn't want people to know he shines shoes. Advocates who oppose letting children like Isaac work say some are exploited or sexually abused, while others wind up living on the streets, plagued by crime, violence, and addiction.

Legalizing child labour "was terrible, a mistake," said Amparo Carvajal, president of the Permanent Assembly of Human Rights in La Paz, Bolivia's capital.

Supporters of the law say legalizing child labour empowers children. Moreover, child workers helped write the law, sociologist Manfred Liebel said. Bolivian lawmakers had planned to set the minimum working age at 14, but that idea led to riots as shoe shiners and other child workers — some as young as 10 — clashed with police in 2013. The law passed with support from Bolivian President Evo Morales, who said jobs help children develop "social awareness."

"The work of children and adolescents should not be eliminated, but we should not exploit or force them to work, either," said Morales, who herded llamas at age 6 with his father. Simon Mamani continues such traditions on the high plains near Lake Titicaca. "We're not afraid to work," said Mamani, 46, whose three children help on the family's dairy farm. "They started to work at 5 years of age." Even with his children's help, Mamani said he struggles to feed his cattle. "If we didn't work, we wouldn't live," he said. "We don't have days off. We don't go out for fun on Saturdays and Sundays like in the city. I've been doing this since I was 5 years old." Poverty and tradition lead many children to work. "Bolivia is protecting the rights of these boys, girls and

adolescents as part of their cultural development," said Hernan Rico, leader of the Delegation on Children and Adolescents in the government's Ombudsman's Office.

21. The child labour law passed by the government has:
- (a) Given a glimmer of hope for people trying to rise in class.
 - (b) Helped children battle abject poverty and fend for themselves as stipulated in the bill.
 - (c) Created more problems than solutions for the lawmakers of the riot-prone nation.
 - (d) Indirectly consolidated exploitation of young children who are forced to work.

22. The most common voice against repealing the child labour law is:
- (a) Made by indicating how work rights should not be divisive.
 - (b) Made by showing that Bolivia is a poor nation.
 - (c) Made by providing the example of young Isaac.
 - (d) Made by showing that UNICEF fails to provide grants for children to study.

23. With which of the following would the author of the passage agree the most?
- (a) Even young children want to work and provide for their families.
 - (b) The fear of ridicule as a result of being impoverished can affect the morale of a young kid.
 - (c) Children in Bolivia are more willing to perform chores than those in other countries.
 - (d) Bolivian parents are in favour of their children being self-reliant by working under hazardous conditions from an early age.

24. Merry correctly remembers that her father's birthday is after the eighteenth of June but before twenty-second June. Her brother Sam correctly remembers that their father's birthday is before the twenty-fourth of June but after the twentieth of June. On which date

- in June was definitely their father's birthday?
- (a) 20th
 - (b) 19th
 - (c) 18th
 - (d) None of these

Direction (Q. 25-27). Six people name P, Q, R, S, T, and U live in a six-floor building. The ground floor is number 1 and the topmost floor is number 6. The person S lives on half the floor number of the person U. Only one person lives between the person U and the person R. The person T lives immediately below the person R. The person Q lives below the person S.

25. Who lives on the 4th floor ?
- (a) P
 - (b) U
 - (c) Q
 - (d) S
26. Who lives on the topmost floor ?
- (a) R
 - (b) T
 - (c) Q
 - (d) S
27. Who lives on thrice the floor number of the person S ?
- (a) P
 - (b) U
 - (c) Q
 - (d) R

28. Select the missing numbers from the given alternatives.

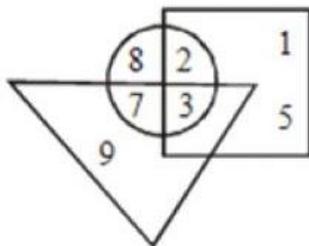
17	12	11
47	43	?
4	5	6

- (a) 55
 - (b) 49
 - (c) 53
 - (d) 46
29. In a row of 40 boys, Kavir has shifted 10 places to the right of Ratan and Kumar was shifted 10 places to the left of Vijay. If Vijay was 26th

from the left end and there were three boys between Kumar and Kavir after shifting, what was the position of Ratan in the row?

- (a) Data inadequate
- (b) 10th from the left end
- (c) 10th from the right end
- (d) 39th from the right end

30. In the given figure in a garden, square represents the area where Lemon trees are grown, a circle represents Guava trees and triangle represents Papaya Which number represents the common area in which all types of trees are grown.

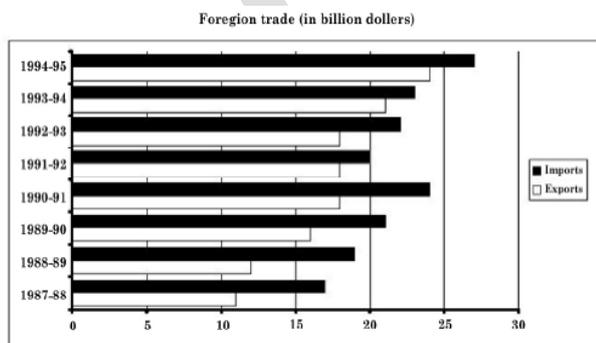


- (a) 4
- (b) 3
- (c) 7
- (d) 8

31. In a certain coded language, " Science is evil" is written as- "347", " Science has assumptions" is written as "385", and " Assumptions is false" is written as- " 541" Then what will be the code for "evil"?

- (a) 3
- (b) 7
- (c) 4
- (d) Cannot be determined

Direction (Q. 32 - 33): Answer the question based on the following graph.



32. Which of the following statements can be inferred from the graph?
- I. In all the years shown in the graph, the trade deficit is less than the export earning.
 - II. Export earnings increased in every year between 1989-90 and 1991-92.
 - III. In all the years shown in the graph, the earning by exports is less than the expenditure on imports in the preceding year.

Code:

- (a) I only
- (b) II only
- (c) III only
- (d) I and III only

33. In the last three years, the total export earnings have accounted for how many per cent of the value of the imports?

- (a) 80%
- (b) 83%
- (c) 95%
- (d) 88%

PASSAGE 8

The Shveta-chattrra or the 'White Umbrella' was a symbol of sovereign political authority placed over the monarch's head at the time of the coronation. The ruler so inaugurated was regarded not as a temporal autocrat but as the instrument of protective and sheltering firmament of supreme law. The white umbrella symbol is of great antiquity and its varied use illustrates the ultimate common basis of non-theocratic nature of states in the Indian tradition. As such, the umbrella is found, although not necessarily a white one, over the head of Lord Ram, the Mohammedan sultans and Chatrapati Shivaji.

34. Which one of the following best summarises the above passage?

- (a) The placing of an umbrella over the ruler's head was a common practice in the Indian subcontinent.
- (b) The white umbrella represented the instrument of firmament of the supreme law and the non-theocratic

- nature of Indian states.
- (c) The umbrella, not necessarily a white one, was a symbol of sovereign political authority.
- (d) The varied use of the umbrella symbolised the common basis of the non-theocratic nature of states in the Indian tradition.

PASSAGE 9

The problem of traffic congestion in Athens has been testing the ingenuity of politicians and town planners for years. But the measures adopted till date have not succeeded in decreasing the number of cars on the road in the city centre. In 1980, an odds and evens number-plate legislation was introduced, under which odd and even plates were banned in the city centre on alternate days, thereby expecting to halve the number of cars in the city centre. Then in 1993, it was decreed that all cars in use in the city centre must be fitted with catalytic converters; a regulation had just then been introduced, substantially reducing import taxes on cars with catalytic converters, the only condition being that the buyer of such a 'clean' car offered for destruction a car at least 15-year-old.

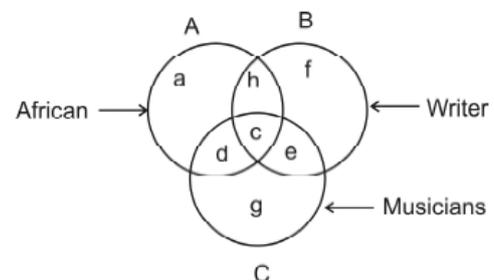
35. Which one of the following options, if true, would best support the claim that the measures adopted to date have not succeeded?
- (a) In the 1980s, many families purchased second cars with the requisite odd or even number plate.
- (b) In the mid-1990s, many families found it feasible to become first-time car owners by buying a car more than 15-year-old and turning it in for a new car with catalytic converters.
- (c) Post-1993, many families seized the opportunity to sell their more than 15-year-old cars and buy 'clean' cars from the open market, even if it meant forgoing the import tax subsidy.
- (d) All of the above

PASSAGE 10

Argentina's beef cattle herd has dropped to under 50 million from 57 million ten years ago in 2010. The animals are worth less too: prices fell by over a third last year, before recovering slightly. Most local meat packers and processors are in financial trouble, and recent years have seen a string of plant closures. The Beef Producers Association has now come up with a massive advertisement campaign calling upon Argentines to eat more beef — their 'juicy, healthy, rotund, plate-filling' steaks.

36. Which one of the following, if true, would contribute most to a failure of the campaign?
- (a) There has been a change in consumer preference towards eating leaner meats like chicken and fish.
- (b) Prices of imported beef have been increasing, thus making locally grown beef more competitive in terms of pricing.
- (c) The inability to cross-breed native cattle with improved varieties has not increased production to adequate levels.
- (d) Animal rights pressure groups have come up rapidly, demanding better and humane treatment of farmyard animals like beef cattle.

37. In the figure below there are three intersecting circles each represents a certain section of people different region are marked e.g. Read the statement in each of the following questions and choose the letter of the region which correctly represent the statements.



Africans who are musicians but not Writers is represented by ?

- (a) d
 (b) c
 (c) b
 (d) a

38. Examine the statement given below:

Statements:

- All pens are pin.
- Some pins are not nut.
- All nuts are cap.

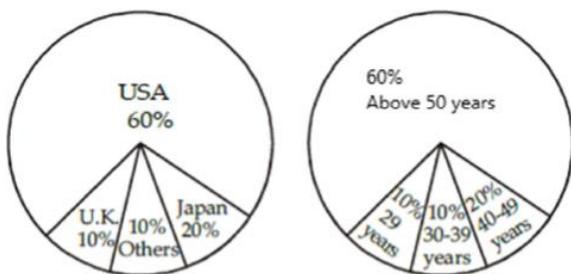
Conclusions:

- I. Some nuts are not pin.
- II. Some pins are not cap.

Which of the above conclusion is correct?

- (a) Neither I nor II
- (b) Only II
- (c) Both I and II
- (d) Only I

39. The distribution of 1,50,000 tourists who visited India during a particular year is shown in the given charts. The distribution of tourists for each country based on age is given in the 2nd pie chart. The number of tourists from U.K on or below the age of 39 who visited India in the year concerned is-



- (a) 3000
- (b) 4000
- (c) 5000
- (d) 4500

40. Pointing towards a photograph of Bob, Nina said- "He is the only son-in-law of my mother and my mother has only one child." The how is Nina related to Bob?

- (a) Sister
- (b) Cousin
- (c) Wife
- (d) None of these

PASSAGE 11

Developed countries have made adequate provisions for social security for senior citizens. State insurers (as well as private ones) offer medicare and pension benefits to people who can

no longer earn. In India, with the lapse of the joint family system, the traditional shelter of the elderly has disappeared. And the state faced with a financial crunch is not in a position to provide social security. So, it is advisable that the working population should give serious thought to building a financial base for itself.

41. Which one of the following, if it were to happen, weakens the conclusions drawn in the above passage the most?
- (a) The investible income of the working population, as a proportion of its total income, will grow in the future.
 - (b) The insurance sector is underdeveloped and trends indicate that it will be extensively privatized in the future.
 - (c) India is on a path of development that will take it to a developed country status, with all its positive and negative implications.
 - (d) If the working population builds a stronger financial base, there will be a revival of the joint family system.

Direction (Q.42-44): Read the following information carefully to answer the given questions.

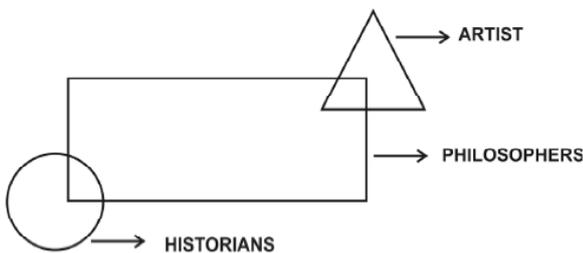
Seven persons viz. Tom, Daffy, Goofy, GS, Jerry, Johnny and Mickey were born on seven different days of the same week starting from Monday to Sunday, but not necessarily in the same order. Tom was born immediately after the day on which Daffy was born. Tweety was born on Wednesday and she is older than Mickey. Goofy was born on Friday. Only one person was born between Jerry and Tom. Johnny was not born on Saturday. Mickey was born just before Johnny.

42. Who among the following is older than Tweety but younger than Daffy?
- (a) Tom
 - (b) Goofy
 - (c) Johny
 - (d) There is no such person
43. How many persons are older than Mickey?
- (a) 5
 - (b) 4

- (c) 1
- (d) 6

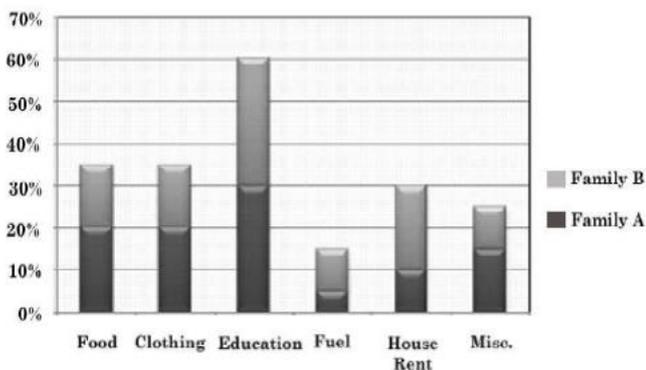
44. Which of the following persons was born on Monday?
- (a) Mickey
 - (b) Goofy
 - (c) Tom
 - (d) Daffy

Direction (Q.45): Read the following information and then answer the question that follows. In the figure, the rectangle stands for philosophers, circle for historians and triangle for artist



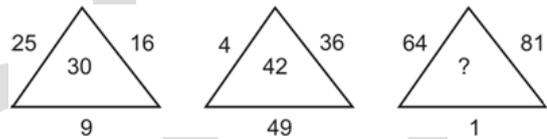
45. According to the above diagram, Which one of the following statements is true.?
- (a) All philosopher are artist but no artist is a historian
 - (b) All artist are either historians or philosophers
 - (c) Some philosophers are historians and some artist are philosophers
 - (d) Some Historians, Who are philosophers, are artist too.

Direction (Q.46): Study the following graph carefully and answer the questions that follow:



46. If the Incomes of A and B are in the ratio of 1 : 2 and their expenses are same on Food, Clothing and Miscellaneous, then who saves more ?
- (a) A
 - (b) B
 - (c) Both save equally
 - (d) Nothing can be deduced

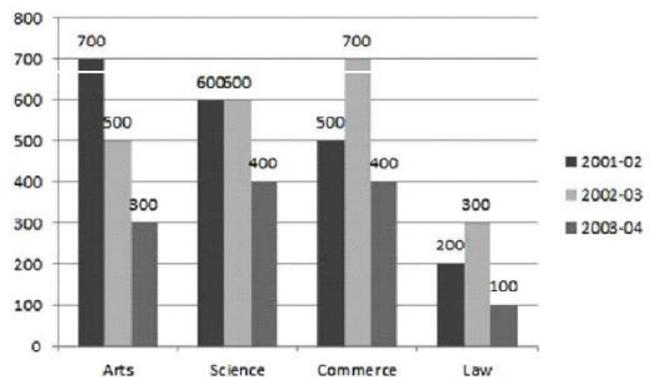
47. In the following question, select the number which can be placed in the question mark (?) from the given alternative



- (a) 24
- (b) 54
- (c) 66
- (d) 36

48. A toy is in the form of a cone mounted on a hemisphere. The radius of the hemisphere and that of the cone is 4cm and height 6cm. The total surface area of the toy is
- (a) 220.5 sq cm
 - (b) 240.5 sq cm
 - (c) 260.5 sq cm
 - (d) 280.5 sq cm

Direction (Q.49-50): Shown below is the multiple bar diagram depicting the changes in the roll strength of a college in four faculties from 2001-2002 to 2003-2004. Study the bar graph given below and answer the following questions:



49. The ratio between the students in Commerce and Law in 2002-2003 to students of Arts and

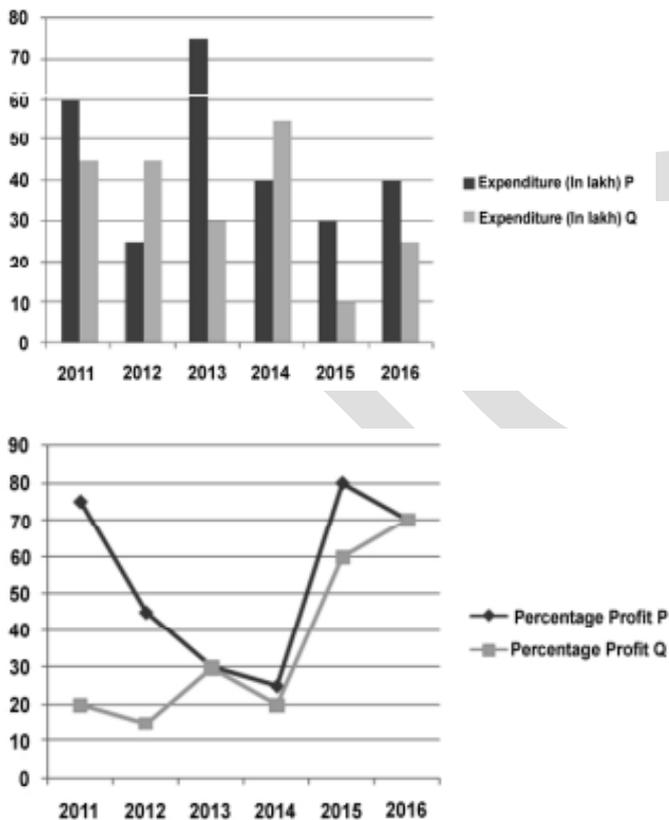
Science in 2003- 2004 is

- (a) 10 : 7
- (b) 7 : 10
- (c) 10 : 11
- (d) 12 : 10

50. The percentage of students in Science stream in 2001-2002 is:

- (a) 20%
- (b) 25%
- (c) 30%
- (d) 40%

Direction (Q.51-54): The expenditure and percentage profit of two companies P and Q for six years in the period 2011-2016 are shown in the given bar graph and line graph. The expenditure is given in lakhs.



51. What is the difference between the average expenditure of Company P from 2011 to 2016 and that of Company Q?

- (a) 50 lakh
- (b) 10 lakh
- (c) 15 lakh
- (d) 35 lakh

52. In how many of the given years is the income of Company P more than Rs 100 lakhs?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

53. In how many years is the profit of Company Q more than Rs 10 lakhs?

- (a) 5
- (b) 3
- (c) 2
- (d) 1

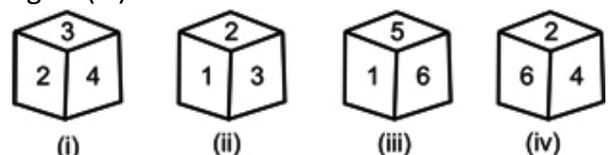
54. In 2014, the income of Company Q is what percentage more than the income of Company P?

- (a) 32%
- (b) 40%
- (c) 25%
- (d) 45%

55. Three friends, returning from a movie, stopped to eat at a restaurant. After dinner, they paid their bill and noticed a bowl of mints at the front counter. Sita took one-third of the mints, but returned four because she had a momentary pang of guilt. Fatima then took one-fourth of what was left but returned three for similar reason. Eswari then took half of the remainder but threw two back into the bowl. The bowl had only 17 mints left when the raid was over. How many mints were originally in the bowl?

- (a) 38
- (b) 31
- (c) 41
- (d) None of these

56. Four positions of a dice are shown below. What number must be at the bottom face when the dice is in the position as shown in the figure(iii)?



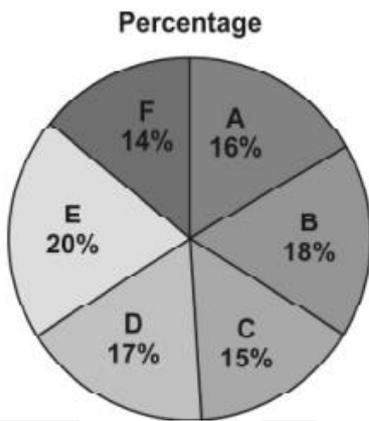
- (a) 6
- (b) 2
- (c) 1

(d) 5

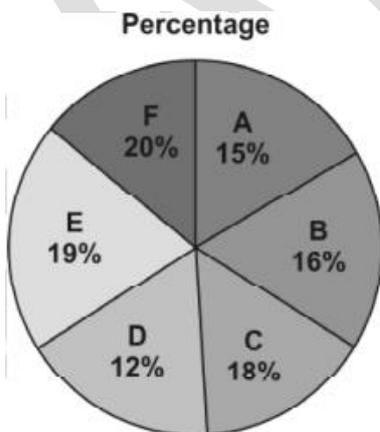
57. Once I had been to the post office to buy five-rupee, two-rupee and one rupee stamps. I paid the clerk Rs. 20, and since he had no change, he gave me three more one-rupee stamps. If the number of stamps of each type that I had ordered initially was more than one, what was the total number of stamps that I bought?
- (a) 10
 (b) 9
 (c) 12
 (d) 8

Direction (Q.58-61): Study the following pie charts and tables to answer the questions that follow. State wise details of the adult population of a country

Graduate and above total number = 24 lakh



Up to XII std pass total number = 32 lakh



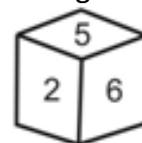
M:F ratio (M=Male and F=female)

State	Graduate and above		Upto xii std. pass	
	M	F	M	F
A	7	5	7	9
B	5	3	3	5
C	5	4	4	5
D	9	8	5	7
E	9	7	9	10
F	4	3	3	2

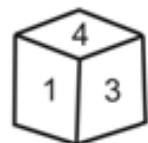
58. What is the ratio of the total graduate population of State D to total XII Std. population of that state?
- (a) 17: 16
 (b) 16: 15
 (c) 15: 17
 (d) 17: 15
59. XII pass Std. male population of State C is what percent of the total XII Std. population of all the states together?
- (a) 9%
 (b) 8%
 (c) 12%
 (d) 6%
60. The graduate female population of state C is what percent of the XII Std. female population of that state?
- (a) 40%
 (b) 50%
 (c) 60%
 (d) 55%
61. What is the ratio of the graduate female population of State E to XII std. female population of State D, respectively.
- (a) 15: 18
 (b) 15: 16
 (c) 16: 15
 (d) 18: 16
62. Three positions of a dice are given. Based on them find out which number is found opposite the number 3 in the given cube.



(i)



(ii)

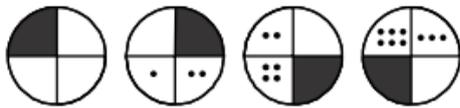


(iii)

- (a) 6

- (b) 5
- (c) 2
- (d) 1

63. In the following question, there is some relationship between the figures. From the answer figures, pick out the figure which most appropriately completes the series.



- (a)
- (b)
- (c)
- (d)

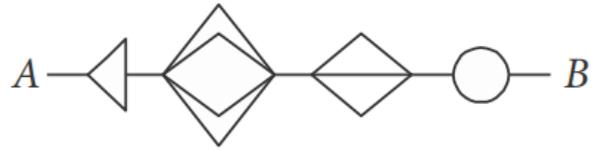
64. A dealer marks his goods so as to make 20% profit. But due to a fire in his warehouse, 5% of his goods are damaged, also 25% became soiled and hence, they had to be sold at half their cost. If he sells the remaining at the marked price, his net gain or loss is

- (a) 2% gain
- (b) 4% loss
- (c) 3% gain
- (d) 3.5% loss

65. Mrs Joshi's expenditure and savings are in the ratio of 3 : 2. Her income increases by 10%. Her expenditure also increases by 20%. How much percent do her savings change?

- (a) 7%
- (b) 6%
- (c) 5%
- (d) 11%

66. A mouse has to go from point A to B without retracing any part of the path, and never moving backwards. What is the total number of distinct paths that the mouse may take to go from A to B?



- (a) 11
- (b) 48
- (c) 72
- (d) 24

PASSAGE 12

Crick studied physics at University College, London, obtaining a science degree in 1937. During the war he worked as a scientist for the British Admiralty, In 1947 Crick left the Admiralty and went off to Cambridge to study biology. In 1954, he obtained a Ph.D.; his thesis was entitled "X-ray diffraction: polypeptides and proteins. " A critical influence in Crick's career was his-friendship, beginning in 1951, with James Watson; this relationship, in 1953. led to the proposal of the double-helical structure for DNA.

In 1976, Crick joined the Salk Institute for Biological Studies in California, where he became involved in studies on how the brain functions. Crick came to believe that the workings of the brain, as complicated as it surely is, is, however, discoverable. Crick was to conclude that in time a scientific model of consciousness would come about.

67. Which of the following statements is/are correct according to the passage?

1. James Watson studied in Cambridge.
2. Crick worked as a scientist for the British admiralty.

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

68. According to the passage, Crick
1. believed that a scientific model of consciousness would explain the workings of the brain.
 2. developed a scientific consciousness.
- 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

69. At the Salk Institute for Biological Studies in California :
1. Crick proposed the double-helical structure for DNA.
 2. Crick studied how the brain functions
- 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

70. To go from the engine to the last coach of his train of length 200 m, a man jumped from his train to another train moving on a parallel track in the opposite direction, waited till the last coach of his original train appeared and then jumped back. In how much time did he reach the last coach if the speed of each train was 60 km/h?
- (a) 5 seconds
 - (b) 6 seconds
 - (c) 10 seconds
 - (d) 12 seconds

71. In a museum, there were old coins with their respective years engraved on them, as follows:
1. 1857
 2. 1947
 3. 1947 AD
 4. 200 BC
- Identify the fake coins :
- (a) coin 1
 - (b) coin 4
 - (c) coins 1 and 2
 - (d) coin 3

72. One of the four — A, B, C and D committed a crime. A said, "I did it" B said, "I did not" C said, "B did it" D said, "A did it" If only one of them is liar, who is lying?
- (a) A
 - (b) B
 - (c) C
 - (d) D

Directions (73-74) : Read the following information and answer the three items that follow:

In a class, there are 5 different weights P, Q, R, S and T. S weighs three times as much as T. T weighs five times as much as Q. Q weighs twice as much as R. P weighs four times as much as Q.

73. How many weights are heavier than P?
- (a) 1
 - (b) 2
 - (c) 3
 - (d) 4
74. Which of the following can be total weight of R and T, if all weights are in kg?
- (a) 5700 kg
 - (b) 5729 kg
 - (c) 5722 kg
 - (d) 5720 kg

Directions (Q. No. 75-76) : Examine the information given below and answer the questions that follow.

- There is a group of 6 persons A, B, C, D, E and F seated around a circular table
- There are two females and four males in this group.
- Both the females are married to two of the males of the same group. The remaining two males are bachelors.
- A, a female, is sitting opposite to one of the bachelors, F. Her husband is not on either of her sides.
- Another female is sitting opposite to her husband, D.
- The two females are not sitting adjacently.
- On the immediate right of both the females is seated a bachelor.
- C has the same marital status as F while B is a father of two sons.

75. Who is the other female in the group?

- (a) E
- (b) C
- (c) D
- (d) Cannot be determined.

76. Moving clockwise, how many bachelors are there between A and her husband, if one starts from A?

- (a) Zero
- (b) 2
- (c) 1
- (d) Cannot be determined.

PASSAGE 13

Too much heat may lead to high rate of exhaustion that limits the productiveness of human beings. Low productivity would in turn lead to lower yield hence, slowing down the economic growth high temperatures lead, to a lot of heat being generated that may cause sun burns in most individual. Human beings would also face difficulty in the production of food. The ever changing climatic condition emanating from global warming serves as a setback to the agricultural economy. The weather condition would be unpredictable and farmers may suffer a big blow due to climatic variation changes. The elevated temperatures may lead to cracking of runways and sunken foundations in buildings. This may act as a negative impact towards the economic growth of a given nation.

In conclusion, global warming serves as a major setback in the development of the economy of a given nation. Industries are eloping up at a high rate and are posing a great challenge in environment ecosystem. The amount of pollution from industries is increasing which has left government agencies with strategic planning to be conducted. The increases in vehicles have also contributed to global warming and it has posed a challenge on better mitigation measures. The consequences of global warming may lead to the reduction in progress in the economy of the world, if proper mitigation strategies are not channeled in faster. Although some of the consequences about global warming seem to be favourable such as, summer hiking and high productivity due to high carbon dioxide present, the demerits seem to be

severe. This has called for stakeholders from various spheres of world to find ways of dealing with this crisis of global warming.

77. Consider the following statements

1. Excessive heat causes Sun burns in most individuals.
2. too much heat hampers the productiveness of human beings.
3. Much heat enriches the productivity of environment.

Which of the statement(s) given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) All of the above

78. Consider the following statements

1. Global warming serves as a major setback in the development of the economy of a nation.
2. The increase in vehicles has also contributed to global warming.

Which of the statement(s) given above is/are correct?

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

79. With reference to the passage, consider the following statements

1. global warming may cause a threat to agricultural economy.
2. Climatic variation changes are also a crucial factor in agriculture.
3. Government's policy is fallacious in this regard.

Which of the statement(s) given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) None of these

80. The passage is mainly/thematically centred on

- (a) the rising temperature and its consequences

- (b) the government initiative in disaster mitigation
- (c) people's approaches and involvement in environmental protection
- (d) None of above

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