

Symbiosis International University  
SNAP TEST 2011

Time: 120 minutes

Sunday December 18, 2011

SNAP ID

Please read the following instructions carefully. Do not open the seal until the Invigilator instructs you to open.

1. Answer OMR Sheet is contained inside the Test Booklet. Make sure that the Answer OMR Sheet is not damaged in any way.
2. Use only a blue/black ball point pen to darken circles on Answer OMR Sheet.
3. Write your SNAP-Id and darken appropriate circles in the Answer OMR Sheet.
4. The sequence of the sections differs in each Booklet series. However as mentioned in SNAP Test 2011 Bulletin, the Sections remain the same;

Sr. No	Sections	Total Marks	No. of questions
1	General English	40	40
2	Quantitative & Data Interpretation & Data Sufficiency	40	40
3	General Awareness: General Knowledge, Current Affairs, Business Scenario	40	40
4	Analytical & Logical Reasoning	60	30
	<b>Total</b>	<b>180</b>	<b>150</b>

5. In the Answer OMR Sheet, darken the circles against the question numbers indicating your answers. For example, if your answer is 2 for a question, then darken as follows:

1      2      3      4  
           

Darken only one circle. If you darken more than one circle against any question, you will score zero mark.

**Use Blue/Black ballpoint pen for filling the OMR sheet. DO NOT use pencil.**

6. For every wrong answer, you will score 25% negative marks.
7. Do not attempt to copy nor allow or help others in copying. Any malpractice will invalidate your candidature.
8. Return Answer OMR Sheet to the Invigilator before you leave the hall.
9. Do not leave the hall at any point of time without handing over your Test Booklet and Answer Sheet to the Invigilator.
10. You may take the question paper back with you.
11. Once you go out of the hall, re-entry is not permitted.

**Use this Page for Rough Work**

## Section I - General Awareness

**For all questions in this section, correct answers carry 1 mark each.**

1. "Swayamsidha" is a scheme launched by the Government of India to help
  - (1) School Children only
  - (2) Health workers only
  - (3) Senior citizen without any regular income
  - (4) Women only
2. What is 'Share swap'?
  - A. A business takeover in which acquiring company uses its own stock to pay for the acquired company.
  - B. When a company uses its own share to get some short term loan for working capital requirement
  - C. When companies are require to float a new issue to earn capital for their expansion programmes, each shareholder gets some additional preferential share. The process is known as Share Swap.
  - (1) Only A
  - (2) Only A and B
  - (3) Only C
  - (4) None of the above
3. Regarding "carbon credits" which of the following statements is not correct?
  - (1) The carbon credits system was ratified in conjunction with Kyoto Protocol
  - (2) Carbon credits are awarded to those countries or groups who have reduced the green house gases below their emission quota
  - (3) The goal of carbon credit system is to reduce carbon dioxide emission
  - (4) Carbon credits are traded at a price fixed from time to time by the United Environment Programme
4. Both Foreign Direct Investment (FDI) and Foreign Institutional Investor (FII) are related to investment in a country. Which one of the following statements best represents an important difference between the two?
  - (1) FII helps bring better management skills and technology while FDI only bring capital
  - (2) FII helps in increasing capital availability in general, while FDI only targets specific sectors
  - (3) FDI flows only into secondary markets while FII targets primary markets
  - (4) FII is considered to be more stable than FDI
5. In context of global oil prices, "Brent crude oil" is frequently referred to in the news. What does this term imply?
  - 1) It is a major classification of crude oil
  - 2) It is sourced from North sea
  - 3) It does not contain sulphur

Which of the statement given above is /are correct?

  - (1) 2 only
  - (2) 1 and 2 only
  - (3) 1 and 3 only
  - (4) 1, 2 and 3
6. With reference to "Look East Policy" of India consider the following statements:
  1. India wants to establish itself as an important regional player in the East Asian affairs.
  2. India wants to plug the vacuum created by the termination of Cold war.
  3. India wants to restore the historical and cultural ties with its neighbors in Southeast and East Asia.

Which of the statements given above is/are correct?

  - (1) 1 only
  - (2) 1 and 3 only
  - (3) 3 only
  - (4) 1, 2 and 3
7. Recently "oilzapper" was in news. What is it?
  - (1) It is eco friendly technology for the remediation of oily sludge and oil spills
  - (2) It is the latest technology developed under sea oil exploration
  - (3) It is genetically engineered high biofuel - yielding maize variety
  - (4) It is the latest technology to control accidentally caused flames from oil wells.

8. Why is the offering of “teaser loans” by commercial banks a cause of economic concern?

1. The teaser loans are considered to be an aspect of sub – prime lending and banks may be exposed to the risk of defaulters in future.
2. The teaser loans are given to inexperienced entrepreneurs to set up manufacturing or export units.

Which of the statements given above is/are correct?

- (1) 1 only                      (2) 2 only  
(3) Both 1 and 2              (4) Neither 1 nor 2

9. Why is the government of India disinvesting its equity in the Central Public Sector Enterprises (CPSE)?

1. The Government intends to use the revenue earned from disinvestment mainly to pay the External debt
2. The Government no longer intends to retain the management control of CPSEs

Which of the statements given above is/are correct?

- (1) 1 only                      (2) 2 only  
(3) Both 1 and 2              (4) Neither 1 nor 2

10. The book “Unto this Last” which influenced Gandhiji, was authored by

- (1) Boris Yeltsin              (2) Pushkin  
(3) Ruskin Bond              (4) John Ruskin

11. Besides USA, India has signed, with which of the following countries the agreement being named as “Cooperation Agreement on the development of Peaceful Uses of Nuclear Energy”?

- (1) Italy                          (2) Germany  
(3) France                      (4) Australia

12. Which of the following country is not a member of the Nuclear Suppliers Group (NSG)?

- (1) Russia                      (2) USA  
(3) Italy                          (4) Iran

13. Many times we read in the newspaper that several companies are adopting the FCCBs route to raise capital. What is the full form of FCCB?

- (1) Foreign Currency Convertible Bonds  
(2) Foreign Convertible Credit Bonds  
(3) Financial Consortium and Credit Bureau  
(4) None of these

14. As per the reports published in various newspapers, RBI has asked banks to make plan to provide banking services in villages having population of 2000. This directive issued by the RBI will fall in which of the following categories?

- (1) Plan for financial inclusion  
(2) Efforts to meet Priority sector lending  
(3) Extension of Internet and Branchless banking.  
(4) None of these

15. Which of the following is/ are treated as artificial currency?

- (1) ADR  
(2) GDR  
(3) Both ADR and GDR  
(4) SDR

16. Which of the following terms indicates a mechanisms used by commercial banks to provide credit to the Government?

- (1) Cash Credit Ratio  
(2) Debit Service Obligation  
(3) Liquidity Adjustment Facility  
(4) Statutory Liquidity Ratio

17. Who among the following was not part of the drafting committee of the Lokpal Bill?

- (1) Salman Khurshid (2) Anna Hazare  
(3) Arvind Kejriwal (4) Kiran Bedi

18. Criminal procedure is a subject of which of the following lists?

- (1) State List                      (2) Concurrent List  
(3) Union List                      (4) Both 1 and 3

19. One of the world’s biggest Uranium resources was recently found in

- (1) Andhra Pradesh (2) Maharashtra  
(3) Jharkhand (4) Uttarakhand
- 20.** Which of the following was the first venture of Kishore Biyani
- (1) Pantaloons (2) Big Bazaar  
(3) Central (4) Future Capital Holdings
- 21.** Who among the following is often referred to as father of India's "Green Revolution"?
- (1) Dr. Verghese Kurien  
(2) Dr. Amrita Patel  
(3) M. S. Swaminathan  
(4) Gurudev Khush
- 22.** Who among the following directed the movie Peepli Live?
- (1) Ashutosh Gowariker  
(2) Kiran Rao  
(3) Anusha Rizvi  
(4) Seema Chisti
- 23.** The point at which solid, liquid and gaseous forms of a substance co-exist is called
- (1) sublimation (2) distillation point  
(3) triple point (4) melting point
- 24.** The limit beyond which the stars suffer internal collapse is called the
- (1) Raman Effect (2) Chandrasekhar limit  
(3) Aurora Borealis (4) Quasar Zone
- 25.** UNDP reports publishes every year the Human Development Index. Which of the following is not a criteria used to measure the Human Development Index?
- (1) Health (2) Education  
(3) Living Standards (4) Human Rights
- 26.** The software company I-flex Solutions was originally a division of which famous financial services company?
- (1) Citicorp (2) ICICI  
(3) HSBC (4) ABN Amro Bank
- 27.** Which of the following is not a member of SAARC?
- (1) Bhutan (2) Bangladesh  
(3) Burma (4) Maldives
- 28.** Which article of the Indian constitution recognizes Hindi in Devanagari Script as the official language of India?
- (1) Art 345 (2) Art 343  
(3) Art 348 (4) Art 334
- 29.** India has finally woken up to the needs of the country's elderly. With the number of people in the 60 - plus age group in India expected to increase to 100 million in 2013 and to 198 million in 2030, the health ministry is all set to roll out the
- (1) National Programme for Health care of the Elderly  
(2) National Programme for Senior Citizens  
(3) National Programme for Old Aged  
(4) Rashtriya Vriddha Swasthya Yojana
- 30.** Which of the following statements is/are correct?
1. Non-resident Indians (NRIs) can now cast votes in their home constituencies in India.  
2. The NRI can cast his vote by postal balloting.
- (1) 1 only (2) 2 only  
(3) Both 1 and 2 (4) Neither 1 nor 2
- 31.** In a landmark move, which of these State governments has set up a Savarna Aayog, a commission to identify the deprived and underprivileged families among upper castes?
- (1) Uttar Pradesh (2) Bihar  
(3) Madhya Pradesh (4) Rajasthan
- 32.** Which of these countries has announced one billion US dollar aid for the reconstruction of Nalanda University?
- (1) Japan (2) Singapore  
(3) Malaysia (4) China

33. What is the name of the in-house magazine to be published by the Indian Railways, to be distributed to the passengers on high end trains?
- (1) Rail Vishwa (2) Rail Bandhu  
(3) Rail Mail (4) Rail Patra
34. The government, in February 2011, set up a task force to create a way to provide direct subsidies to the ultimate beneficiaries on petroleum working gas and fertilizers. The task force will be headed by -
- (1) Nandan Nilekani (2) Apoorva Sinha  
(3) Sangam Chitra (4) All of these
35. Which of these countries has been added in the 'BRIC' (Brazil - Russia - India - China) groupin of emerging economies?
- (1) South Korea (2) Venezuela  
(3) South Africa (4) Malaysia
36. Which of the following countries was the host of First Asian Yoga Championship held recently?
- (1) Thailand (2) Cambodia  
(3) Vietnam (4) Laos
37. Who among the following has been defeated by Saina Nehwal, who has won the Swiss Open Grand Prix Gold title recently, becoming the First Indian to do so?
- (1) Ji Hyun Sung  
(2) Wang Lin  
(3) Kamilla Rytter Juhl  
(4) Shinta Mulia Sari
38. On March 6, 2011, the Supreme Court held that has ample powers to enact legislation with respect to extra-territorial aspects for the security of India?
- (1) President (2) Prime Minister  
(3) Supreme Court (4) Parliament
39. Which country has appointed Brigadier General Ravinder Singh as its next Army chief, the first Sikh in nearly 30 years to be given the force's batton
- (1) Thailand (2) Singapore  
(3) Malaysia (4) Indonesia
40. Anant Pai, better known as 'Uncle Pai', who recently died was the creator of which among the following comic series?
- (1) Chacha Chaudhary  
(2) Chandamama  
(3) Indrajaa  
(4) Amar Chitra Katha

## Section II – Analytical & Logical Reasoning

**For all questions in this section, correct answers carry 2 mark each.**

**Directions for questions 41 and 42:** Each question consists of a set of numbered statements. Assume that each one of these statements is individually true. Each of the four choices consists of a subset of these statements. Choose the subset as your answer where the statements therein are logically consistent among themselves:

**41.**

- A. Only if the water level in the coastal areas rises, then the people change their lifestyle.
- B. People change their lifestyle only if they are rewarded.
- C. If people are rewarded, then they will not change their lifestyle.
- D. If the temperature rises, then the water level in the coastal areas rises.
- E. Whenever the water level in the coastal area rises, then the temperature rises.
- F. Unless the people change their lifestyle, temperature rises.
- G. People are rewarded.
- H. Water level in the coastal areas does not rise.

- (1) C, D, F, G and H    (2) G, F, D, B and H  
(3) E, F, G, H and B    (4) None of the above

**42.**

- A. If Kumar sings, then the audiences sleep.
- B. If Kumar sings, then the audiences dance.
- C. Unless audience do not dance, the concert will be successful.
- D. Only if the audience dance, the concert will be successful.
- E. If Vina dances, then Kumar sings.
- F. Kumar sings only if Vina dances.
- G. Vina dances
- H. The concert is successful.

- (1) C, F, G, B and H    (2) A, C, F, G and H  
(3) E, C, G, B and H    (4) Both (2) and (3)

**Directions for questions 43 to 45:** These questions are based on the data given below.

There are only four members of a family viz., A, B, C and D and there is only one couple among them. When asked about their relationships, following were their replies:

- a. A: B is my son. D is my mother.
- b. B: C is my wife. Dis my father.
- c. C: D is my mother – in – law. A is my daughter.
- d. D: A is my grand – daughter. B is my daughter – in – law.

**43.** Who always speaks the truth?

- (1) A                      (2) B                      (3) C                      (4) D

**44.** How is B related to C?

- (1) Father                      (2) Mother  
(3) Wife                      (4) Husband

**45.** Which of the following statements must be true?

- (1) A's grandmother alternates between the truth and lie.
- (2) C's wife always speaks the truth.
- (3) A's grandfather always speaks the truth.
- (4) B's daughter always tells lies.

**Directions for questions 46 to 48:** These questions are based on the following information.

A cube of 7cm × 7cm × 7cm is kept in the corner of a room and painted in three different colours, each face in one colour. The cube is cut into 343 smaller but identical cubes.

**46.** How many smaller cubes do not have any face painted?

- (1) 125                      (2) 180  
(3) 144                      (4) 216

**47.** How many smaller cubes have exactly one colour on them?

- (1) 108                      (2) 72                      (3) 36                      (4) 24

**48.** How many smaller cubes have at the most two faces painted?

- (1) 343                      (2) 342  
(3) 256                      (4) 282

**Directions for questions 49 and 50:**

Amit was driving in New Town, where all roads either north – south or east – west forming a grid. Roads were at a distance of 1 km from each other in parallel.

**49.** Amit started at the intersection of streets no. 7 and 8. He drove 3 km north, 3 km west and 4 km south. Which further route could bring him back to his starting point?

- I. 3 km east, then 2 km south  
II. 1 km north, then 3 km east  
III. 1 km north, then 2 km west

- (1) I only                      (2) II only  
(3) I and II only              (4) II and III only

**50.** After driving as stated in question no. 49 above, Amit did not return to his starting point, but instead drove 4 km east and 1 km north. How far is he from his starting point?

- (1) 5 km      (2) 4 km      (3) 1 km      (4) 7 km

**Directions for questions 51 to 55:** Refer to the following data and answer the questions that follow:

A numerical machine accepts two values X and Y. Then it updates these values as  $X = XY$  and  $Y = Y + 1$  in every step. The machine stops at  $X \geq N$ .

**51.** For  $X = 3$ ,  $Y = 2$  and  $N = 100$ , how many steps are performed before the machine stops?

- (1) 2              (2) 3              (3) 4              (4) 5

**52.** In the above question (51), what is the final value of X?

- (1) 6              (2) 20              (3) 72              (4) 360

**53.** In the above question (51), what is the final value of Y?

- (1) 4              (2) 5              (3) 6              (4) 20

**54.** If the value of N is changed to 500, what would be the final value of X?

- (1) 360                      (2) 500

- (3) 560                      (4) 2160

**55.** If  $X = 2$  and  $Y = 3$ , what should be the minimum value of N such that final value of Y is 7?

- (1) 300                      (2) 360  
(3) 720                      (4) 860

**Directions for questions 56 to 60:** Refer to the following statements and answer the questions:

Seven students Priya, Ankit, Raman, Sunil, Tony, Deepak and Vicky take a series of tests. No two students get similar marks. Vicky always scores more than Priya. Priya always scores more than Ankit. Each time either Raman scores the highest and Tony gets the least, or alternatively Sunil scores the highest and Deepak or Ankit scores the least.

**56.** If Sunil is ranked sixth and Ankit is ranked fifth, which of the following can be true?

- (1) Vicky is ranked first or fourth  
(2) Raman is ranked second or third  
(3) Tony is ranked fourth or fifth  
(4) Deepak is ranked third or fourth

**57.** If Raman gets the highest, Vicky should be ranked not lower than:

- (1) Second                      (2) Third  
(3) Fourth                      (4) Fifth

**58.** If Raman is ranked second and Ankit is ranked first, which of the following must be true?

- (1) Sunil is ranked third  
(2) Tony is ranked third  
(3) Priya is ranked sixth  
(4) None of these.

**59.** If Sunil is ranked second, which of the following can be true?

- (1) Deepak gets more than Vicky  
(2) Vicky gets more than Sunil  
(3) Priya gets more than Raman  
(4) Priya gets more than Vicky

**60.** If Vicky is ranked fifth, which of the following must be true?

- (1) Sunil scores the highest
- (2) Raman is ranked second
- (3) Tony is ranked third
- (4) Ankit is ranked second

**61.** In 2002, according to a news poll, 36% of the voters had leaning towards party "Y". In 2004, this figure rose to 46%. But in another survey the percentage was down to 40%. Therefore, the party "Z" is likely to win the next election. Which of the following, if true, would seriously weaken the above conclusion?

- (1) People tend to switch their votes at the last minute.
- (2) It has been showed that 85% of the voters belonging to the party "Y" vote in an election as compared to 80% of the voters belonging to party "Z".
- (3) 35% of people favour party "Z".
- (4) No one can predict how people will vote.

**62.** Inflation rose by 5% over the second quarter, by 4% during the first quarter and higher than 3% recorded during the same time last year. However, the higher price index did not seem to alarm National stock Index as stock prices remain steady.

Which of the following, if true, could explain the reaction of National stock Index?

- (1) RBI announced that it will take necessary corrective measures
- (2) Stock prices were steady because of a fear that inflation would continue.
- (3) Economists warned that inflation would continue.
- (4) Much of the quarterly increase in the price level was due to a summer drought effect on food price.

**Direction for question 63:** Pick up the appropriate analogy.

**63.** Birth : Dirge

- (1) Sunset : sunrise
- (2) security check : arrival
- (3) marriage : alimony
- (4) welcome address : vote of thanks

**64.** Beautiful beaches attract people, no doubt about it. Just look at this city's beautiful beaches, which are among the most overcrowded beaches in the state.

Which of the following exhibits a pattern of reasoning most similar to the one exhibited in the argument above?

- (1) Moose and bear usually appear at the same drinking hole at the same time of day. Therefore, moose and bear must grow thirsty at about the same time.
- (2) Children who are scolded severely tend to misbehave more often than other children. Hence if a child is not scolded severely that child is less likely to misbehave.
- (3) This software programme helps increase the work efficiency of its users. As a result, these users have more free time for other activities.
- (4) During weather my dog suffers from fleas more than during cooler weather. Therefore, fleas must thrive in a warm environment.

**65.** No national productivity measures are available for underground industries that may exist but remain unreported. On the other hand, at least some industries that are run entirely by self – employed industrialists are included in national productivity measures.

From the information given above, it can be validly concluded that

- (1) there are at least some industries run entirely by self – employed industrialists that are underground industries
- (2) no industries that are run entirely by self – employed industrialists operate underground.
- (3) there are at least some industries other than those run entirely by self – employed industrialists that are underground industries.
- (4) there are at least some industries run entirely by self – employed industrialists that are not underground industries

66. Nilu has never received a violation from the Federal Aviation Administration during her 16 – year flying career. Nilu must be a great pilot.

Which of the following can be said about the reasoning above?

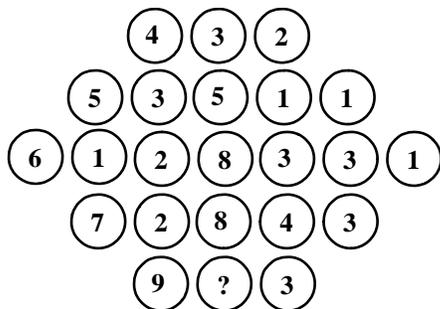
- (1) The definitions of the terms create ambiguity
- (2) The argument uses circular reasoning
- (3) The argument is built upon hidden assumptions
- (4) The argument works by analogy

67. Many people argue that the death penalty deters murder. However, the notorious killer Tom Hanks deliberately moved to a state that imposes the death penalty just before embarking on a series of ferocious murders. Thus, it seems clear that the existence of the death penalty does not serve as a deterrent to murder.

The argument above may best be characterized as:

- (1) an appeal to emotion.
- (2) a flawed analogy.
- (3) a general conclusion based on a specific example.
- (4) circular reasoning.

68. What number should replace the question mark?



- (1) 1
- (2) 4
- (3) 12
- (4) 6

69. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than lawyers who do not advertise. Therefore if the state removes any of its current restrictions, such as the one against

advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements above are true, which of the following must be true?

- (1) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
- (2) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
- (3) If the restrictions against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
- (4) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.

70. Which of the following, if true, would most seriously weaken the argument concerning overall consumer legal costs?

- (1) The state is unlikely to remove all of the restrictions that apply solely to the advertising of legal services.
- (2) Lawyers who do not advertise generally provide legal services of the same quality as those provided by lawyers who do advertise.
- (3) Most lawyers who now specify fee arrangements in their advertisements would continue to do so even in the specification were not required.
- (4) Most lawyers who advertise specific services do not lower their fees for those services when they begin to advertise.

### Section III – Quantitative

**For all questions in this section, correct answers carry 1 mark each.**

71. A train travelling at 36 kmph crosses a platform in 20 seconds and a man standing on the platform in 10 seconds. What is the length of the platform in meters?
- (1) 240 meters      (2) 100 meters  
(3) 200 meters      (4) 300 meters
72. By walking at  $\frac{4}{5}$ th of his usual speed, a man reaches office 10 minutes later than usual. What is his usual time?
- (1) 20 min      (2) 40 min  
(3) 30 min      (4) 50 min
73. A man and a woman 81 miles apart from each other, start travelling towards each other at the same time. If the man covers 5 miles per hour to the women's 4 mile per hour, how far will the woman have travelled when they meet?
- (1) 27      (2) 36  
(3) 45      (4) None of these
74. Two people were walking in opposite directions. Both of them walked 6 miles forward then took right and walked 8 miles. How far is each from starting positions?
- (1) 14 miles and 14 miles  
(2) 10 miles and 10 miles  
(3) 6 miles and 6 miles  
(4) 12 miles and 12 miles
75. Four men and three women can do a job in 6 days. When 5 men and 6 women work on the same job, the work gets completed in 4 days. How long will 2 women and 3 men take to do the job?
- (1) 18      (2) 10      (3) 8.3      (4) 12
76. Ram completes 60% of a task in 15 days and then takes the help of Rahim and Rachel. Rahim is 50% as efficient as Ram is and Rachel is 50% as efficient as Rahim is. In how many more days will they complete the work?
- (1)  $\frac{121}{3}$       (2)  $\frac{51}{7}$       (3)  $\frac{40}{7}$       (4)  $\frac{65}{7}$
77. A and B can do a piece of work in 21 and 24 days respectively. They start the work together and after some days A leaves the work and B completes the remaining work in 9 days. After how many days did A leave?
- (1) 5      (2) 7      (3) 8      (4) 6
78. A trader makes a profit equal to the selling price of 75 articles when he sold 100 of the articles. What % profit did he make in the transaction?
- (1) 33.33%      (2) 75%  
(3) 300%      (4) 150%
79. In a 100 M race, if A gives B a start of 20 meters, then A wins the race by 5 seconds. Alternatively, if A gives B a start of 40 meters the race ends in a dead heat. How long does A take to run 200 M?
- (1) 10 seconds      (2) 20 seconds  
(3) 30 seconds      (4) 40 seconds
80. A 4 cm cube is cut into 1cm cubes. What is the percentage increase in the surface area after such cutting?
- (1) 4%      (2) 300%  
(3) 75%      (4) 400%
81. A number G236G0 can be divided by 36 if G is:
- (1) 8  
(2) 6  
(3) 1  
(4) More than one values are possible.
82. Amit can do a work in 12 days and Sagar in 15 days. If they work on it together for 4 days, then the fraction of the work that is left is:
- (1)  $\frac{3}{20}$       (2)  $\frac{3}{5}$   
(3)  $\frac{2}{5}$       (4)  $\frac{2}{20}$

**83.** A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. If the area of the lawn is 2109 sq. m, then what is the width of the road?

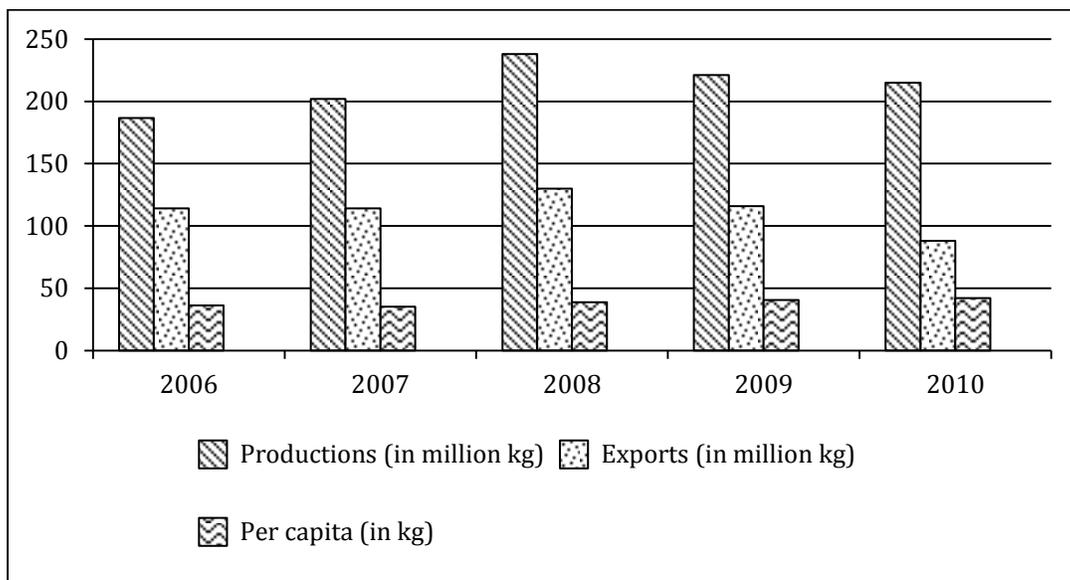
- (1) 2.91 m                      (2) 3 m  
(3) 5.82 m                      (4) None of these

**84.** A bag contains 5 white and 3 black balls; another bag contains 4 white and 5 black balls. From any one of these bags a single draw of two balls is made. Find the probability that one of them would be white and other black ball.

- (1) 275/504                      (2) 5/18  
(3) 5/9                              (4) None of these

**Directions for questions 85 to 88:** Answer the questions on the basis of the information given below.

The following bar graph gives the production, exports and per capita consumption of rice in country A, for the five years from 2006 to 2010.



Consumption = Production - Exports

Per Capita Consumption = (Consumption) ÷ (Population)

**85.** In which year was the percentage increase in the consumption of rice over the previous year, the highest?

- (1) 2007                      (2) 2008  
(3) 2009                      (4) 2010

**87.** The ratio of exports to consumption in the given period was the highest in the year

- (1) 2006                      (2) 2007  
(3) 2008                      (4) 2009

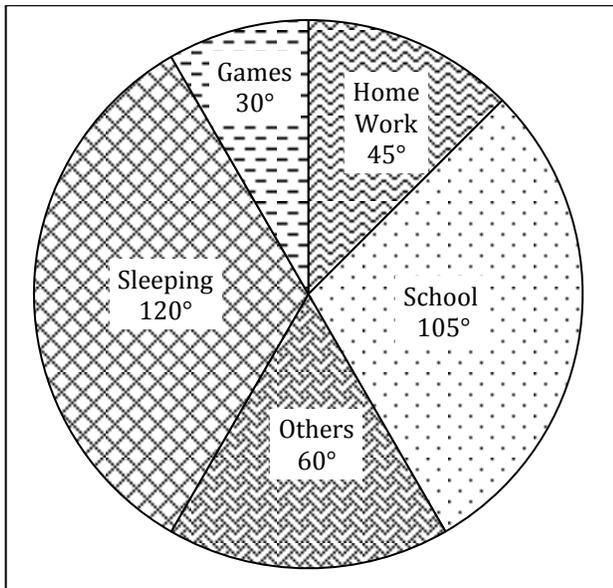
**86.** What is the population of country A in the year 2008 (in million)?

- (1) 2.64 million                      (2) 2.72 million  
(3) 2.79 million                      (4) 2.85 million

**88.** In which of the given years was the population of country A, the highest?

- (1) 2007                      (2) 2008  
(3) 2009                      (4) 2010

**Directions for questions 89 to 93:** The following pie chart shows the hourly distribution (in degrees) of all the major activities of a student.



**89.** The percentage of time which he spends in school is:

- (1) 38%                      (2) 30%  
(3) 40%                      (4) 25%

**90.** How much time (in per cent) does he spend in games in comparison to sleeping?

- (1) 30%                      (2) 40%  
(3) 25%                      (4) None of these

**91.** If he spends the time in games equal to the home work and remains constant in other activities, then the percentage decrease in time of sleeping:

- (1) 15%                      (2) 12.5%  
(3) 20%                      (4) None of these

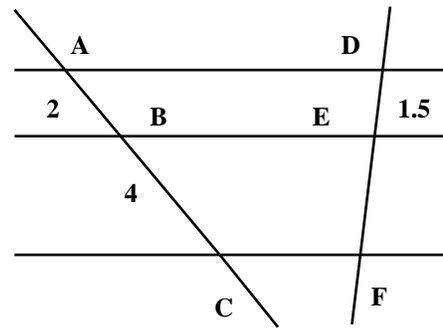
**92.** What is the difference in time (in hours) spent in school and in home work?

- (1) 2                      (2) 3                      (3) 4                      (4) 8

**93.** If he spends  $\frac{1}{3}$ rd time of homework in Mathematics then the number of hours he spends in rest of the subjects in home work:

- (1) 1                      (2) 2                      (3) 3                      (4) 4

**94.** Three parallel lines are cut by two transversals as shown in the given figure. If  $AB = 2$  cm,  $BC = 4$  cm and  $DE = 1.5$  cm, then the length of  $EF$  is:



- (1) 2 cm                      (2) 3 cm  
(3) 3.5 cm                      (4) 4 cm

**95.**  $\log_{10} 10 + \log_{10} 10^2 + \dots + \log_{10} 10^n$

- (1)  $n^2 + 1$   
(2)  $n^2 - 1$   
(3)  $\frac{(n^2 + n)}{2} \cdot \frac{n(n + 1)}{3}$   
(4)  $\frac{n^2 + n}{2}$

**96.** The sum of a number and its reciprocal is thrice the difference of the number and its reciprocal. The number is:

- (1)  $\pm \sqrt{2}$                       (2)  $\pm \frac{1}{\sqrt{2}}$   
(3)  $\pm \frac{1}{\sqrt{3}}$                       (4)  $\pm \sqrt{3}$

**97.** The total number of Natural numbers that lie between 10 and 300 and are divisible by 9 is

- (1) 32                      (2) 30                      (3) 33                      (4) 34

**98.** If  ${}^nC_x = 56$  and  ${}^nP_x = 336$ , find  $n$  and  $x$ .

- (1) 7, 3                      (2) 8, 4  
(3) 8, 3                      (4) 9, 6

**99.** One side of an equilateral triangle is 24 cm. The midpoints of its sides are joined to form another triangle whose midpoints are in turn joined to form still another triangle. This process continues indefinitely. Find the sum of the perimeters of all

the triangles.

- (1) 144 cm                      (2) 72 cm  
(3) 536 cm                      (4) 676 cm

**100.** The probability that a leap year selected at random contains either 53 Sundays or 53 Mondays, is:

- (1)  $17/53$                       (2)  $1/53$   
(3)  $3/7$                           (4) None of these

**101.** Find the intercepts made by the line  $3x + 4y - 12 = 0$  on the axes:

- (1) 2 and 3                      (2) 4 and 3  
(3) 3 and 5                      (4) None of these

**102.** The average of 4 distinct prime numbers  $a, b, c, d$  is 35, where  $a < b < c < d$ .  $a$  and  $d$  are equidistant from 36 and  $b$  and  $c$  are equidistant from 34 and  $a, b$  are equidistant from 30 and  $c$  and  $d$  are equidistant from 40. The difference between  $a$  and  $d$  is:

- (1) 30                              (2) 14  
(3) 21                              (4) Cannot be determined

**103.** Ramsukh bhai sells rasgulla (a favourite Indian sweets) at Rs. 15 per kg. A rasgulla is made up of flour and sugar in the ratio 5 : 3. The ratio of price of sugar and flour is 7 : 3 (per kg). Thus he earns  $66 \frac{2}{3}$  profit. What is the cost price of sugar?

- (1) Rs. 10/kg                      (2) Rs. 9/kg  
(3) Rs. 18/kg                      (4) Rs. 14/kg

**104.** A reduction of 20% in the price of sugar enables a person to purchase 6 kg more for Rs. 240. What is the original price per kg of sugar?

- (1) Rs. 10/kg                      (2) Rs. 8/kg  
(3) Rs. 6/kg                        (4) Rs. 5/kg

**105.** A solid sphere is melted and recast into a right circular cone with a base radius equal to the radius of the sphere. What is the ratio of the height and radius of the cone so formed?

- (1) 4 : 3                              (2) 2 : 3  
(3) 3 : 4                              (4) None of these

**106.** The speed of scooter, car and train are in the ratio of 1 : 4 : 16. If all of them cover equal distance then the ratio of time taken/velocity for each of the vehicle is:

- (1) 256 : 16 : 1                      (2) 1 : 4 : 16  
(3) 16 : 4 : 1                        (4) 16 : 1 : 4

**107.** B is twice efficient as A and A can do a piece of work in 15 days. A started the work and after a few days B joined him. They completed the work in 11 days, from the starting. For how many days did they work together?

- (1) 1 day                              (2) 2 days  
(3) 6 days                              (4) 5 days

**108.** A, B, C and D purchased a restaurant for Rs. 56 lakhs. The contribution of B, C and D together is 460% that of A, alone. The contribution of A, C and D together is 366.66% that of B's contribution and the contribution of C is 40% that of A, B and D together. The amount contributed by D is:

- (1) 10 lakhs                              (2) 12 lakhs  
(3) 16 lakhs                              (4) 18 lakhs

**109.** The salary of Raju and Ram is 20% and 30% less than the salary of Saroj respectively. By what percent is the salary of Raju more than the salary of Ram?

- (1) 33.33%                              (2) 50%  
(3) 15.18%                              (4) 14.28%

**110.** The radius of a wire is decreased to one - third and its volume remains the same. The new length is how many times the original length?

- (1) 2 times                              (2) 4 times  
(3) 5 times                              (4) 9 times

## Section IV – General English

**For all questions in this section, correct answers carry 1 mark each.**

**Directions for questions 111 to 116:** Read the following passage and answer the questions that follow.

### **D. H. Lawrence – 1885 – 1930: The Supreme Triumph**

For man, the vast marvel is to be alive. For man as for flower and beast and bird, the supreme triumph is to be most vividly, most perfectly alive. Whatever the unborn and the dead may know, they cannot know the beauty, the marvel of being alive in the flesh. The dead may look after the afterwards. But the magnificent here and now of life in the flesh is ours, and ours alone, and ours only for a time. We ought to dance with rapture, that we should be alive and in the flesh, and part of the living, incarnate cosmos. I am part of the sun as my eye is the part of me. That I am part of the earth my feet below know the perfectly, and my blood is part of the sea. My soul knows that I am a part of the human race, my soul is an inorganic part of the great human soul, as my spirit is a part of my nation. In my own very self, I am part of my family. There is nothing of me that is alone and absolute except my mind, and we shall find that the mind has no existence by itself, it is only the glitter of the sun on the surface of the waters. – Apocalypse, 1931.

**111.** By *triumph* the author means -

- (1) sin                      (2) loss  
(3) sorrow                (4) victory

**112.** When the dead look after the afterwards the living should look at life

- (1) forever  
(2) for some months  
(3) for only a short while  
(4) in the past

**113.** By *rapture* the author means an emotion involving great

- (1) trepidation            (2) thrill  
(3) fear                    (4) joy

**114.** By the last line “It .....waters”, the author means that the mind is only

- (1) a mirage                (2) an illusion  
(3) magic                    (4) a reflection

**115.** The tone of this passage is

- (1) social                    (2) moral  
(3) reflective                (4) philosophical

**116.** The most suitable title for this passage would be -

- (1) The Surface of the Waters  
(2) My Mind  
(3) The Human Race  
(4) Alive and Kicking

**Directions for questions 117 to 119:** Choose the correct option.

**117.** The repetition of messages or the use of superfluous expressions is called .....

- (1) redundancy            (2) hyperbole  
(3) alliteration              (4) allegory

**118.** Ink : pen : paper

- (1) watch : dial : strap  
(2) book : paper : words  
(3) farmer : plough : field  
(4) colour : brush : canvas

**119.** realia

- (1) theoretical constructs  
(2) fabricated examples  
(3) objects from real life  
(4) based on reality

**Directions for questions 120 to 125:** Choose the grammatically correct option from the following.

**120.**

- (1) ‘Are these gloves belonging to you?’ she asked.  
(2) ‘Does this gloves belong to you?’ she asked.  
(3) ‘Do these gloves belongs to you?’ she asked.

- (4) 'Do these gloves belong to you?' she asked.

**121.**

- (1) I live in a house in a street in the countryside. The street is called "Bear Street" and the house is old – more than 100 years old!
- (2) I live in the house in the street countryside. The street is called "Bear Street" and the house is old – more than 100 years old!
- (3) I live in a house in the street in the countryside. The street is called "Bear Street" and the house is old – more than 100 years old!
- (4) I live in a house in a street in the countryside. The street is called "Bear Street" and a house is old – more than 100 years old!

**122.**

- (1) The teachers will be able to visit our schools and compare our teaching methods to their own.
- (2) The teachers will be able to pay a visit to our schools and compare teaching methods for their own.
- (3) The teachers will be able to visit our schools and compare our teaching methods with their own.
- (4) The teachers will be able to visit our school and compare their teaching method with their own.

**123.**

- (1) Could you give me the amount that you filled out in the check which was sent?
- (2) Could you give me the amount what you filled out in the check you sent?
- (3) Could you give me the amount for which you filled out in the check you sent?
- (4) Could you give me the amount wherein you filled out in the check you sent?

- 124.** (1) I have completed the work yesterday.  
(2) I did completed the work yesterday.  
(3) I have had completed the work yesterday.  
(4) I completed the work yesterday.

**125.**

- (1) The train couldn't stop in time and crashed with the truck.
- (2) The train couldn't stop in time and crashed into the truck.
- (3) The train couldn't stop in time and crashed against the truck.
- (4) The train couldn't stop in time and crashed before the truck.

**Directions for questions 126 to 130:** Choose the correct synonymous word or description for each italicized word.

The Jan Lokpal Bill, also *referred to* (126) as the citizens' ombudsman bill, is a proposed *independent* (127) anti – corruption law in India. Anti – corruption social activists proposed it as a more effective improvement on the original Lokpal Bill, which is currently being proposed by the government of India. The Jan Lokpal Bill aims to effectively *deter* (128) corruption, redress *grievances* (129) of citizens, and protect whistle – blowers. If made into law, the bill would create an independent *ombudsman* (130) body called the Lokpal. It would be empowered to register and investigate complaints of corruption against politicians and bureaucrats without prior government approval. (Source: Wikipedia)

- 126.** (1) described as (2) included in  
(3) supported for (4) reformed as

- 127.** (1) self – centered (2) impartial  
(3) self – seeking (4) self - possessed

- 128.** (1) swell (2) prevent  
(3) propel (4) lucubrate

- 129.** (1) complaints (2) dishonesty  
(3) committees (4) opinions

**130.**

- (1) a government appointee who investigates complaints by private persons against bureaucrats and/or politicians.
- (2) a government appointee who investigates complaints by government against common citizens.
- (3) a government appointee who investigates complaints by citizens against citizens.

- (4) a government appointee who investigates complaints by government against government officials.

**Directions for questions 131 to 134:** In the following sentences, one word or a phrase is used wrongly. Choose the word that must be changed or modified or deleted to make the sentence correct. There are sentences without any errors too.

- 131.** The committee **came to** a decision **to discuss** in detail **about** assorted problems that people have been facing for **a long time**.

- (1) came to                      (2) to discuss  
(3) about                        (4) a long time

- 132.** I know you must not **see eye to eye** with the philosophy of Ramkrishna but you must admit that he **had had** tremendous **influence over** a great many followers.

- (1) see eye to eye    (2) had had  
(3) influence over    (4) no error

- 133.** The Principal **inquired with** the students if they would like their teacher **to repeat** the lesson **again**.

- (1) inquired with    (2) to repeat  
(3) again              (4) no error

- 134.** One of the **security guards** rushed **forward**; unlocked the gate and asked whether I had anything **objectionable**.

- (1) security guards    (2) forward  
(3) objectionable    (4) no error

**Directions for questions 135 and 136:** Rearrange the following sentence fragment (P, Q, R and S) to make meaningful sentences.

- 135.** I always told them ..... and consideration for me.

- P. How for me she  
Q. Always exuded warmth  
R. Was like a family's  
S. Elder and how she has

- (1) PRSQ                      (2) PQSR  
(3) PRQS                      (4) SQPR

- 136.** A year or ..... foreign languages

- P. I picked up a liking for learning  
Q. the largest urban area and primary  
R. so after leaving Bangkok  
S. city of Thailand and a place of unique beauty

- (1) RPQS                      (2) RQSP  
(3) RSPQ                      (4) SPQR

**Directions for questions 137 to 139:** Choose the correct option.

- 137.** This book ..... five sections

- (1) comprises of    (2) comprises  
(3) consists            (4) comprises to

- 138.** My grandfather left most of his money to an NGO; the rest went directly to my daughter and .....

- (1) I                              (2) me  
(3) myself                      (4) myself too

- 139.** Parts of a country behind the coast or a river's banks

- (1) Isthumus                  (2) Archipelago  
(3) Hinterland                (4) Swamps

**Directions for questions 140 and 141:** In the questions below, the sentences have been given in Active/Passive voice. From the given alternatives, choose the one which best expresses the given sentence in Passive /Active voice

- 140.** Who is creating this mess?

- (1) Who has been created this mess?  
(2) By whom has this mess been created?  
(3) By whom this mess is being created?  
(4) By whom is this mess being created?

- 141.** You should open the wine about three hours before you use it.

- (1) Wine should be opened about three hours before use.  
(2) Wine should be opened by you three hours before use.  
(3) Wine should be opened about three hours before you use it.

- (4) Wine should be opened about three hours before it is used.

**Direction for question 142:** In the questions below, the passage consist of six sentences. The first and the sixth sentences are given. (S1, S6) The middle four sentences in each have been removed and jumbled up. These are labeled as P, Q, R and S. Find out the proper order for the four sentences.

S1: Metals are today being replaced by polymers in many applications.

P: Above all, they are cheaper and easier to process making them a viable alternative to metals.

Q: Polymers are essentially a long chains of hydrocarbons molecules.

R: Today polymers as strong as metals have been developed.

S: These have replaced the traditional chromium - plated metallic bumpers in cars.

S6: Many Indian Institutes of Science and Technology run special programmes on polymer science.

The proper sequence should be:

142. (1) QRSP                      (2) RSQP  
(3) RQSP                      (4) QRPS

**Directions for questions 143 and 144:** Choose the word which best expresses the meaning of the given word.

**143. FRUGALITY**

- (1) Foolishness              (2) Extremity  
(3) Enthusiasm              (4) Economy

**144. HARBINGER**

- (1) Messenger              (2) Steward  
(3) Forerunner              (4) Pilot

**Directions for questions 145 and 146:** Choose the word which is the exact OPPOSITE of the given words.

**145. EXODUS**

- (1) Influx                      (2) Home - coming  
(3) Return                      (4) Restoration

**146. EQUANIMITY**

- (1) Resentment              (2) Dubiousness  
(3) Duplicity                (4) Excitement

**Direction for question 147:** Find the Odd one out from the group of words.

147. (1) Bludgeon              (2) Dragon  
(3) Black Jack                (4) Order

**Direction for question 148:** Each pair of capitalized words given is followed by four pair of words. Select the pair that DOES NOT expresses a relationship similar to that expressed by the capitalized pair.

148. KERNAL                      :              SHELL  
(1) Caterpillar                :              Pupa  
(2) Larva                        :              Cocoon  
(3) Lassitude                 :              Syncope  
(4) Passenger                 :              Car

**149. Both of them ..... since their childhood.**

- (1) are working here  
(2) work here  
(3) have been working  
(4) are liking to work

**150. Although initial investigations pointed towards him .....**

- (1) the preceding events corroborated his involvement in the crime.  
(2) the additional information confirmed his guilt  
(3) the subsequent events established that he was guilty  
(4) the subsequent events proved that he was innocent

# Answer Key

SECTION I			
Q.	Ans.	Q.	Ans.
1	4	21	3
2	1	22	3
3	4	23	3
4	2	24	2
5	2	25	4
6	2	26	1
7	1	27	3
8	1	28	2
9	1	29	1
10	4	30	1
11	3	31	2
12	4	32	4
13	1	33	2
14	1	34	1
15	4	35	3
16	4	36	1
17	4	37	1
18	2	38	4
19	1	39	2
20	1	40	4

SECTION II			
Q.	Ans.	Q.	Ans.
41	3	61	3
42	3	62	4
43	4	63	3
44	3	64	4
45	4	65	4
46	4	66	3
47	1	67	3
48	2	68	4
49	2	69	3
50	3	70	4
51	3		
52	4		
53	3		
54	4		
55	1		
56	4		
57	3		
58	4		
59	1		
60	1		

SECTION III			
Q.	Ans.	Q.	Ans.
71	2	91	2
72	2	92	3
73	2	93	2
74	2	94	2
75	3	95	4
76	3	96	1
77	2	97	1
78	3	98	3
79	3	99	1
80	2	100	3
81	1	101	2
82	3	102	2
83	2	103	4
84	1	104	1
85	2	105	4
86	3	106	1
87	1	107	2
88	4	108	4
89	2	109	4
90	3	110	4

SECTION IV			
Q.	Ans.	Q.	Ans.
111	4	131	3
112	3	132	2
113	4	133	3
114	4	134	4
115	4	135	1
116	4	136	2
117	1	137	2
118	4	138	2
119	3	139	3
120	4	140	4
121	1	141	4
122	3	142	1
123	1	143	4
124	4	144	3
125	2	145	1
126	1	146	4
127	2	147	4
128	2	148	4
129	1	149	3
130	1	150	4

41. Let us solve the problem by eliminating the options.  
 G: People are rewarded.  
 C: If people are rewarded then they will not change their lifestyle.  
 F: Unless people change their lifestyle, temperature rises.  
 This can also be put in the following manner.  
 If people do not change their lifestyle then temperature rises.  
 This is an example of binary logic – If not A then B which can also be expressed as If not B then A.  
 Thus if the temperature doesn't rise then people change their lifestyle.  
 Here, according to G and C, people do not change their lifestyle and so temperature rises.  
 D: If temperature rises, then water level in the coastal area rises.  
 H: Water level in the coastal area doesn't rise.  
 Here, D is in accordance with G, C and F but H is not.  
 So option 1 is incorrect.  
 B: People change their lifestyle only if they are rewarded.  
 This means that if people have changed their lifestyle then they have been rewarded.  
 Note that if people are rewarded, they may or may not have changed their lifestyle.  
 G: People are rewarded.  
 From B and G, we don't know whether people have changed their lifestyle or not.  
 F: Unless the people change their lifestyle, temperature rises.  
 This can also be put as – If the people don't change their lifestyle then temperature rises.  
 But as we don't know whether people have changed their lifestyle or not, we cannot conclude whether temperature has risen or not.  
 D: If temperature rises, then water level in the coastal area rises.  
 H: Water level in the coastal area doesn't rise.  
 As we don't know whether temperature has risen or not, H cannot be concluded using D.  
 Hence, option 2 is also incorrect.  
 E: Whenever the water level in the coastal areas rises, then the temperature rises.  
 H: Water level in the coastal area doesn't rise.  
 Thus from these two statements the temperature may or may not rise.

While discussing the previous option, we have proved that from statements B, F and G we also come to the same conclusion that the temperature may or may not rise.

Hence, statements E, F,G, H and B are consistent with each other.

Hence, **option 3**.

42. In option 2, statement A says – If Kumar sings then the audiences sleep.  
 Out of the other 4 statements C, F, G and H, none of the statements mention anything about sleep and hence option 2 is incorrect.  
 If option 2 is incorrect, option 4 is also incorrect as it mentions both 2) and 3).  
 C: Unless audience does not dance, the concert will be successful.  
 This can also be put as – If the audience dance, the concert will be successful.  
 F: Kumar sings, only if Vina dances.  
 This means that – If Kumar has sung, then Vina has danced.  
 But if Vina has danced, Kumar may or may not have sung.  
 B: If Kumar sings, then the audience dances.  
 We don't know whether Kumar has sung or not and so we don't know whether the audience have danced or not.  
 Hence we cannot conclude that the concert is successful as given in statement H.  
 So option 1 is also logically incorrect.  
 E: If Vina dances, then Kumar sings.  
 G: Vina dances.  
 Thus from these two statements we know that Kumar sings.  
 B: If Kumar sings, then audiences dance.  
 Thus audiences have danced.  
 C: Unless audience does not dance, the concert will be successful.  
 This can also be put as – If the audience dance, the concert will be successful.  
 Thus the concert is successful as mentioned in statement H.  
 Hence, **option 3**.
43. The person with both statements true will be the one whose statements help establish the relationships between all 4 members and especially between B and C. This is because one of the questions explicitly asks

for the relationship between B and C and there is no answer option such as "None of the above" or "Data Insufficient".

**Consider A:** B is A's son and D is A's mother. However, there is no information about C. Therefore, the relationship between B and C cannot be established. Therefore, both of A's statements cannot be true.

**Consider B:** B is C's husband and D is B's father. However, there is no information on A. A could be B and C's child or B's sibling. Therefore, both of B's statements cannot be true.

**Consider C:** D is C's mother-in-law and A is C's daughter. Since the family has only four members, B has to be C's spouse. Thus, the overall relationship between the four members is known. It is also known that B and C are a couple. However, it cannot be said whether B is the husband or wife of C. Therefore, both of C's statements also cannot be considered true.

**Consider D:** A is D's grand-daughter and B is D's daughter-in-law. Again, since there are only 4 members in the family, C should be B's husband, D's son and A's father.

Thus, D is the grand-parent, B and C are the couple where C is the husband and A is the grand-daughter. Thus, D's statements give the overall relationships as well as the specific relationship between B and C. Therefore, D is the person who always speaks the truth.

Hence, **option 4**.

44. Consider the solution to the previous solution.

B is C's wife.

Hence, **option 3**.

45. Consider each option.

D is either A's grandfather or grandmother. Since D always speaks the truth, option 3 may or may not be true (depending on the gender of D) while option 1 is definitely false.

B is C's wife. Based on the fact that both of D's statements are true, both of B's statements turn out to be false. Therefore, option 2 is also false.

A is B's daughter. Based on the fact that both of D's statements are true, both of A's statements turn out to be false.

Thus, B's daughter always tells lies.

Hence, **option 4**.

46. Observe that the question states that the cube is kept in the corner of the room. Assume that opposite faces are painted red, blue and green. Since the cube is in the corner, one red, blue and green face each will be adjacent to the two walls and floor and will not be

painted. Thus, there are only three faces that are painted. Since the cube is cut into 343 identical cubes, it means that each face is cut into 7 equal layers along each dimension. Thus, there are 7 similar layers along the length, breadth as well as height. Since only one face is painted along each dimension, if we remove one layer each along the length, breadth as well as height, the remaining 6 layers in each dimension will be unpainted.

Therefore, number of cubes that have no face painted  
 $= 6 \times 6 \times 6 = 216$

Hence, **option 4**.

47. Consider the 3 faces that are painted. Let us first count the number of cubes that have at least one colour painted on them.

Consider the top face. Assume it is painted blue. It will have  $7 \times 7 = 49$  cubes with atleast one colour on them.

Now, consider the front face. Assume it is painted red. It will also have 49 cubes with atleast one colour. However, the top 7 cubes on this face are also common to the top face and have been counted once.

So, number of cubes to be considered from front face  
 $= 7 \times 6 = 42$

Finally, consider the side face which will be painted green and which will also have 49 cubes with atleast one colour.

However, it also has 7 cubes common to the top face, 7 cubes common with the front face and 1 cube common to both the top and front face.

So, number of cubes to be considered from side face  
 $= 49 - (7 + 7 - 1) = 36$

So, number of cubes with atleast one colour on them  
 $= 49 + 42 + 36 = 127$

Now, there are 7 cubes common to the top and front face. Similarly, there are 7 cubes common to the front and side face as well as 7 cubes common to the top and side face. Here, the cube at the intersection of all three faces will have red, blue as well as green colour, while the remaining 6 faces in each case will have a red-blue or red-green or blue-green combination.

Thus, there is only 1 cube that is painted in 3 colours while there are  $6 \times 3$  i.e. 18 cubes that are painted in exactly 2 colours.

So, number of cubes that have exactly one colour on them  
 $= 127 - (1 + 18) = 108$

Hence, **option 1**.

48. Number of cubes that have at the most 2 faces painted  
 $= \text{Total number of cubes} - \text{Number of cubes that have 3 faces painted.}$

From the solution to the previous question, number of cubes that have at the most 2 faces painted  
 $= 343 - 1 = 342$

Hence, **option 2**.

49. After driving 3 km north, 3 km west and 4 km south, Amit is 1 km to the south and 3 km to the west of his starting point. So he will have to move 1 km north and 3 km east to reach the point from where he started.

Hence, **option 2**.

50. As stated in the solution of Q. 49, Amit will reach the starting point if he moves 1 km north and 3 km east. If he moves 1 km north and 4 km east, he will be 1 km away from his starting point.

Hence, **option 3**.

51.  $X = XY$  and  $Y = Y + 1$  is the process that takes place in every step and the machine stops at  $X \geq N$

Input:  $X = 3, Y = 2$  and  $N = 100$ .

Step 1:  $X = 6, Y = 3$

Step 2:  $X = 18, Y = 4$

Step 3:  $X = 72, Y = 5$

Step 4:  $X = 360, Y = 6$

Thus it takes 4 steps before the machine stops.

Hence, **option 3**.

52. In Q. 51, the value of  $X$  becomes 360.

Hence, **option 4**.

53. In Q. 51, the value of  $Y$  becomes 6.

Hence, **option 3**.

54. If  $N = 500$ , then by using the solution of question 51, we can further calculate Step 5 as follows:

Step 5:  $X = 2160, Y = 7$ .

Thus value of  $X$  will be 2160.

Hence, **option 4**.

55. Input:  $X = 2, Y = 3$

Step 1:  $X = 6, Y = 4$

Step 2:  $X = 24, Y = 5$

Step 3:  $X = 120, Y = 6$ .

Thus for any value of  $N$  greater than 120, the value of  $Y$  will become 7.

The correct answer should be 121.

Since, the answer closest to 121 here is 300, it is the correct answer.

Hence, **option 1**.

56. Vicky always score more than Priya and Priya always scores more than Ankit.

Thus Vicky's rank is always numerically lower than Priya's and Priya's rank is always numerically lower than Ankit's.

Either of the following two situations take place.

If Raman scores the highest, then Tony scores the least or if Sunil scores the highest, then Deepak or Ankit scores the least.

Thus if Raman is ranked 1<sup>st</sup>, then Tony is ranked 7<sup>th</sup> and if Sunil is ranked 1<sup>st</sup> then either Deepak or Ankit is ranked 7<sup>th</sup>.

The question states that Sunil is ranked 6<sup>th</sup> and Ankit is ranked 5<sup>th</sup>.

Thus Raman is ranked 1<sup>st</sup> and Tony is ranked 7<sup>th</sup>.

So the following situations are possible for ranks 2, 3 and 4.

2 – Vicky, 3 – Priya, 4 – Deepak or

2 – Vicky, 3 – Deepak, 4 – Priya or

2 – Deepak, 3 – Vicky, 4 – Priya.

Vicky can never be 1<sup>st</sup>, Raman will never be 2<sup>nd</sup> or 3<sup>rd</sup>, Tony is ranked 7<sup>th</sup> and hence cannot be 4<sup>th</sup> or 5<sup>th</sup>.

Deepak can be 3<sup>rd</sup> or 4<sup>th</sup> according to the above obtained conditions.

Hence, **option 4**.

57. If Raman gets the highest, he will be ranked 1<sup>st</sup>. Accordingly, Tony will be ranked 7<sup>th</sup>.

Now Priya and Ankit are always ranked numerically higher than Vicky.

Hence, Vicky can never be ranked lower than 4<sup>th</sup> as if he is ranked 5<sup>th</sup> then there will not be enough positions to accommodate both Ankit and Priya.

Hence, **option 3**.

58. The question states that Ankit is ranked 1<sup>st</sup>.

This is not possible as he always scores less than Vicky and Priya.

Hence, **option 4**.

59. If Sunil is ranked 2<sup>nd</sup>, then Raman is ranked 1<sup>st</sup> and Tony is ranked 7<sup>th</sup>.

Vicky's lowest numerical rank will be 3<sup>rd</sup> and so he will always get less than Sunil.

Raman is ranked 1<sup>st</sup> and so Priya will always get less than Raman.

Vicky scores more than Priya is given in the question data.

Hence by eliminating the options, we can conclude that it is possible for Deepak to get more than Vicky.

Hence, **option 1**.

60. If Vicky is ranked 5<sup>th</sup>, then Priya is ranked 6<sup>th</sup> and Ankit is ranked 7<sup>th</sup>.

Thus Sunil is ranked 1<sup>st</sup>.

Hence, **option 1**.

61. The conclusion is that Party Z is likely to win the next election. A weakening statement would have to show party Y having a favourable advantage or party Z having a clear disadvantage.

Option 1 is loose and does not provide anything concrete.

Option 2 shows the percentage of people voting from each party but fails to bring out the vantage point of a single party.

Option 4 does not weaken the conclusion.

Option 3 clearly states a percentage of people in favour of party Z, which is less than 50%.

Hence, the correct answer is **option 3**.

62. The information given to us is about inflation rising in quarters of a year.

Option 1 talks about the RBI taking "necessary measures" which is ambiguous.

Option 2 and 3 do not provide a strong explanation for the question.

Option 4, is right on target. It talks about the quarterly increase in inflation and is in line with the information given.

Hence, the correct answer is **option 4**.

63. Birth (positive connotation) - The act or process of bearing young; Dirge (negative connotation) - A funeral hymn or lament

Similarly: Marriage - is a social union or legal contract; alimony - allowance made to a wife out of her husband's estate or income for her support, upon her divorce.

Options 1, 2 and 4 do not have the same relation between the two words.

Hence, the correct answer is **option 3**.

64. The reasoning in the main statement is that, 'because beaches are beautiful, they are crowded'.

i.e. it is a 'Because A therefore B' type of a statement.

Option 1 only states that Moose and bear grow thirsty at the same time, it does not give a reason for this.

Option 2 shows an 'If not A then B' type of relationship.

Option 3 does not show a relationship between two variables.

Option 4, shows a similar relation to the one described in the main statement.

Hence, the correct answer is **option 4**.

65. Option 1 is incorrect as there is no available measure for underground industries.

Option 2 assumes that all self-employed industries are not underground, which is erroneous.

Option 3 states that industries 'except for self-employed ones' may be running underground. This is a wrong conclusion.

Option 4 is correct. The latter statement states that some self-employed industries are included in national productivity measures and only non-underground industries are included in national productivity measures.

Hence, the correct answer is **option 4**.

66. This statement has an underlying assumption that 'receiving a violation from the FAA is a hindrance to an excellent performance record'.

Hence, the correct answer is **option 3**.

67. The example of Tom Hanks is specific. It is just one case upon which the broad conclusion of 'death penalty not serving as a deterrent to murder' has been made.

Hence, the correct answer is **option 3**.

68. The number at the center of each row is the sum of the rest of the numbers divided by 2.

In the first row the central number is 3 which is  $(4 + 2)/2$

In the second row the central number is 5 which is  $(5 + 3 + 1 + 1)/2$

Similarly, the central number in the last row is  $(9 + 3)/2 = 6$

Hence, **option 4**.

69. The latter part of the information states that removal of restrictions such as the ones including fee arrangements for advertisements will cause reduction in overall consumer legal costs and the former part of the information states that fewer restrictions on advertising will lead to an increase in lawyers advertising for their services.

Only option 3 captures the essence of the information.

Hence, the correct answer is **option 3**.

70. The information clearly mentions that those lawyers who advertise for their services charge lesser than those who do not advertise. Option 4 contradicts this and weakens the argument concerning consumer legal costs.

Hence, the correct answer is **option 4**.

71. Speed of train = 36 kmph =  $36 \times 5/18 = 10$  m/s

Let the length of the platform be P and length of the train be T.

Now, the train crosses the platform in 20 seconds and the man in 10 seconds.

Hence, the train traveled P + T in 20 seconds and T in 10 seconds.

Hence, it traveled P distance in  $20 - 10 = 10$  seconds.

Hence,  $P = 10 \times 10 = 100$  meters.

Hence, **option 2**.

72. Let t be the usual time taken by the man.

Now, if he travels at  $4/5^{\text{th}}$  of his usual speed then time taken by him will be  $5/4 \times t$

Hence,  $5/4 \times t = t + 10$

Hence,  $t = 40$

Hence, **option 2**.

73. Relative speed of man and woman is 9 kmph.

Hence, time required to cover 81 km =  $81/9 = 9$  hours.

In 9 hours, the woman will travel  $9 \times 4 = 36$  km.

Hence, **option 2**.

74. Assume that one of them walked 6 km towards east and then 8 km south.

Hence, he is 6 km east and 8 km south of the original position.

Hence, he is  $\sqrt{(6^2 + 8^2)} = 10$  km from his original position.

Similarly, we can prove that the other person is also 10 km from his original position.

Hence, **option 2**.

75. Let a man take  $m$  days and a woman takes  $w$  days to complete the work.

Hence, we have,

$$\frac{4}{m} + \frac{3}{w} = \frac{1}{6} \quad \dots \text{(I)}$$

$$\frac{5}{m} + \frac{6}{w} = \frac{1}{4} \quad \dots \text{(II)}$$

Solving I and II, we get,

$$m = 36 \text{ and } w = 54$$

Hence, 2 women and 3 men will complete;

$$2/54 + 3/36 = 13/108$$

Hence, they will complete the work in  $108/13 = 8.3$  days

Hence, **option 3**.

**Note:** In actual paper, all the options were incorrect. Hence, we have changed one of the options to include the correct answer.

76. Ram completes 60% of the work in 15 days.

Hence, he will take 25 days to complete the work.

Now, Rahim is 50% as efficient as Ram, and Rachel is 50% as efficient as Rahim, hence Ram, Rahim and Rachel together will complete;

$$\frac{1}{25} + \frac{1}{50} + \frac{1}{100} = \frac{7}{100} \text{ of the work in one day.}$$

Hence, they will complete the work in  $100/7$  days.

Hence, they can complete the remaining 40% work in

$$0.4 \times \frac{100}{7} = \frac{40}{7} \text{ days.}$$

Hence, **option 3**.

**Note:** In actual paper, all the options were incorrect. Hence, we have changed one of the options to include the correct answer.

77. In 9 days, B will do  $9/24 = 3/8$  of the work.

Hence, A and B together did  $1 - 3/8 = 5/8$  of the work together.

Now, A and B can complete;

$$\frac{1}{21} + \frac{1}{24} = \frac{5}{56} \text{ of the work in one day.}$$

Hence, they will complete,  $5/8$  of the work in;

$$\frac{5}{8} \times \frac{56}{5} = 7 \text{ days.}$$

Hence, **option 4**.

78. Let selling price of each article be 1.

Hence, selling price of 100 article = 100

Hence, profit = 75

Hence, cost price =  $100 - 75 = 25$

Hence, percentage profit =  $75/25 \times 100 = 300\%$

Hence, **option 3**.

79. Let  $V_a$  and  $V_b$  be the speed of A and B respectively.

$$\therefore \frac{V_a}{100} + 5 = \frac{80}{V_b} \quad \dots \text{(I)}$$

$$\frac{V_a}{100} = \frac{60}{V_b} \quad \dots \text{(II)}$$

Solving I and II, we get,

$$V_b = 4, V_a = 100/15$$

Hence, A will take;

$$\frac{200}{\frac{100}{15}} = 30 \text{ seconds}$$

Hence, **option 3**.

80. Surface area of the original cube =  $4 \times 4 \times 6$

$$= 6 \times 16 \text{ cm}^2$$

Now, there will 64 new cubes of side 1 cm.

Hence, surface area of these 64 cubes =  $64 \times 6 \text{ cm}^2$

Hence, percentage increase in surface area is;

$$\frac{64 \times 6 - 16 \times 6}{16 \times 6} \times 100 = 300\%$$

Hence, **option 2**.

81. G236G0 is divisible by 36

Hence, G236G0 is divisible by 9 and G is an even number.

Hence,  $G + 2 + 3 + 6 + G + 0 = 2G + 11$  is divisible by 9.

Only  $G = 8$  satisfies the given condition.

Hence, **option 1**.

82. In one day, Amit and Sagar can do;

$$\frac{1}{12} + \frac{1}{15} = \frac{3}{20} \text{ of the work in one day.}$$

Hence, in 4 days they will complete  $3/5^{\text{th}}$  of the work.

Hence, amount of work remaining after 4 days

$$= 1 - \frac{3}{5} = \frac{2}{5}$$

Hence, **option 3**.

- 83.** Let the width of the road be  $d$ .  
Hence, Area of lawn = Area of park – Area of road  
 $= 2400 - (40d + 60d - d^2)$   
Hence,  $2109 = 2400 - 100d + d^2$   
Hence,  $d^2 - 100d + 297 = 0$   
Hence,  $d = 97$  or  $d = 3$ .  
Hence, **option 2.**
- 84.** Probability of choosing either bag is  $1/2$ .  
Now, from the first bag, we can choose one white and one black ball in  $5 \times 3 = 15$  ways.  
While, two balls can be selected in  ${}^8C_2 = 28$  ways

Hence, probability that the two balls chosen are of different color =  $15/28$

Similarly, we can prove that the probability that two balls chosen from the second bag are of different color =  $20/36$

Hence, the required probability

$$= \frac{1}{2} \times \frac{15}{28} + \frac{1}{2} \times \frac{20}{36} = \frac{275}{504}$$

Hence, **option 1.**

- 85.** Consumption = Production – Exports  
Per Capita Consumption = Consumption/Population  
 $\therefore$  Population = Consumption/Per Capita Consumption  
Thus, the consumption and population for each year can be calculated as shown in the table below:

Year	Production	Exports	Consumption	Per Capita consumption	Population	% Increase in Consumption	Exports/Consumption
2006	186.5	114	72.5	36.25	2.00		1.57
2007	202	114	88	35.2	2.50	21.38	1.30
2008	238	130	108	38.7	2.79	22.73	1.20
2009	221	116	105	40.5	2.59	(2.78)	1.10
2010	215	88	127	42	3.02	20.95	0.69

Thus, the percentage increase in the consumption of rice was the highest in 2008.

Hence, **option 2.**

- 86.** Consider the table obtained in the solution to the first question.  
The population of country A in 2008 was 2.59 million.  
Hence, **option 3.**
- 87.** Consider the table obtained in the solution to the first question.  
As can be seen, the ratio of consumption to exports in the given period was highest in 2006 (1.57).  
Hence, **option 1.**
- 88.** Consider the table obtained in the solution to the first question.  
The population of country A was the highest in 2010 (3.02 million).  
Hence, **option 4.**
- 89.** The percentage of time spent in school is  
 $\frac{105}{360} \times 100 = 29.17\% \approx 30\%$   
Hence, **option 2.**
- 90.** Since the angle subtended by “games” is  $30^\circ$  while that subtended by “sleeping” is  $120^\circ$ , the required percentage is  $(30/120) \times 100$  i.e. 25%  
Hence, **option 3.**

- 91.** Since the student spends an equal time in games and home work, he can either increase the time spent on games or decrease the time spent on home work.  
It is also given that the time spent on other activities remains constant while the decrease in time spent on sleeping is to be found.

This can only happen if the time spent on games has increased.

So, the angle subtended for games should increase from  $30^\circ$  to  $45^\circ$ . If this happens, the angle subtended for sleeping will decrease from  $120^\circ$  to  $105^\circ$ .

$$\therefore \text{Percentage decrease} = \frac{(120 - 105)}{120} \times 100$$

$$= 12.5\%$$

Hence, **option 2.**

- 92.** Difference in time spent in school and home work is

$$\frac{(105 - 45)}{360} \times 24 = 4 \text{ hours}$$

Hence, **option 3.**

93. Time spent on home work =  $\frac{45}{360} \times 24 = 3$  hours

Out of this, one-third i.e. one hour is spent on Mathematics.

So, the remaining two hours are spent on the rest of the subjects.

Hence, **option 2**.

94. In the given diagram,

$$\frac{AB}{BC} = \frac{DE}{EF}$$

Substituting value of AB, BC and DE, we get,

$$EF = 2 \times 1.5 = 3$$

Hence, **option 2**.

95.  $\log 10 + \log 10^2 + \dots + \log 10^n = 1 + 2 + \dots + n$   
 $= \frac{n(n+1)}{2}$

Hence, **option 4**.

96. Let  $a$  be the required number.

Hence, we have;

$$\left(a + \frac{1}{a}\right) = 3 \left(a - \frac{1}{a}\right)$$

Hence,  $a^2 = 2$

Hence,  $a = \pm \sqrt{2}$

Hence, **option 1**.

97. Smallest and largest numbers, in the given region, which are divisible by 9 are 18 and 297 respectively.

Hence, the required number =  $(297 - 18)/9 + 1 = 31 + 1 = 32$

Hence, **option 1**.

98.  ${}^nC_x = \frac{n!}{x!(n-x)!} = 56$

$${}^nP_x = \frac{n!}{(n-x)!} = 336$$

Hence  $x! = 6$

Hence,  $x = 3$

Hence, from the given options,  $n$  can be either 7 or 8.

But  ${}^8C_3 = 56$

Hence, **option 3**.

99. Perimeter of the largest equilateral triangle is 72cm

Now, triangle formed by joining the midpoints will have perimeter half of that of original triangle.

Hence, the required sum is;

$$72 + 36 + 18 + \dots \text{ upto infinite terms}$$

This is nothing but an infinite GP, with

$$\text{common ratio} = \frac{1}{2}$$

$$\text{Hence, the required sum} = \left(\frac{72}{1 - \frac{1}{2}}\right) = 144$$

Hence, **option 1**.

100. In a leap year, there are 366 days.

Now,  $366 \pmod{7} \equiv 2 \pmod{7}$

This implies that if year started on Monday then it will end on Tuesday, and so on.

And also the first day of the year will definitely appear for 53 times in the calendar.

Hence, if year starts on Saturday, Sunday or Monday then it will definitely contain either 53 Sundays or 53 Mondays.

Now, a leap year chosen can start from any of the seven day.

But it will contain 53 Monday or Sunday only if it starts on Saturday, Sunday or Monday.

Hence the required probability =  $3/7$

Hence, **option 3**.

101.  $3x + 4y = 12$

Hence,  $x/4 + y/3 = 12$

This is nothing but the intercept form of the equation of a line.

Hence, intercept are 4 and 3.

Hence, **option 2**.

102.  $a$  and  $d$  are equidistant from 36.

This implies that average of  $a$  and  $d$  is 36.

Hence,  $a + d = 72$

Similarly, we have,

$$b + c = 68, a + b = 60 \text{ and } c + d = 80$$

Now,  $a < b$  and  $a + b = 60$

Hence,  $a < 30$  and  $b > 30$

Similarly,

$$b < 34 \text{ and } c > 34$$

And  $c < 40$  and  $d > 40$

Now, only primes which satisfy this conditions are,

$$a = 29, b = 31, c = 37 \text{ and } d = 43$$

$$\text{Hence, } d - a = 43 - 29 = 14$$

Hence, **option 2**.

103. After selling at Rs. 15/kg, Ramsukh earns a profit of 66.66%.

Hence, cost price of Rasgulla is Rs. 9/kg.

Now, ratio of flour and sugar is 5 : 3.

Hence, 1 kg of rasgulla is made up of  $5/8$  kg of flour and  $3/8$  kg of sugar.

Let price of 1 kg of flour =  $3k$

Hence, price of 1 kg of sugar =  $7k$

Hence price of 1 kg of Rasgulla is;

$$\frac{3}{8} \times 7k + \frac{5}{8} \times 3k = 9$$

Hence,  $k = 2$   
Hence, cost price of sugar =  $7k = 7 \times 2 = \text{Rs. } 14/\text{kg}$   
Hence, **option 4.**

- 104.** Let cost price of sugar be  $x$ .  
Hence, reduced cost price =  $0.8x$   
Hence,  $240/x + 6 = 240/0.8x$   
Hence,  $300/x = 240/x + 6$   
Hence,  $60/x = 6$   
Hence,  $x = 10$   
Hence, **option 1.**

- 105.** Volume of a solid sphere is given as  $\frac{4\pi r^3}{3}$  where  $r$  is the radius of the sphere.

Volume of a right circular cone is  $\frac{\pi r^2 h}{3}$  where  $r$  is the radius of the base of the cone and  $h$  is the height of the cone. The solid sphere is recast into a right circular cone with base radius equal to the radius of the sphere.

$$\text{Thus } \frac{4\pi r^3}{3} = \frac{\pi r^2 h}{3}$$

Hence,  $h = 4r$   
Thus the ratio of the height to the radius is  $4 : 1$ .  
Hence, **option 4.**

- 106.** Assume that the scooter, the car and the train travel 16 km.  
Let their speeds be 1 kmph, 4 kmph and 16 kmph respectively.  
Thus time taken by the scooter, the car and the train is 16 hours, 4 hours and 1 hour respectively.  
Ratio of time taken to the velocity of each vehicle will be  
 $(16/1) : (4/4) : (1/16) = 16 : 1 : (1/16) = 256 : 16 : 1$   
Hence, **option 1.**
- 107.** A can do a piece of work in 15 days.  
B is twice as efficient as A.  
So B can do the same piece of work in 7.5 days.  
Assume that there is 15 units of work to be done.  
A does 1 unit per day and B does 2 units per day.  
For the first  $x$  days, A worked alone and hence work done per day is  $1 \times x = x$  units.  
For the next  $(11 - x)$  days, A and B worked together. In 1 day, they do  $(1 + 2) = 3$  units.  
So in  $11 - x$  days, they do  $33 - 3x$  units.  
 $33 - 3x + x = 15$   
Thus  $2x = 18$  and  $x = 9$ .  
Thus A worked alone for 9 days the A and B worked together for 2 days.  
Hence, **option 2.**

- 108.** Let the contributions of A, B, C and D in purchasing a restaurant be  $a, b, c$  and  $d$  respectively.  
Thus  $a + b + c + d = 5600000$  ... (1)  
 $b + c + d = 4.6a$  ... (2)  
 $a + c + d = 3.666b$  ... (3)  
 $0.4(a + b + d) = c$   
 $a + b + d = 2.5c$  ... (4)  
Using (1) and (2) we get  
 $a = 5600000/5.6 = 1000000$  ... (5)  
Using (1) and (3) we get  $b = 5600000/4.66$   
 $= 1201716.73$  ... (6)  
Using (1) and (4) we get  
 $c = 5600000/3.5 = 1600000$  ... (7)  
Using (1), (5), (6) and (7), we get  $d \approx 1800000$   
Hence, **option 4.**

- 109.** Let the salary of Saroj be Rs. 100.  
Salary of Raju and Ram is 20% and 30% less than Saroj's salary.  
Hence, Raju's salary is Rs. 80 and Ram's salary is Rs. 70.  
Thus Raju's salary is greater than Ram's salary by

$$\frac{80 - 70}{70} \times 100 = 14.28\%$$

Hence, **option 4.**

- 110.** Let the radius of the wire be  $r$  and its length be  $l$ .  
A wire is cylindrical in nature where the length is considered to be its height.  
Hence volume of this wire is  $\pi r^2 l$   
The modified radius is one-third of the original radius.  
Thus  $r' = r/3$   
Let the modified length be  $l'$   
As the volume remains constant,  
$$\pi r^2 l = \pi \left(\frac{r}{3}\right)^2 l'$$
  
Hence,  $l' = 9l$   
Thus the modified length is 9 times the original length.  
Hence, **option 4.**

- 111.** Victory is the synonym of triumph.  
Hence, the correct answer is **option 4.**
- 112.** Consider the fourth sentence in the paragraph: 'But the magnificent here and now....ours only for a time'. This line validates what is mentioned in option 3.  
Hence, the correct answer is **option 3.**
- 113.** Rapture means 'extreme joy; being transported by a lofty emotion; an expression of ecstatic feeling'.  
Hence, the correct answer is **option 4.**
- 114.** The sun's **reflection** is seen on the surface of the water.  
Hence, the correct answer is **option 4.**

115. The passage is pertaining to 'the rational investigation of truth and principles of being, knowledge or conduct'. This is characteristic of a philosophical approach/ tone. Hence, the correct answer is **option 4**.
116. The passage talks about the gift of life and how one must make the most of it. Option 4 is a befitting title. Hence, the correct answer is **option 4**.
117. Redundancy can be defined as: 1. The state of being repetitive or no longer needed  
2. Superfluous repetition or overlapping, especially of words.  
Hence, the correct answer is **option 1**.
118. The relationship conveyed is that of 'material - object that utilizes the material - where the final result is seen'  
This correlation is seen in option 4.  
Hence, the correct answer is **option 4**.
119. Realia can be defined as: 1. Objects like coins, tools, etc. used by a teacher to illustrate everyday living.  
2. Things which are real.  
Hence, the correct answer is **option 3**.
120. In sentence 1, 'Are' is used erroneously. It is the present indicative plural of 'be'.  
In sentence 2, 'Does' and 'this' are incorrect as gloves are plural. 'Does this **pair of** gloves' is correct  
In sentence 3, 'belongs' is incorrect. It should be used with singular nouns/pronouns eg. It belongs to you.  
Sentence 4 is grammatically correct.  
Hence, the correct answer is **option 4**.
121. In the first sentence, "I live.....countryside", the nouns 'house' and 'street' require an indefinite article (the nouns are not particular or specific ones). Hence, options 2 and 3 are ruled out.  
Between sentences 1 and 4, 1 is error-free. The noun 'house' in the latter part of the sentence requires a definite article as it is talking about a specific 'old house'.  
Hence, the correct answer is **option 1**.
122. In sentence 1, the preposition 'to' is incorrect. One uses 'to' only in case of similarities. For example: She is similar to me. Her teaching method is similar to mine.  
In sentence 2, 'for' is erroneous. It is incorrect usage.  
Between options 3 and 4, option 4 mentions 'compare **their** teaching method with **their** own'. This is erroneous.  
Option 3 is grammatically correct.  
Hence, the correct answer is **option 3**.
123. Option 1 uses the word 'that' which is appropriate to introduce the restrictive relative clause "you filled out.....which was sent?"  
Hence, the correct answer is **option 1**.
124. In sentence 1, 'have' denotes the simple present tense which is incorrect as the word 'yesterday' is in the past. When the word 'did' is used in a sentence, it must be followed with the stem of the verb. i.e. 'Did complete'. Hence, this statement is erroneous.  
In sentence 3, 'have had' indicates the perfect present tense which is incorrect.  
Hence, the correct answer is **option 4**.
125. 'Crashed into' is the correct phrase.  
Hence, the correct answer is **option 2**.
126. Here, 'referred to' indicates something 'also known as' or 'described as' something else.  
Hence, the correct answer is **option 1**.
127. In this context the word to replace independent would be impartial which means 'unbiased; independent of bias; neutral'.  
Self-centred means concerned solely or chiefly with one's own interests  
Self-seeking means the seeking of one's own interest or selfish ends  
Self-possessed means having full possession of one's faculties  
Hence, the correct answer is **option 2**.
128. To 'deter' means to 'discourage or prevent'.  
Hence, the correct answer is **option 2**.
129. 'Grievance' can mean the following:  
1. suffering; distress  
2. a cause of distress (as an unsatisfactory working condition) felt to afford reason for complaint or resistance  
3. the formal expression of a grievance : complaint  
Hence, the correct answer is **option 1**.
130. 'Ombudsman' can mean the following:  
1. a government appointed to receive and investigate complaints made by individuals against abuses or capricious acts of public officials  
2. one that investigates, reports on, and helps settle complaints  
Hence, the correct answer is **option 1**.
131. The sentence does not require the word 'about'. It can be written as '...to discuss in detail the assorted problems that people have been facing for a long time'. We discuss a/the problem and not discuss about a problem.  
Hence, the correct answer is **option 3**.

132. The sentence requires a single 'had'.  
Hence, the correct answer is **option 2**.
133. The word 'again' is redundant as it is placed after 'to repeat' which means the same.  
Hence, the correct answer is **option 3**.
134. This sentence has no error.  
Hence, the correct answer is **option 4**.
135. The RS link - 'was like a family's elder....' - is essential which is only seen in option 1.  
Hence, the correct answer is **option 1**.
136. R has to be the first sentence as 'A year or so' is the correct phrase.  
Q must follow R as it describes Bangkok. S takes this further. The correct order is RQSP.  
Hence, the correct answer is **option 2**.
137. Comprises means 'consists of' and is the appropriate word for the blank.  
Hence, the correct answer is **option 2**.
138. The blank needs to be filled by a pronoun in the subjective case. 'I' is ruled out. It is appropriate to use "myself" when you have used "I" earlier in the same sentence.  
Hence, the correct answer is **option 2**.
139. Isthmus - a narrow strip of land connecting two larger land areas  
Archipelago - an expanse of water with many scattered islands  
Hinterland - a region lying inland from a coast  
Swamp - a wetland often partially or intermittently covered with water  
Hence, the correct answer is **option 3**.
140. The tense is present-continuous and must be retained in the passive voice.  
Hence, the correct answer is **option 4**.
141. Option 1 misses the pronoun 'it'. Option 2 misses the detail 'about' and distorts what is mentioned in the actual statement. Option 3 mentions 'you', in the passive voice 'by you/him/her' is understood and need not be mentioned.  
Hence, the correct answer is **option 4**.
142. Q expands the idea of polymers which is introduced in the statement.  
R talks about the variants of polymers. S talks about 'those polymers' having replaced the chromium-plated ones, which is introduced in R.  
P gives a fitting conclusion to the paragraph.  
Hence, the correct answer is **option 1**.
143. Frugal means characterized by or reflecting economy in the use of resources.  
Hence, the correct answer is **option 4**.
144. A harbinger is the one that pioneers in or initiates a major change.  
Hence, the correct answer is **option 3**.
145. Exodus - a mass departure  
Influx - a coming in  
Hence, the correct answer is **option 1**.
146. Equanimity - evenness of mind especially under stress  
Excitement - something that rouses  
Hence, the correct answer is **option 4**.
147. Dragon - a violent, combative, or very strict person- is the odd man out.  
The other words are related to 'issuing commands' or 'giving orders'.  
Hence, the correct answer is **option 4**.
148. Shell is "built around" a particular component like a kernel.  
In the same way a Pupa is the outer layer of a growing Caterpillar and the Cocoon is the outer layer of the larva.  
Syncope is an "umbrella term" and technical word for faint and lassitude means a state or feeling of weariness, diminished energy, or listlessness.  
Hence, the correct answer is **option 4**.
149. The tense required here is the present perfect continuous.  
Hence, the correct answer is **option 3**.
150. The latter part of the sentence must continue with the word that juxtaposes 'initial', as the word 'although' in the beginning suggests a turn of events in the latter part of the sentence.  
Also, the initial part of the sentence states that 'the investigations pointed towards him', the only option that juxtaposes this is option 4.  
Hence, the correct answer is **option 4**.