

Sim BBA : SET

(Symbiosis Entrance Test)

READ THE INSTRUCTIONS CAREFULLY

1. Please do not open the seal of this booklet till you are asked to do so.
2. This booklet has a total of **150** questions consisting of 4 sections –

General English	40	(40 Marks)
Quantitative Aptitude	40	(40 Marks)
General Awareness	40	(40 Marks)
Analytical & Logical Reasoning	30	(30 Marks)
3. The total time allotted is 150 minutes and the student is free to allocate time as he wants to.
4. SET is an aptitude test and objective in nature for all the papers. Each question has four options as answers. There is no negative marking for wrong answers. All sections are mandatory.
5. Read the instructions given at the beginning/end of each section or at the beginning of a group of questions very carefully.
6. Do not carry calculators.
7. Mark your answers on the ANSWER SHEET that is provided to you separately. Use an **HB Pencil only** for marking the answers.
8. For marking the answer, **DARKEN COMPLETELY** the oval corresponding to the answer choice selected by you. If the oval is filled incompletely or it is not dark enough, your answer will not be corrected. If you want to correct an answer already marked, erase your old answer completely and darken the correct oval. If more than one oval is darkened for a question, it will be treated as a wrong answer.
9. Mark your student ID and SIM BBA No on the answer sheet properly.
10. DO any rough or scratch work on the test paper itself.
11. DO NOT use any additional paper or the answer sheet for rough work.
12. DO NOT make any other markings on your answer sheet.
13. DO NOT CRUMPLE or FOLD your answer sheet

Section – I

Directions for questions 1 to 5: Each statement has a missing part. Choose the best option given below the statement to make up the missing part.

1. Freedom for the farmers to sell their produce at a place of their choice _____ cutting down the cost of procurement for agro-processing activity.
 - a) will certainly boost flexibility in production and integrating the farm sector with industry
 - b) while boosting flexibility in production and integrating this farm sector with industry
 - c) while boosting flexibility in production and integration of the farm sector with industry
 - d) will certainly boost flexibility in production and integration of the farm sector with the industry**

1. Hence option (d).

2. Himachal Pradesh from the far north and Tamil Nadu from across the border are ready _____.
 - a) to dethrone Kerala from the top ranks it monopolized on indicators of human development.**
 - b) for dethroning Kerala with the top ranks it monopolized on indicators of human development.
 - c) to dethrone Kerala from the top ranks it monopolized on indications of human development.
 - d) for dethroning Kerala from the top ranks it monopolized on indication of human development.

2. Hence option (a).

3. Mergers and acquisitions have seen a sharp rise in recent months _____ a growing number of Indian companies to focus on consolidation and expansion through merger deals.
 - a) with robust economic growth and improved valuation in local companies have prompted.
 - b) as robust economic growth and improved valuation in local companies prompting.
 - c) for robust economic growth and improved valuation in local companies prompting.
 - d) as robust economic growth and improved valuation in local companies have prompted.**

3. Hence option (d).

4. _____, Ms Taslima Nasreen has been under continual attack from religious leaders for her widespread efforts in defence of women’s right.
 - a) As she faces a death decree from fundamentalists.
 - b) Though she faces a death decree from fundamentalists.
 - c) Facing a death decree from fundamentalists.**
 - d) To face a death decree from fundamentalists.

4. Hence option (c).

5. In the multi crore wedding market, _____, next only to the groom and bride
 - a) the wedding card might seem a small entity but it is steadily gaining value.**
 - b) that is steadily gaining in value though the wedding card might seem a small entity.
 - c) the wedding card might seem a small entity but steady gain in value.
 - d) the wedding card might be a small entity but as it is steadily gaining in value.

5. Hence option (a).

Directions for questions 6 to 9: In each of the following sentences a part of the sentence has been underlined; choose the alternative meaning from this part from the options given below.

6. Those who work by fits and starts seldom show good results.

a) rarely	b) disinterestedly	c) irregularly	d) regularly
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6. Hence option (c).

7. He was all at sea when he began his new work.

a) happy	b) sad	c) puzzled	d) triumphant
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7. Hence option (c).

8. He told her of his own accord that he wished to leave his job.

a) with the help of an accordion	b) in aloud pitch
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- c) in an agreeable manner
8. Hence option (d).
9. Dr. Surender is always on call, even at weekends.
a) on the phone **b) available for duty** c) shouting d) available for conversation
9. Hence option (b).

Directions for questions 10 to 14: Read the passages and choose the correct option to answer the questions given.

Every person who has ever lived has experienced nightmares. They may be caused by certain drugs, medications, illness, or stress. Nightmares occur after about three hours of sleep. About five to ten adults have them once a month. One way to stop them is to try to reduce stress. If someone gets nightmares all the time and they are really serious and unsettling in everyday life, they should consider therapy.

A night terror is a very scary dream, which is more serious than a nightmare. The night terror will usually cause awakening, or at least partial awakening. Unlike nightmares, which occur after three hours of sleep, night terrors happen in about the first hour or two. In a night terror many things may happen. For example, the dreamer might start screaming, making other people nearby think he is in trouble. If someone is sleepwalking, chances are that he is having a night terror. Whenever a child, or even an adult, urinates in their sleep it is usually because they have had one of these dreams. If anyone has a recurrent night terror it means that the dreamer has been struggling with this one problem, of which he may or may not be aware, for a period of time, maybe days, weeks, months, or even years!

Dreams have been studied for many, many years. When scientists studied them they found that everyone, even animals, dreams. To study dreams and sleep scientists determine if the body is active or inactive. They also measure brainwaves to identify what stage of sleep the person is in and if he is dreaming.

Dreams have been recorded all through time. A series of mental pictures is the simplest definition of what a dream is. Scientists have found that most dreams are in colour, though some people may not be aware of it since colour is such a normal part of life. The people who notice are people who notice things more in daily life.

People have many different ways of interpreting dreams. Dreams usually do not mean exactly what is shown. A dream about abandonment can be interpreted to mean that there will be a break up in a relationship, or it can be called a strengthening dream to make the dreamer want to avoid this abandonment. If a person dreams about a banana it means that either the dreamer or someone close to the dreamer may become ill, but not seriously ill. If the dreamer has a baby in the dream, it means that his or her hidden talent or talents are waiting to be born. A dream about adultery symbolizes egotism and that the dreamer is more focused on himself and not the needs of others. If anyone dreams about an alligator or crocodile it is a warning of disaster. If someone wants to remember their dreams he should try writing them down. Dreams can be very important. Artists, writers, and scientist get many of their ideas from dreams.

Dreams are more than just pictures in the mind, and scientists still do not know everything about them. Something more may be discovered about sleep cycles or nightmares. Interpretation might also have much more to it than what people think. Now when people wake up from strange dreams they might start thinking more about how funny or scary a dream may have been.

10. Nightmares occur
a) **due to certain drugs, medications or stress** b) after about two hours of sleep
c) thrice a month in five to ten adults d) to some person
10. Hence option (a).
11. A night terror
a) is less scary than a nightmare b) occurs after three hours of sleep
c) causes only partial awakening. **d) takes place within the first two hours of sleep**
11. Hence option (d).
12. In case of recurring nightmare a dreamer
a) might scream
b) sleepwalks
c) **seems to be struggling with** a problem which he or she may or may not be aware of
d) may study dreams and sleep
12. Hence option (c).
13. In order to study dreams the scientists

- a) have nightmares
- b) have to suffer from partial awakening
- c) measure brainwave to suffer from partial awakening
- d) measure brainwaves to identify the stage of sleep.**

13. Hence option (d).

14. A dream can be simply defined as

- a) brainwaves
- b) active stage of sleep
- c) normal part of life in color
- d) series of mental pictures**

14. Hence option (d).

Directions for questions 15 to 18: Complete each of the following analogies by choosing a word from the given options.

15. ORGAN: CELLS:: GALAXY: ?

- a) sun
- b) stars**
- c) moon
- d) comet

15. Hence option (b).

16. PIGEON: BIRD:: SPIDER:?

- a) animal
- b) parrot
- c) insect**
- d) plant

16. Hence option (c).

17. PALM : HAND:: SOLE:?

- a) foot**
- b) shoe
- c) ankle
- d) leg

17. Hence option (a).

18. TEA: LEAVES:: COFFEE:?

- a) leaves
- b) plants
- c) seeds**
- d) beverage

18. Hence option (c).

Directions for questions 19 to 22: Choose the meaning of each of the idioms from the given options.

19. TO BE UNDER A CLOUD

- a) to be in misery
- c) to be under suspicious circumstances**
- b) to be in the dark
- d) to live in peace

19. Hence option (c).

20. TO MINCE MATTERS

- a) not to tell the whole truth**
- b) to break up the matter
- c) to talk about something
- d) to study the statement thoroughly

20. Hence option (a).

21. TO TAKE WITH A PINCH OF SALT

- a) to add a little salt to the dish
- c) not to believe completely**
- b) to spoil relations
- d) to hurt someone's feelings

21. Hence option (c).

22. TAKE OFF

- a) sacrifice
- b) start**
- c) swim in water
- d) adopt

22. Hence option (b).

Directions for questions 23 to 26: Fill in the blanks with the appropriate words as given in the options.

Buddhism made its way back to Japan in 584. Again the Soga Clan was (23) in its arrival. When a member of the Soga Clan was given two images of Buddha, he then set up a temple for them and had a girl (24) as a Buddhist nun in order to attend to the shrine. As before, an epidemic swept through Japan and the images were destroyed. But Korea had begun to send Buddhist monks and priests and managed to convince Prince Shotoku, the regent who (25) the

Japanese constitution, to convert to the religion. Shotoku, infact, became a (26) Buddhist - the establishment of Buddhism in the royal court certified its permanence.

23. a) inspirational b) institutional c) pivotal **d) instrumental**
 23. Hence option (d).
24. a) decreed b) disciplined c) **ordained** d) canonized
 24. Hence option (c).
25. a) compiled b) **composed** c) constituted d) begot
 25. Hence option (b).
26. a) **fervent** b) vehement c) vigorous d) zealous
 26. Hence option (a).

Directions for questions 27 to 29: Find the correct substitute for the given phrase from the options given.

27. A person with a long experience of a profession.
 a) **veteran** b) genius c) novice d) workaholic
 27. Hence option (a).
28. Words written on a tomb
 a) epithet b) epigraph c) soliloquy **d) epitaph**
 28. Hence option (d).
29. Stealthily done
 a) devious b) nefarious c) **surreptitious** d) villainous
 29. Hence option (c).

Directions for questions 30 to 33: find the meaning of the given idiom from the given options

30. Add fuel to the fire
 a) to tolerate stupid people b) to challenge someone
 c) **to make a bad situation worse** d) to do everything that is asked for
 30. Hence option (c).
31. Give in
 a) **to admit defeat** b) betray
 c) to try hard d) to abide by
 31. Hence option (a).
32. Let off steam
 a) to accept eagerly b) to manage somehow
 c) be talkative **d) to vent anger**
 32. Hence option (d).
33. Pick on
 a) to celebrate wildly b) to communicate
 c) **to find fault with** d) to please a person
 33. Hence option (c).

Directions for questions 34 to 37: Complete each of the following sentences using one of the phrases given below it.

34. If you 'blow hot and cold' you are
 a) not well b) short-tempered
 c) **undecided** d) inflicting injuries on others
 34. Hence option (c).

(ii) It helps to stray the audience from the stark reality.

(iii) It makes the impossibility possible.

a) Only (i) b) Both (i) and (ii) c) Only (iii) **d) Both (i) and (iii)**

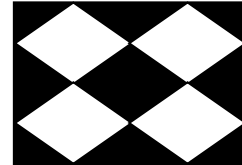
38. 'a' is incorrect because it is mentioned in the third paragraph that the protagonist went against his dream and proved the bifurcation between a fantasy and a reality, so he never escaped the reality. 'b' is wrong because the dream has also been told to be filled up with ironical situations. So there was no dearth of irony both in the real and the dream world. Thus seeking the help of dreams only to imbibe irony is not a right concept. 'd' is incorrect because, in the passage, there was only a glance of the wish but no wish fulfillment could be noticed. There is no instance of the fact that dream can efface the reality. So 'e' is incorrect. 'c' is the correct answer. This can be proved from the incident of Makak's dream in the third paragraph. He wished to possess the white women in his dream. But his beheading of that very woman, in reality, seems to be more striking when compared to his dream of love for that lady. Hence, option (c).
39. 'b' is incorrect because Makak, the protagonist, was looking forward to resurrection. He did not experience it even in his dreams. Makak sacrificed the woman whom he admired since she was beheaded. This was his sacrifice for his own community since his life was a white protectress. His hope for resurrection on the Easter Sunday is another symbol of Christ. Hence, 'c' is the correct answer.
40. (d) is the correct answer. (ii) is incorrect since the author does not stray the reader fully from the reality. (i) is correct since the beheading of the white protectress whom Makak admired in his dreams is a real ironic contrast. (iii) is also a correct option. In the first passage we get two dream sequences of Makak where he is both, tortured and honoured, thus making an impossibility possible. Hence, (d) is the correct option.

Section – II

41. In $\triangle XYZ$, $XY = 10$, $YZ = 10$, and $\angle Y = 84^\circ$. What is the degree measure of $\angle Z$?
 a) 96° b) 84° c) **48°** d) 42°

41. (C) Since $XY = YZ = 10$, then $\triangle XYZ$ is an isosceles triangle and $\angle X = \angle Z$. $\angle Y = 84^\circ$, since it forms a vertical angle with the given angle. Hence, the measure of $\angle Z = 48^\circ$.

42. The large square above consists of squares and isosceles right triangles. If the large square has side 4 cm. Then the area of the darkened portion in square cm is
 a) 4 b) 6
 c) **8** d) 12



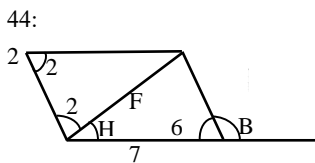
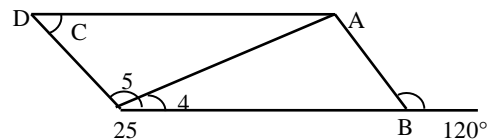
42: Taking the equal sides of the corner isosceles right triangles as x , the equal sides of the isosceles triangles in the middle are $x\sqrt{2}$.

- \therefore The hypotenuse of the isosceles triangles in the middle $= 2x$.
- \therefore The side of the smaller square is $= \sqrt{2}$
- \therefore Area of the 4 smaller squares $= 8$
- \therefore Area of the darkened portion $= 16 - 8 = 8$.

43. The length of a rope by which a horse must be tethered so that it may be allowed to graze over an area of 154 square metres is
 a) 18.44 m b) 13.69 m c) 15.8 m d) **Data insufficient**

43: we do not know dimension of the field nor we know whether it's a square field or circular, whether horse is tied at the centre or not. So, we don't have sufficient data to answer this question.

44. Given the length of AC , AB and BC as 3, $\sqrt{27}$ & 6, respectively & $AC = CD$, Find angle y .
 a) 60° b) 90°
 c) **120°** d) 150°



ABC is a right triangle as $6^2 = (\sqrt{27})^2 + 3^2$.
 $\Rightarrow x = 30$
 $\Rightarrow y = 180 - (30 + 30) = 120$

45. The sides of a rectangle are in the ratio 5 : 3 and its area is 1,500 square metre. The cost of fencing the rectangular field @ Rs. 2.5 per metre is
 a) **Rs. 400** b) Rs. 200 c) Rs. 3,750 d) Data insufficient

45:
 Sides = $5x, 3x$
 $\therefore 5x \times 3x = 1500$ or, $x^2 = 100$ or, $x = 10$
 Sides = 50m and 30m
 \therefore Perimeter = $2(50 + 30) = 160$ m
 Cost of fencing = $160 \times 2.5 = \text{Rs. } 400$
 Ans. Rs. 400

46. The average age of students of a class is 15.8 yrs. The average age of boys in the class is 16.4 years and that of the girls is 15.4 years. The ratio of the number of boys to the number of girls in the class is :
 a) 1 : 2 b) **2 : 3** c) 3 : 4 d) 3 : 5

46: (b) Let the boys be x and girls be y . Then: $16.4x + 15.4y = 15.8(x + y)$. Solving, we get $x/y = 2/3$.

47. If $x^2 - y^2 = 12$ and $x - y = 4$, what is the value of $x^2 + 2xy + y^2$?
 a) 3 b) 8 c) 9 d) 12

47: This question involves common quadratics, so the key is to write these quadratic expressions in their other forms. For instance $x^2 - y^2 = 12$, so $(x + y)(x - y) = 12$. Since $x - y = 4$, $(x + y)(4) = 12$, so $x + y = 3$. Finally, $x^2 + 2xy + y^2 = (x + y)^2 = (3)^2 = 9$

48. Which of the following is the smallest?
 a) $3/47$ b) $5/23$ c) $7/108.5$ d) $6/50.4$

48: $3/47 = 0.063$
 $5/23 = 0.217$
 $7/108.5 = 0.0645$
 $6/50.4 = 0.119$

49. At a party there were 5 times as many females as males. There were 3 times as many adults as children. Which of the following could not be the number of people at the party?
 a) 72 b) 120 c) 216 d) 258

49: (D) From the first sentence, we see that the total number of persons at the party must be divisible by 6 (5:1). From the second sentence, the total must be divisible by 4 (3:1). Thus, the total must be divisible by 6 and 4 or 12. The only number given that is not divisible by 12 is 258

50. If $x + \frac{1}{x} = 2$, find the value of $x^4 + \frac{1}{x^4} + 10$.
 a) 10 b) 12 c) 8 d) 6

50. Squaring both sides of the given equation,
 $\left(x + \frac{1}{x}\right)^2 = (2)^2 \Rightarrow x^2 + 2 + \frac{1}{x^2} = 4 \Rightarrow x^2 + \frac{1}{x^2} = 4 - 2 \Rightarrow x^2 + \frac{1}{x^2} = 2 \dots\dots (i)$

Squaring both sides of equation (i), we get,
 $x^4 + 2 + \frac{1}{x^4} = 4 \Rightarrow x^4 + \frac{1}{x^4} = 2 \Rightarrow x^4 + \frac{1}{x^4} + 10 = 2 + 10 = 12$. Hence, option (b).

51. The sum of the coefficient of all the terms in the expansion of $(a + b + c)^{10}$ is
 a) 2^{10} b) 2^{11} c) 3^{10} d) 3^{11}

51. Co-efficient of $(a+b+c)^{10}$
 $(1+1+1)^{10} \Rightarrow 3^{10}$
 Hence, option (c).

52. Saiva purchases some clips at the rate of 7 for a rupee and an equal number at the rate of 5 for a rupee. She sold all of them at 4 for a rupee. What is her gain or loss percent?
 a) gain of 40% b) loss of 20% c) gain of 20% d) none of these

52: let saiva purchases 35 clips of each kind.
 Total C.P = $5 + 7 = 12$
 Now total SP = $70/4 = 17.50$
 So, gain% = $(17.5 - 12) * 100 / 12$ %
 = 45.83%

53. What is the maximum value of x/y for which $(x - 2)^2 = 9$ and $(y - 3)^2 = 25$?
 a) $\frac{1}{2}$ b) $\frac{5}{8}$ c) $-\frac{1}{8}$ d) $-\frac{5}{2}$

53. $(x - 2)^2 = 9$; $\therefore x = 5$ or -1
 $(y - 3)^2 = 25$; $\therefore y = -2$ or 8
 $\therefore \max \frac{x}{y} = \frac{5}{8}$. Hence, option (b).

54. A merchant professes to sell his goods at a loss of 8%. But he weighs only 840 grams in place of a kg by means of his false balance. What is his gain or loss?

a) gain $9\frac{11}{21}\%$

b) no loss no gain

c) loss of $4\frac{3}{7}\%$

d) gain of $4\frac{2}{3}\%$

54: In a kilogram he professes to loose

$$1000 \times \frac{8}{100} = 80 \text{ gms}$$

But he gains 160 gms

His total gain = $160 - 80 = 80$ gms

$$\therefore \text{He gains } \frac{80}{840} \times 100 = \frac{800}{84} = \frac{200}{21} = 9\frac{11}{21}\%$$

Ans. $9\frac{11}{21}\%$

55. I have enough to buy 45 bricks. If the bricks each cost 10 cents less, I could buy 5 more bricks. How much money do I have to spend on bricks?

a) 150 cents

b) 130 cents

c) 100 cents

d) none of these

55: (c) Let c = cost of each brick. Let M = total money. Thus $M = 45c$. and $M = 50(c - 10)$.

Therefore $45c = 50(c - 10)$

$$45c = 50c - 500$$

$$500 = 5c$$

$$100 = c$$

56. A baseball team scores an average of x points in its first n games and then scores y points in its next and final game of the season. Which of the following represents the team's average score for the entire season?

a) $x + \frac{y}{n}$

b) $x + \frac{y}{n+1}$

c) $\frac{x + ny}{n+1}$

d) $\frac{nx + y}{n+1}$

56: Remember the average formula on this one. The average formula states, Average = Sum of the terms / Number of term. So to find the total average, find the total sum and divide it by the total number of terms. If a team averages x points in n games, then it scored nx points in n games. In the final game of the season, it scored y points. So the total sum of points for the season is $nx + y$, and the total number of games is $n + 1$. So the team's average score for the entire season is $nx+y/n+1$, choice (d).

57. If a heavy-load trailer traveled 7 km in 1 hour and 10 minutes, what was its speed in km per hour?

a) 6

b) 6.5

c) 8

d) 10

57: (a); Speed = $\frac{7}{70} \times 60 = 6$

58. A car travels 140 miles in 4 hours, while the return trip takes $3\frac{1}{2}$ hours. What is the average speed in miles per hour for the entire trip?

a) 35

b) $37\frac{1}{3}$

c) $37\frac{1}{2}$

d) 40

58: (B) The car travels a total distance of 280 miles $7\frac{1}{2}$ hours for the round trip. Its average speed in miles per hour is

$$280 \div 7\frac{1}{2} = \frac{280}{1} \div \frac{15}{2} = \frac{280}{1} \cdot \frac{2}{15}$$

$$= \frac{560}{15} = \frac{112}{3} = 37\frac{1}{3}$$

You could have used your calculator here and simply divided 280 by 7.5, getting 37.333, or $37\frac{1}{3}$.

59. At M/s Sharma & Sons, 70 percent of this year's new employees are graduates of business schools and the remainder are graduates of engineering college. If 550 new employees were hired this year, the difference between the number of business school graduates hired and the number of engineering graduates hired is :

a) 55

b) 220

c) 240

d) 385

59:

(b); Difference = $70 - 30 = 40\%$. Hence 40% of $x = 550$;

$$\therefore x = 220$$

60. The owner of a boutique decides to calculate the percentage of customers who purchase hats. If 40 percent of the store's customers decide to purchase items, and of those customers 15 percent purchase hats, what percent of the store's customers purchase hats?

- a) 45% b) **6%** c) 15% d) 24%

60: (b); 15% of 40% = 6%

61. There are 240 doctors and nurses at a hospital. If the ratio of doctors to nurses is 5 : 7, the nurses at the hospital are

- a) 20 b) 60 c) 100 d) **140**

61: (d); $5x + 7x = 240$; Number $7x = 140$

62. Rajan was married 8 years ago. His present age is $\frac{6}{5}$ times his age at the time of his marriage. Rajan's sister was 10 years younger to him at the time of his marriage. The age of Rajan's sister is :

- a) 32 years b) 36 years c) **38 years** d) 40 years

62: (c) Let the age be x . then we get $x + 8 = \frac{6}{5}x$. Solving, we get $x = 40$. Age of his sister = $40 - 10 + 8 = 38$.

63. A cistern has two taps which fill it in 12 minutes and 15 minutes respectively. There is also a waste pipe in the cistern. When all the three are opened, the empty cistern is full in 20 minutes. How long will the waste pipe take to empty the full cistern?

- a) 5 minutes b) **10 minutes** c) 15 minutes d) 20 minutes

63: (b) Let the rate of waste pipe = x . Then, $\frac{1}{x} = \frac{1}{12} + \frac{1}{15} - \frac{1}{20} = \frac{1}{10}$. Hence (2)

64. If 10 men and 16 women can do a work in 5 days and if 7 men and 14 women can do the work in 7 days, compare the daily work done by a man with that done by a woman.

- a) 2 : 1 b) 1 : 18 c) **18 : 1** d) 9 : 2

64: Let the work done by a man in one day be x units and of a women be y units.

$$\therefore 5(10x + 16y) = 7(7x + 14y)$$

$$\text{or, } 50x + 80y = 49x + 98y \quad \text{or, } x = 18y$$

$$\frac{x}{y} = \frac{18}{1}$$

$$\text{or, } y = 1 \quad \text{Ans. } 18 : 1$$

65. Time difference between Present time to 10:00 pm is five times of the time difference between 7:00 pm to 1 hour before the present time. What is the present time?

- a) 8:40 pm b) 9:10 pm c) 7:50 pm d) **8:20 pm**

65: (d) Time difference between 7:00 pm to 10:00 pm = 3 hrs = 180 min

Let's take, time difference between 7:00 pm to present time = x min

\therefore 1 hour before time difference was = $(x - 60)$ min and time difference between 10:00 pm and present time is = $(180 - x)$ min

According to given condition, $(180 - x) = 5(x - 60)$

$$\Rightarrow 180 - x = 5x - 300$$

$$\Rightarrow 6x = 480$$

$$\therefore x = 80 \text{ min}$$

So present time is 80 min after 7:00 pm i.e. 8:20 pm.

66. Out of sum of Rs.625, a part was lent at 5% and the other at 10% simple interest. If the interest on the first part after 2 years is equal to the interest on the second part after 4 years, then the second sum (in Rs.) is

- a) **125** b) 200 c) 250 d) 500

66: Let one part = x

\therefore By the problem,

$$\frac{x \times 5 \times 2}{100} = \frac{(625 - x) \times 10 \times 4}{100}$$

$$\text{or, } x = 2500 - 4x$$

$$\text{or, } 5x = 2500$$

$$\text{or, } x = 500$$

$$2^{\text{nd}} \text{ sum} = \text{Rs.}(625 - 500) = \text{Rs. } 125$$

$$\text{Ans. Rs.125}$$

67. Which of the following day cannot be the end of a century?

- a) Friday b) **Tuesday** c) Sunday d) Wednesday

67: For one century number of odd days = 5 i.e. Friday
 For two century number of odd days = 3 i.e. Wednesday
 For three century number of odd days = 1 i.e. Monday
 For four century number of odd days = 0 i.e. Sunday
 So it cannot be Tuesday.

68. Given that $-1 \leq v \leq 1$, $-2 \leq u \leq -0.5$ and $-2 \leq z \leq 0.5$ and $w = \frac{vz}{u}$ then which of the following is necessarily true?

- a) $-0.5 \leq w \leq 2$ b) $-4 \leq w \leq 4$ c) $-4 \leq w \leq 2$ d) $-2 \leq w \leq 0.5$

68. $x = \frac{z * v}{u}$ min value if $\frac{-2 * -1}{-0.5} = -4$

max value is $\frac{-2 * 1}{-0.5} = 4$

so w lies between -4 to +4. Hence, option (b).

Directions for questions 69 and 70: Two statements are given against each question. Read the information carefully and mark answer as

- (1): If statement 1 alone is sufficient, but statement 2 alone is not sufficient to answer the question.
 (2): If statement 2 alone is sufficient, but statement 1 alone is not sufficient to answer the question.
 (3): If both statements taken together are sufficient to answer the question, but neither statement alone is sufficient.
 (4): If each statement alone is sufficient.

69. In triangle ABC all the sides have integer lengths. What is the length of side AC?

Statement 1: AB = 3 and BC = 4

Statement 2: One of the angles of ABC is a right angle

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

69: With only statement one it is not possible to answer the questions, same with statement two also. But if we combined them, then from Pythagorean Theorem we can find the value of AC.
 So option (c). (Medium)

70. A die is rolled randomly on to a circular board with a triangle inscribed in the circle. (All three vertices of the triangle are on the circumference of the circle.) What is the probability that the die comes to rest outside the triangular region?

Statement 1: The hypotenuse of the triangle is a diameter of the circle.

Statement 2: The radius of the circle is 2 units, and the area of the triangle is 4 square units.

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

70: From statement 1 we get that the triangle is right angle triangle so from that we can find the area of circle.
 But cannot find the area of triangle. So we cannot get the probability.

In statement 2 we get the area of both i.e. triangle & circle. So it is possible to find the probability from statement 2 alone. Hence option (b). (Hard)

71. In a class of 40 students, 12 enrolled for both English and German. 22 enrolled for German. If the students of the class enrolled for at least one of the two subjects, then how many students enrolled for only English and not German?

- a) 30 b) 10 c) 18 d) 28

71: (C) Let's A = students who have enrolled in English

B = students who have enrolled in German

Now, $A \cup B = 40$

We know, $A \cup B = A + B - (A \cap B)$

$\Rightarrow 40 = A + 22 - 12 \Rightarrow A = 30$

Now, number of students in only English not German

$= A - (A \cap B) = 30 - 12 = 18.$

72. Ten years ago, the ages of the member of a joint family of eight people added upto 231 years. Three years later one member died at the age of 60 years and a child was born during the same year. After another 3 years, again a member aged 60 years died and a child was born during the same year. The current average age of this eight member joint family is nearest to

- a) 21 years b) 22 years c) 24 years d) 25 years

72. The sum of all ages 10 years ago = 231 years.

The current age of person who will die 3 years hence (7 years ago) = 57 years.
 Thus the sum of 7 members 10 years ago = 174
 After 3 years the sum shall be = $174 + 3 \times 7 = 195$
 The new born member doesn't add up to the sum thus even the 8 members have the same sum = 195
 Now the age of other person who will die again 3 years hence has age = 57 years.
 The age of other members apart from the above person = $195 - 57 = 138$
 Now 3 years hence the age sums up to $138 + 3 \times 7 = 159$
 Now the new born again doesn't add up and so the age of all 8 member remain = 159 years.
 4 years hence the total ages will be $159 + 4 \times 8 = 191$. Hence average of 8 people approximately 24 years. Option (c).

73. There were two groups of students – namely A and B. Each group has 50 members. The average weight of group A and group B is 20 and 30 respectively. Now, 25 students in group A are replaced by 25 students of group B such that their average weight becomes equal. What is difference of average weight of students of group A and group B who have swapped the sides?

a) 10 b) 15 c) 20 d) 5

73. Total weight of group A = 1000
 Total weight of group B = 1500
 Let average weight of students leaving group A be x.
 Let average weight of students leaving group B be y.
 $1000 - 25x + 25y = 1500 + 25x - 25y$
 or, $50y - 50x = 500$
 or, $(y - x) = 500 / 50 = 10$. Hence, option (1).

74. From a class of 24 boys, a boy aged 10 years goes away & in his place a new boy is admitted. If, on account of this change the average age of the boys in that class increases by 2 months, find the age of newcomer.

a) 14 years b) 12 years c) 13 years d) None of these

74. Total increase in age = $24 \times \frac{2}{12} = 4$ years. So, 10-year boy is replaced by 14-year boy (a)

75. In the expansion of $(a^{1/2} + b^{1/3})^{25}$, how many terms have integral powers

a) 4 b) 5 c) 6 d) None of these

75. $\left(a^{1/2} + b^{1/3}\right)^{25}$ of form $\left(a^{1/2x} + b^{1/3y}\right)$

Where $1/2x + 1/3y = 25$
 The x and y's are

x	y
4	21
10	15
16	9
22	9

4 values, option (a).

76. A batsman scores 23 runs and increases his average from 15 to 16. Find the runs to be made if he wants to increase the avg to 18 in the same match.

a) 39 runs b) 36 runs c) 27 runs d) 29 runs

76. Average = 15, when he scores 23 average increase by 1 extra runs = 8. No. of innings = $8/1 = 8$.
 Runs required = $(18 - 15) \times 8 + 15 = 39$ runs. Hence (a).

77. The greatest value of $4/(4x^2+4x+9)$ is

a) 4/9 b) 4 c) 9/4 d) 1/2

77. $4/(4x^2+4x+9)$ is greatest when $4x^2+4x+9$ is least. We have $4x^2+4x+9 = (2x+1)^2 + 8 \geq 8$ for all x So, the min. value of $4x^2+4x+9$ is 8.
 Hence, the greatest value of $4/(4x^2+4x+9)$ is $4/8 = 1/2$.

78. If $0 < a, b, c < 1$ and $a + b + c = 1$. Then the minimum value of $\frac{1-a}{a} \cdot \frac{1-b}{b} \cdot \frac{1-c}{c}$

a) 1 b) 0 c) 1/27 d) none of these

78. we have

$$\frac{1-a}{a} \cdot \frac{1-b}{b} \cdot \frac{1-c}{c} = \frac{1 - (a + b + c) + bc + ca + ab - abc}{abc}$$

$$= -1 + \frac{ab + bc + ca}{abc} = -1 + \left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \right) \geq -1 + 9 \geq 8$$

As $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \geq 8$. Hence option (d).

79. There are 30 questions in an examination paper. Each question carries 4 marks and each wrong answer carries – 1. There are no marks for unattempted questions. Find the minimum number of students such that at least two students have same marks.

- a) 152 b) 151 c) 141 d) None of these

79. Maximum number of students having different marks = $(5 \times 30) + 1 = 151$

The scores 119, 118, 117, 114, 113, 109 are not possible to score.

\therefore Required number = $151 - 6 + 1 = 146$. Hence option (5).

80. If p, q, r and s are positive unequal integers such that $p + q + r + s = 16$, what is the maximum value of $\frac{p-q}{r+s}$.

- a) $\frac{7}{3}$ b) $\frac{9}{5}$ c) 2 d) 3

80. Value of $\frac{p-q}{r+s}$ will be maximum when $r+s$ is minimum and $p-q$ is maximum (After taking care of $r+s$)

Set of possible values is $p = 10, q = 3$ and $r = 1, s = 2$ or $r = 2, s = 1$

\therefore maximum value = $\frac{10-3}{2+1} = \frac{7}{3}$. Hence, option (a)

Section – III

81. I was born in Yemen. I'm the CMD of the country's leading conglomerate. I'm the richest person in Asia
a) Dhirubhai Ambani b) Anil Ambani c) **Mukesh Ambani** d) None of these
82. The "Ninety East Ridge" is a submarine volcanic ridge located in ___?
a) Pacific Ocean b) Atlantic Ocean c) **Indian Ocean** d) Arctic Ocean
83. The "Helmand Province" of Afghanistan is famous for cultivation of ___:
a) Tobacco b) **Opium** c) Wheat d) Cotton
84. The cities of 'Hiroshima' and 'Nagasaki' are located on which among the following Islands of Japanese Archipelago?
a) **Honshu and Kyushu respectively** b) Honshu and Shikoku respectively
c) Hokkaido and Kyushu respectively d) Kyushu and Shikoku respectively
85. My company is the biggest biopharmaceutical firm in India. In 1998, I got married to John Shaw. I'm termed India's Biotech Queen
a) Swati Piramal b) **Kiran Mazumdar Shaw**
c) Anuradha Desai d) None of these
86. Which of the following countries are separated by the Strait of Gibraltar?
a) Portugal and Morocco b) Algeria and Spain
c) **Morocco and Spain** d) Algeria and Portugal
87. Which of the following places of the world is known for 'Guano', a uniquely-produced natural fertilizer which has a high concentration of nitrates?
a) Tierra del Feugo b) Atacama desert
c) Minas Gerais of Brazil d) **Coastal headlands and Islands of Peru**
88. What is common between Kutty, Shankar, Laxman and Sudhir Dar?
a) Film Direction b) **Drawing Cartoons** c) Instrumental Music d) Classical Dance.
89. Consider the following Statements:
1. An Ox-Bow lake is a cut-off river meander.
2. Youthful stage of a river is characterized by a flood-plain.
Which of the Statement(s) given above is/are correct?
a) **Only 1** b) Only 2 c) Both 1 and 2 d) Neither 1 nor 2
90. Consider the following types of depositional features:
1. Moraines: Glacial deposits
2. Barchans: Aeolian deposits
3. Delta: Fluvial deposits
Which among the above is/are correctly paired with it's/their respective type of landforms?
a) Only 1 b) 1 and 2 c) 1 and 3 d) **1, 2 and 3**
91. I'm the CMD of \$5-billion telecom Services Company. I'm son of a politician. My company was in talks with MTN for acquisition.
a) Rajeev Chandrasekhar b) **Sunil Bharti Mittal**
c) Anil Ambani d) None of these
92. Who was the founder of the Theosophical Society in India and started the Home Rule League?
a) **Annie Besant** b) Acharya Narendra Dev
c) Lal-Bal-Pal d) None of these
93. The Sangai Festival is celebrated in ___:

- a) Assam b) **Manipur** c) Mizoram d) Nagaland
94. Who among the following known as Pocket Hercules?
a) Mike Tyson b) **Manohar Aich** c) Manotosh Roy d) Muhammad Ali
95. The temples constructed at Khajuraho are:
1. Jain temples
2. Vaishnavite Temples
3. Saivite Temples
Choose the correct option from the codes given below
a) Only 1 & 3 b) Only 2 & 3 c) **1, 2 & 3** d) Only 1 & 2
96. I'm a Harvard graduate. I'm a football fan I rescued a scam-hit software giant
a) **Anand Mahindra** b) Vijay Mallya c) Adi Godrej d) None of these
97. The famous 'Hornbill festival' is celebrated in which of the following States of India?
a) **Nagaland** b) Mizoram c) Assam d) Meghalaya
98. Which of the following statements about the Gandhara School of Art is NOT correct?
a) It displays Greek artistic influence and the concept of the "man-god" was essentially inspired by Greek mythological culture.
b) **Gandhara School of art enjoyed the liberal patronage of Indo-Greek rulers.**
c) Artistically, the Gandharan school of sculpture is said to have contributed wavy hair, drapery covering both shoulders, shoes and sandals etc.
d) The Gandhara art primarily depicted the Buddhist themes.
99. Who was the first president of Uzbekistan?
a) Abdulhashim Mutalov b) O'tkir Sultonov
c) **Islam Karimov** d) Nigmatilla Yuldashev
100. I was elected to the Rajya Sabha in June 2006. I have two sons Rajiv & Sanjiv and a daughter, Sunaina Kejriwal. I'm an alumnus of Harvard Business School.
a) **Rahul Bajaj** b) Venu Srinivasan c) Anil Ambani d) None of these
101. Gundecha brothers are well known exponents of which among the following styles of Hindustani Classical Music ?
a) Khayal b) Tharana c) **Dhrupad** d) Thumri
102. I'm a Bangalorean. My company has diversified interests, from soaps to software. My father owned the Western India Vegetable Product Company
a) NR Narayana Murthy b) **Azim Premji**
c) Vijay Mallya d) None of these
103. Which of the following eminent personalities who was the ninth monarch of Thailand from the Chakri Dynasty as Rama IX?
a) Sirikit Kitiyakara b) Vajiralongkorn c) Ananda Mahidol d) **Bhumibol Adulyadej**
104. Which state Government confers the Basava Sri award?
a) Gujarat b) Maharastra c) Andhra Pradesh d) **Karnataka**
105. What is the name of the CEO of Accenture Dublin?
a) **Pierre Nanterme** b) Ajay Kapur c) Rupert Stadler d) Sunil Mittal

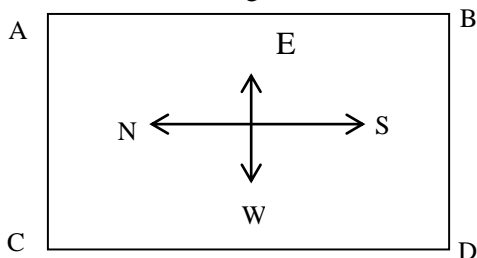
106. Which of the following is the India's biggest River Island?
a) **Majuli** b) Ile a Mofil c) Zhongshan Island d) Chongming Island
107. Jude Felix is a famous India Player in which of the following field?
a) Volleyball b) Tennis. c) Football. d) **Hockey.**
108. India is a federal union comprising twenty-nine states and how many union territories?
a) 6 b) **7** c) 8 d) 9
109. My company manufacturer's two-wheelers. I'm the president of CII. My company recently won a case against
a) Rahul Bajaj b) **Venu Srinivasan** c) Pawan Munjal d) None of these
110. Who became the first woman to reach the summit of Mount Everest, and the first woman to ascend all Seven Summits by climbing the highest peak on every continent?
a) **Junko Tabei** b) Bachendri Pal c) Santosh Yadav d) Premlata Agarwal
111. Which state has Almond as its State Tree?
a) Himachal Pradesh b) Goa c) **Jammu and Kashmir** d) Arunachal Pradesh
112. The first Women External Affairs Minister of India was:
a) Sushma Swaraj b) Jayalalitha c) Pratibha Patil d) **Indira Gandhi**
113. Which is the largest lagoon lake of India and second largest lagoon lake of world after Lagoa das patos of South America?
a) Vembanad Lake b) Kolleru Lake c) Pulicate d) **Chilka Lake**
114. In what year was Rajiv Gandhi assassinated?
a) 1990 b) **1991** c) 1992 d) 1993
115. Which of the following place where the Constituent Assembly met for the first time on 9th December 1946?
a) **In the library of the Council Chamber, Delhi**
b) In the library of the Council Chamber, Calcutta
c) In the library of the Council Chamber, Madras
d) None of the above
116. In 2004, I was elected as an Independent member of the Rajya Sabha. I'm embroiled in a dispute with my elder brother. I'm married to Tina Munim
a) Rajeev Chandrasekhar b) Mukesh Ambani
c) **Anil Ambani** d) None of these
117. In what year did Sonia Gandhi received Citizenship of India?
a) 1982 b) **1984** c) 1985 d) 1987
118. India's name is derived from the -----:
a) Yamuna River b) **Indus River** c) Saraswati River d) Ganga River
119. I own the IPL Cricket team - Royal Challengers I'm a former Rajya Sabha MP. My company sponsors the East Bengal and Mohun Bagan football clubs in Kolkata
a) Karan Billimoria b) **Vijay Mallya** c) Mukesh Ambani d) None of these
120. Who is currently (2016) the Vice President of India?
a) Ms. Pratibha Patil b) **Mohammad Hamid Ansari**
c) Bhairon Singh Shekhawat d) Krishan Kant

Section – IV

Directions for questions 121 to 126: These are to be attempted independent of each other.

121. In a certain code language “nee muk pic’ means ‘grave and concern’; ‘ill dic so’ means ‘every body else’; and ‘tur muk so’ means ‘body and soul’. Which of the following would mean ‘every concern’ ?
 a) dic pic b) ill nee c) pic nee d) **Can’t be determined**
121. (d) muk = and, so = body, tur = soul. We cannot determine the words for every concern.
122. In a certain language, ‘col tip mot’ means ‘singing is appreciable’; ‘mot baj min’ means ‘dancing is good’ and ‘tip nop baj’ means ‘singing and dancing’. Which of the following means ‘good’ in that code language?
 a) mot b) **min** c) baj d) Can’t be determined
122. (b) mot = is, baj = dancing, min = good.
123. If NARGRUED is the code for GRANDEUR, which word is coded as SERPEVRE ?
 a) PERSEVER b) PRESEVER c) PERSERVE d) **PRESERVE**
123. (d) The word is broken up into two. Gran = Narg, Deur = Rued. Similarly, Serp = Pers and Evre = Erve.
124. At a farm, there are hens, cows and bullocks, and keepers to look after them. There are 69 heads less than legs; the number of cows is double of that of the bullocks; the number of cows and hens is the same and there is one keeper per ten birds and cattle. The total number of hens plus cows and bullocks and their keepers does not exceed 50. How many cows are there ?
 a) 10 b) **12** c) 14 d) 16
124. (b) No. of heads = H + C + B + K. No of legs = 2H + 4C + 4B + 2K. Now H + C + B + K + 69 = 2H + 4C + 4B + 2K. Hence H + 3c + 3B + k = 69. Also C = 2B and C = H and K = (C + B + H)/10.. Solving the questions, we get C = 12, H = 12, B = 6 and K = 3. The sum can also be done by substituting the choices.
125. A bus starts from city X. The number of women in the bus is half of the number of men. In city Y, 10 men leave the bus and five women enter. Now, the number of men and women is equal. In the beginning, how many passenger entered the bus?
 a) 15 b) 30 c) 36 d) **45**
125. (d) $M - 10 = w + 5$ and $W = \frac{1}{2} M$. Solving the 2 equations we get $M = 30$ and $W = 15$.
126. In a class, there are 18 boys who are over 160 cm tall. If these constitute three-fourths of the boys and the total number of boys in two-thirds of the total number of students in the class, What is the number of girls in the class?
 a) 6 b) **12** c) 18 d) 24
126. (b) Boys = $18 \times \frac{4}{3} = 24$. This is $\frac{2}{3}$ of the class, then class = $24 \times \frac{3}{2} = 36$. Girls = $36 - 24 = 12$.

Directions for questions 127 to 129: In a square field four persons A,B,C,D are standing on the four corners as shown below.



Now they start walking in anti-clockwise direction and occupy the positions at the next corners. Study the information and pick up answers, from the answer choices for each question.

127. Who is in the North-East position ?
 a) A b) **B** c) C d) D
128. Who is in the North-west position ?

- a) A b) B c) C d) D

129. Who is in the South-West position ?

- a) A b) B c) C d) D

127 to 129:

Everybody will move to the next corner. i.e. B at A's place, A at C's place, C at D's place and D at B's place.

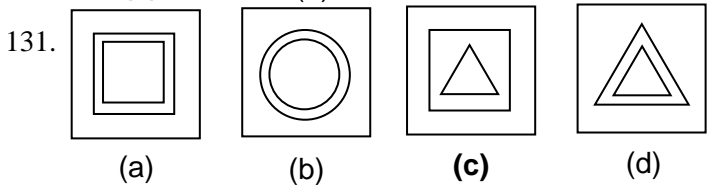
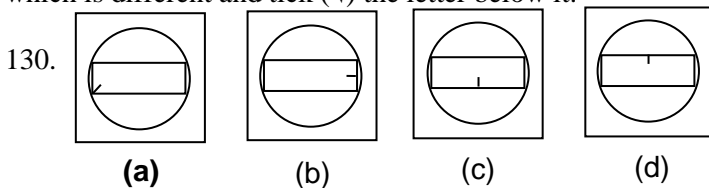
Hence,

127 – B,

128 – A,

129 – C,

Directions for questions 130 and 131: In these questions, four figures (1), (2), (3) (4) have been given in each question. Of these four figures, three figures are similar in some way and one figure is different. Select the figure which is different and tick (✓) the letter below it.



130. (1) In no other figures, extra line runs from the corner.

131. (3) In all other, both designs are same.

Directions questions 132 to 136: In each of the question given below there is a series with one term missing as shown by a question mark. This term is given as one of the alternatives among the four numbers given in the answer choices. Find this term out.

132. 0, 2, 6, 12, 20, ?
a) 40 b) 30 c) 22 d) 26

132. $0 \times 1, 1 \times 2, 2 \times 3, 3 \times 4, 4 \times 5, 5 \times 6. \therefore 5 \times 6 = 30$

133. 27, 64, 125, 216, 343, ?
a) 416 b) 510 c) 408 d) 512

133. $3^3, 4^3, 5^3 \dots \dots \dots 8^3$

134. 2, 5, 10, 15, 26, 37, 50, ?
a) 63 b) 58 c) 50 d) 72

134. $1^2 + 1, 2^2 + 1, 3^2 + 1, 4^2 - 1, 5^2 + 1, 6^2 + 1, 7^2 + 1, 8^2 - 1$
 $\therefore 8^2 - 1 = 63$

135. 0, 3, 8, 15, 24, 35, 48, ?
a) 58 b) 61 c) 51 d) 63

135. $1^2 - 1, 2^2 - 1, 3^2 - 1 \dots \dots 7^2 - 1, 8^2 - 1$
 $\therefore 8^2 - 1 = 63$

136. 544, 509, 474, 439, ?
a) 404 b) 414 c) 420 d) 445

136. Option A

This is a simple subtraction series. Each number is 35 less than the previous number.

Directions for question 137 to 139: Read the following information to answer these questions.

- i) 'P # Q' means 'Q is father of P' ii) 'P * Q' means 'Q is mother of P'
 iii) 'P £ Q' means 'Q is brother of P' iv) 'P \$ Q' means 'Q is sister of P'

137. Which of the following means 'R is grandmother of S'?

- a) R\$P # Q£L*S b) R*P£Q # L\$S c) **S\$S # Q£P*R** d) Can't be determined

138. Which of the following means 'L is aunt of M'?

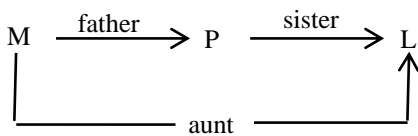
- a) M # P £ L b) **M # P \$ L** c) L # P \$ M d) Can't be determined

139. Which of the following means 'A is nephew of B'?

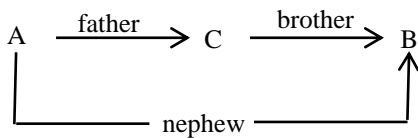
- a) **E£A#C£B*D** b) A#C*B#D c) B#C£A*D d) Can't be determined

137.c;

138.b;



139.a



Direction for questions 140 to 143: In each questions, two statements are followed by two conclusions I & II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusion and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts. Mark the answer. Give answer:

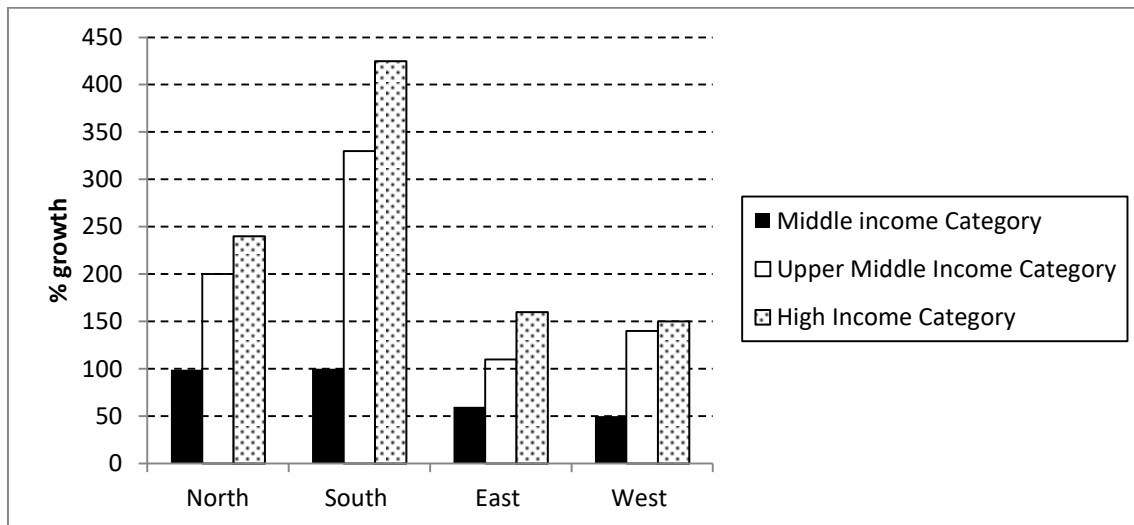
- (a) if only conclusion I follows (b) if only conclusion II follows
 (c) if either I and II follows (d) if neither I nor II follows

140. **Statements :** All choices are voices Some voices are cars.
Conclusions : I. All choices are cars II. No choice is a car.
141. **Statements :** Some Indians are ministers. No Indian is a politician.
Conclusions : I. No minister is a politician. II. Some minister are not politician.
142. **Statements :** Some diplomats are ambassadors. All ambassadors are dedicated.
Conclusions : I. Some diplomats are dedicated II. Some diplomats are not dedicated
143. **Statements :** All banquets are parties. No party is a visit.
Conclusions : I. Some parties are not visits. II. All parties are banquets.

140. Conclusion: I. False
 II. False
 Ans: (c)
 141. Conclusion: I. False
 II. True
 Ans: (b)
 142. Conclusion: I. True
 II. False

Ans: (a)
 143. Conclusion I. True
 II. False
 Ans: (a)

Directions for questions 144 to 147: The following bar chart gives percentage growth in household incomes of the middle, upper middle and high income categories in the four regions for the period between 87-88 and 94-95.



	Number of Households (87-88) (in '000s)	Avg. Household Income (87-88) (in Rs)	Growth of Avg. Income (87-88 and 94-95) (in %)
Middle Income	40	30000	50
Upper Middle income	10	50000	60
High Income	5	75000	90

144. What was the total household income in northern Region for upper middle class?
 a) 50 lakhs b) 500 million c) 300 million **d) Cannot be determined**
145. What is the percentage increase in total household income for the Northern Region (upper middle) over the given period?
 a) 100 **b) 200** c) 240 d) Cannot be determined
146. What was the average income of the high-income group in 87-88?
a) 75000 b) 25000 c) 225000 d) Cannot be determined
147. The ratio of total income for the high-income category to the upper middle class increased by how much percentage in the given period?
 a) 20 **b) 18.7** c) 25 d) Cannot be determined

144. (d) Note that the data provided is regarding the growth over the certain period and the actual amounts are specified for the entire category. But nowhere it mentions about the actual amount of the certain zone. Therefore the total household income in the Northern region for upper middle class cannot be determined. Hence the answer is (d).

145. One can read it clearly from graph that total household income for Northern region (upper middle class) increase by 200%. Hence answer is (b).

146. One can read it clearly from the table that average income for the high-income group, in 87-88 was 75,000. Hence answer is (a).

147. Note that ratio of the total income for the high income category to that of the upper middle category in 87 – 88 was $(75 * 5) : (50 * 10) = 3 : 4$. During the period the income of higher income category increased by 90%. And that for the upper middle category increased by 60%. Therefore, the ratio of their incomes at the end of the period is $3 * 19 : 4 * 16 = 57 : 64$. Thus the ratio increased from $\frac{3}{4}$ to $\frac{57}{64}$ that is by $\frac{9}{64}$. Then the percentage increase is $100 * (\frac{9}{64}) / (\frac{3}{4}) = 18.75\%$. Hence answer (b).

Directions for questions 148 to 150: The table below gives the total India's and Delhi's export in the years 2000 and 2010.

Commodity	2000		2010	
	India	Delhi	India	Delhi
Sugar	2700	26	11401	-
Tobacco	2771	85	17436	192
Rice	925	6	3377	143
Meat	3584	4	-	92
Cereals	6775	9	36724	158
Spices	255	52	1237	156
Vegetables	1471	17	39292	372

148. In which two of the following commodities has Delhi's share of India export declined?
 a) Tobacco and Rice b) Vegetables and Rice
 c) Spice and Rice d) **Vegetables and Spices**
149. The figure for India export for meat for 2010 have been accidentally deleted. But data is available that says Delhi's share in this year for meat was 0.3%. What was the India Export for meat in 2010 (US \$ million)?
 a) 40000 **b) 30000** c) 20000 d) 15000
150. The India exports for which commodity has risen the most? (Refer to data of the pervious question)
 a) Cereals b) Tobacco c) **Vegetables** d) Meat

$$148. \text{ Tobacco in 2000} = \frac{85}{2771} \approx \frac{1}{30} \text{ and in 2010 it is } \frac{192}{17436} \approx \frac{1}{90}$$

$$\text{Rice in 2000} = \frac{6}{925} \approx \frac{1}{150} \text{ and in 2010 it is } \frac{143}{3377} \approx \frac{1}{25}$$

$$\text{Vegetables in 2000} = \frac{17}{1471} \approx \frac{1}{85} \text{ and in 2010} = \frac{372}{39292} \approx \frac{1}{105}$$

$$\text{Spices in 2000} = \frac{52}{255} \approx \frac{1}{5} \text{ and in 2010} = \frac{156}{1237} \approx \frac{1}{8}$$

Therefore, it has decrease in case of tobacco, vegetables and spices. Hence, (d).

149. Delhi's share = 0.3%

$$\Rightarrow \frac{\text{Delhi's share}}{\text{total of India exports}} \times 100 \Rightarrow 0.3\%$$

$$\text{Therefore, } \frac{92}{\text{India exports}} \times 100 = 0.3$$

$$\text{Total India exports for meat} = \frac{92 \times 100}{0.3} = 30666 \approx 30000. \text{ Hence, (b).}$$

150. Cereals = 6775 to 36724 which is approximately 6 times
 Tobacco = 2771 to 17436 which is approximately 6 times
 Vegetables = 1471 to 39292 which is approx. 27 times
 Meat = 3584 to 30666 which is approx. 9 times
 Therefore, vegetables had the maximum increase rate. Hence, (c).

Answer Key : Symbiosys (1)

1	C	31	C	61	B	91	C	121	B
2	C	32	C	62	A	92	B	122	A
3	D	33	A	63	A	93	D	123	B
4	C	34	A	64	D	94	C	124	B
5	A	35	A	65	B	95	B	125	C
6	B	36	A	66	A	96	A	126	A
7	C	37	D	67	B	97	A	127	A
8	A	38	D	68	D	98	D	128	B
9	D	39	D	69	B	99	C	129	C
10	B	40	A	70	C	100	C	139	A
11	C	41	D	71	D	101	A	131	C
12	D	42	B	72	A	102	D	132	B
13	B	43	D	73	D	103	C	133	D
14	A	44	B	74	C	104	C	134	D
15	C	45	D	75	A	105	A	135	A
16	D	46	B	76	C	106	B	136	A
17	A	47	B	77	C	107	C	137	D
18	B	48	A	78	D	108	C	138	B
19	B	49	C	79	B	109	C	139	B
20	B	50	A	80	A	110	D	140	A
21	D	51	C	81	D	111	C	141	C
22	C	52	B	82	C	112	C	142	D
23	B	53	D	83	D	113	B	143	D
24	C	54	A	84	D	114	A	144	B
25	D	55	D	85	B	115	B	145	A
26	A	56	A	86	C	116	C	146	C
27	B	57	C	87	A	117	D	147	B
28	B	58	B	88	C	118	B	148	B
29	C	59	A	89	C	119	A	149	B
30	B	60	C	90	A	120	D	150	B

SOLUTION