

Directions (1 – 5): Study the following information to answer the given questions:

There are 4 students – A, B, C and D who are studying in 4 different streams of Engineering – IT, Electrical, Chemical, and Computer but not necessarily in the same order. Each of them belongs to a different state, ie Haryana, UP, Punjab and Gujarat, but not necessarily in the same order.

They have taken part in different competitions – Painting, Sketching, Dancing and Singing but not necessarily in the same order. They like different colors – Red, Green, Blue and Yellow, but not necessarily in the same order.

The one who likes Red color took part in Painting. But he is not B. The one who likes Yellow color took part in dancing. The one who belongs to UP took part in singing while the one who studied Chemical stream took part in sketching. A and B studied in neither Chemical nor Electrical streams. They like neither Green nor Blue color. They belong neither to Gujarat nor to UP. The one who studied in IT stream does not belong to Punjab. The one who belongs to UP is not D. The one who studied in Electrical stream do not like Green color. The one who belongs to Haryana do not like Red color.

1. Which of the following color does A like?

- A) blue
- B) yellow
- C) red
- D) green
- E) Cannot be determined

2. Which of the following combination is true with respect to the given information?

- A) B – red
- B) A – blue

- C) D – green
- D) C – yellow
- E) None of these

3. C belongs to which of the following states?

- A) Haryana
- B) Gujarat
- C) Punjab
- D) UP
- E) Cannot be determined

4. Who took part in sketching?

- A) B
- B) C
- C) D
- D) A
- E) Cannot be determined

5. Which of the following is true in respect to the given information?

- A) D likes red color
- B) A took part in Dancing
- C) B is from Gujarat
- D) C studies in Electrical stream
- E) A studies in IT stream

Directions (6 – 10): Study the following information to answer the given questions:

There are nine members in the family i.e. A, B, C, D, E, F, G, H and I. Each person likes different colors viz. Brown, Green, Black, Pink, Blue, Red, Yellow, Orange and White. All members of the family have a relation with A which can be defined as Father, Mother, Brother, Sister, Wife, Daughter, Son, and Brother-in-law but not in the same order. They are seating around a circular table but not necessarily in the same order. Some of them are facing towards the center while others are facing away from the center.

A's brother is seating on the immediate right of the brother of A's sister and they both face the same direction. I is brother of A's daughter. I's father likes Green

color. H has a sister. The mother of A's son is E and sits second to the left of the married son of A's father. F's daughter-in-law likes White color. A is facing away from the center. F is a male. A's father sits third to the right A's daughter. Either I or H sits third to the left of the mother of C, but both I and H face the same direction.

A's brother and sister likes Black and Brown color respectively. G is not father of H. In two generations, the members of the same generation are sitting immediate next to each other and face the same direction. A's father does not like Orange or Yellow color. F's grandson likes Pink color. B is a female and of the same generation as of A. G sits on the immediate left of the granddaughter of A's father. The one, who is the wife of F likes Yellow color. A's brother-in-law neither likes Orange color nor blue color. A's father doesn't sit immediate next to his children. G is facing the centre and is second to the right of A. B sits second to the left of F. No three members seating together can face the same direction.

6. Who sits third to the right of A's mother?
 - A) B
 - B) H's brother-in-law
 - C) A's brother-in-law
 - D) E's husband
 - E) Both B and C

7. Who among the following sits exactly between A and his wife?
 - A) F
 - B) A's sister
 - C) A's daughter
 - D) D
 - E) None of these

8. Four of the following five are alike in a certain way so form a group. Which of the following does not belong to the group?
 - A) B
 - B) A
 - C) A's mother
 - D) A's daughter
 - E) E

9. Which of the following persons is facing towards the center?
 - A) B, G, F, I
 - B) A, G, D, I

C) G, D, A's father, G's wife

D) D, G, B, C

E) None of these

10. Which of the following colors does H like?

A) blue

B) red

C) pink

D) brown

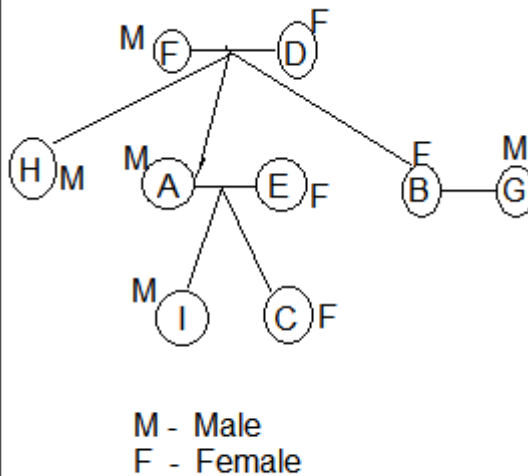
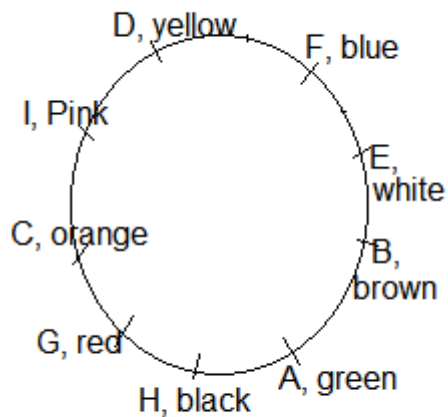
E) black

ANSWER

1-5

Person	Stream	Color	State	Competition
A	Computer	red	Punjab	Painting
B	IT	yellow	Haryana	Dancing
C	Electrical	blue	UP	Singing
D	Chemical	green	Gujarat	Sketching

6-10



Q.1-5) Study the following information carefully and answer the Question given below:

Seven friends Adam, Bailey, Abraham, Bethany, Arthur, Brooke and Alexander meet in a party. They shake hands with each other but only in a particular way. The persons whose name starts with A do not shake hands with the persons whose name starts with B and vice versa. These friends are belongs to different degree, viz. MBA, MCA, B.E and M.E. No two persons whose name starts with B can doing the same degree. And the same rule applies to the persons whose name starts with A. All the persons shake hands with at least one person. Arthur is the only person who shakes-hands with all persons whose name starts with A but he is not belongs to a M.E. Brooke is belongs to a MBA and shakes hands only with Bailey. The persons who are doing B.E shake hands with only persons who doing MCA. Adam does not doing a M.E but shakes hands with the person who doing a M.E. M.E is studied by only one person but that person is not Abraham.

Q.1) How many handshakes are there between friends?

a) 12

b) 9

c) 6

d) 21

e) None of these

Q.2) Who among the following doing MCA?

a) Bailey and Arthur

b) Abraham and Bethany

c) Bailey and Brooke

d) Can't be determined

e) None of these

Q.3) Which of the following combination is true with respect to handshake and degrees?

a) Adam (MBA)-Abraham (MBA)

b) Alexander (M.E)-Bailey (MBA)

c) Bethany (B.E)-Bailey (MCA)

d) Abraham (B.E)-Alexander (M.E)

e) None of these

Q.4) Adam doing which of the following degrees?

a) MCA

b) MBA

c) M.E

d) B.E

e) Can't be determined

Q.5) Which of the following statements is/are true?

- a) Adam doings a MCA
- b) Bethany shakes hands only with Brooke
- c) Abraham shakes hands only with the person who doings a MCA
- d) Only (b) and (c) are true
- e) None of these

Q.6-10) Study the following information carefully and answer the Question given below:

Seven friends Rajesh, Fazith, Vinoth, Ajay, Hema, Bala and Jeeva went to three different places of india viz, Delhi, Mumbai, Chennai. Not less than two person visits same place and not more than three person visits same place. Each of them born on four different months viz, January, June, November and December not more than two persons born on same month. Each person like different colors viz. Yellow, Black, White, Violet, Indigo, Blue and Orange .

Bala visits Chennai and he likes blue. The person who likes violet was born on June. No other person was born on June. Rajesh was born on January. Fazith was born on month which has 31 days. Ajay likes orange and visits with only Rajesh. The person who likes indigo visit with only person who was born on November. Fazith visits with two other friends. Neither Ajay nor Jeeva was born on November. Hema and Jeeva visit same place. Fazith likes black and visit Mumbai. The person who likes yellow and orange visit together. Vinoth and Bala was born on consecutive months. Jeeva does not like indigo. Hema was born on November. The person who was born on june and December did not visit place together.

Q.6) Who among the following person visit Chennai?

- a) Ajay and Rajesh
- b) Hema and Jeeva
- c) Bala and Vinoth
- d) Rajesh and Vinoth
- e) cannot be determined

Q.7) Who among the following person born on June?

- a) Jeeva
- b) Ajay
- c) Vinoth
- d) Rajesh
- e) Cannot be determined

Q.8) Who among the following person likes Yellow?

- a) Hema
- b) Rajesh
- c) Vinoth
- d) Ajay
- e) Cannot be determined

Q.9) If Vinoth and Ajay interchanged his position then which of the following colour liked by Vinoth?

- a) Indigo
- b) White
- c) Yellow
- d) Orange
- e) Cannot be determined

Q.10) Which among the following month does Fazith was born?

- a) January
- b) June
- c) November
- d) December

e) cannot be determined

Answers for the Questions (Q1- Q5)

Degree	Name	Hand shake
MCA	Arthur	Adam, Abraham,Alexander
MBA	Adam	Arthur, Alexander
BE	Abraham	Arthur
ME	Alexander	Arthur, Adam
MCA	Bailey	Brooke, Brooke
BE	Bethany	Bailey
MBA	Brooke	Bailey

1. (c)

2. (a)

3. (c)

4. (b)

5. (c)

Answers for the Questions from (Q 6 – Q 10)

Delhi	Mumbai	Chennai
Rajesh – January – Yellow	Fazith – January – Black	Vinoth – December – Indigo
Ajay – December – Orange	Hema – November – White	Bala – November – Blue
	Jeeva – June – Violet	

6. (c)

7. (a)

8. (b)

9. (d)

10. (a)

Directions (Q. 1-5) : Study the following information carefully and answer the questions given below:

Ten cricketers of Mumbai Indians namely A, B, C, D, E, F, G, H, I and J live in a building with four floors. Each floor has 3 flats – flat-1, flat-2 and flat-3 – in the same order from left to right. Ground floor is numbered-1 and top most floor is numbered-4. Each flat is built in such a way that flat-1 of floor-2 is just above the flat-1 of floor-1 and so on. Each of them belongs to different countries viz — England, India, Pakistan, South Africa, Sri Lanka, Bangladesh, New Zealand, West Indies, Australia and Afghanistan but not necessarily in the same order.

Two flats in which no one lives, are on the even numbered floor and are odd numbered flats but aren't on the same floor or the same numbered flat. A belongs to England and lives on an odd numbered floor and the odd numbered flat. G lives on the flat just above B. B lives on the lower most floor. The one who belongs to Sri Lanka lives on an odd numbered floor and even numbered flat which is in the left of A's flat. H belongs to West Indies and lives on the lower most floor but not on odd numbered flat. B and the one who belongs to Afghanistan lives on the same floor. D and E live on the floor number three. D lives just above the flat which is vacant. There is only one floor between C and I. I lives immediate right of F. The one who belongs to India does not live on the floor, which any flat is vacant. The one who belongs to Bangladesh lives immediate left of the one who belongs to Australia. The one who belongs to Bangladesh lives on an even numbered floor and odd numbered flat. The one who belongs to New Zealand lives immediate above the one who belongs to India. The one who belongs to South Africa does not live on an even numbered floor.

1. Who lives just above the one who belongs to Pakistan?

- 1) I, who belongs to Australia.
- 2) The one who belongs to Afghanistan.
- 3) The one who belongs to New Zealand.
- 4) The one who belongs to Sri Lanka.
- 5) None of these

2. Four of the following five are alike in a certain way and so form a group.

Which one does not belong to that group ?

- 1) Afghanistan, H
- 2) Sri Lanka, E
- 3) Australia, F

4) South Africa, E 5) West Indies, B

3. Who lives on the lower most floor ?

- 1) The one who belongs to Bangladesh.
- 2) E and the one who belongs to England.
- 3) The one who belongs to India.
- 4) The one who belongs to South Africa.
- 5) None of these

4. The one who belongs to Sri Lanka lives on which of the following floors and which of the following flats ?

- 1) Floor-2, Flat number-3
- 2) Floor-3, Flat number-1
- 3) Floor-4, Flat number-2
- 4) Floor-3, Flat number-2
- 5) None of these

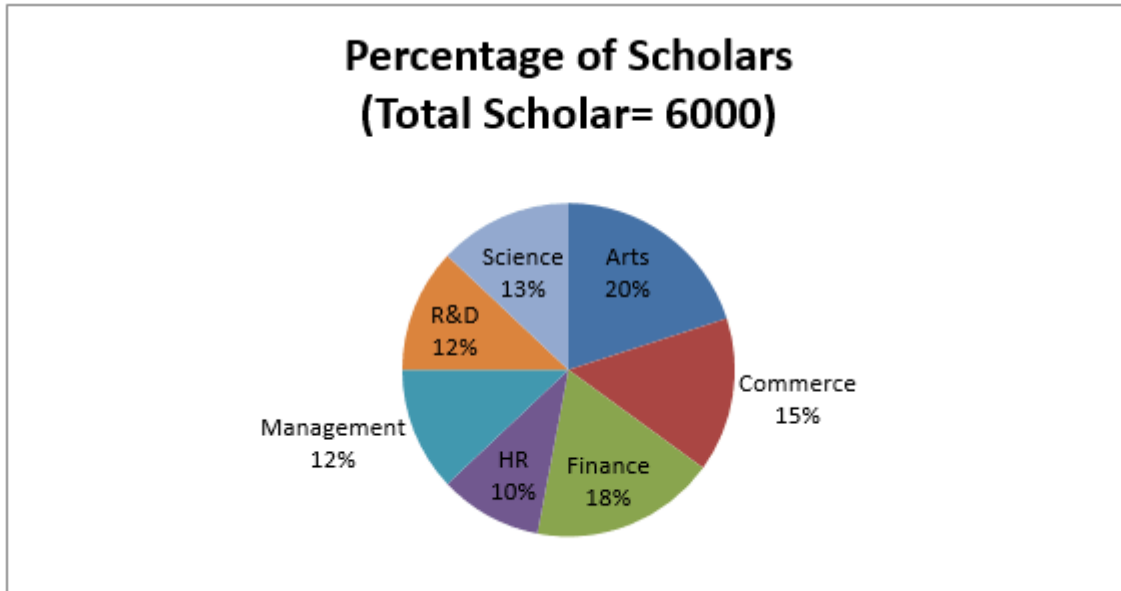
5. Which of the following statements is true ?

- 1) J lives on an even numbered floor.
- 2) The one who belongs to New Zealand lives immediately above A.
- 3) The one who belongs to Sri Lanka and the one who belongs to England live on the floor numbered-3.
- 4) F and the one who belongs to Afghanistan live on the same floor.
- 5) None is true

Answers:

Floor	Flat		
	1	2	3
4	F, Bangladesh	I, Australia	—
3	D, South Africa	E, Sri Lanka	A, England
2	—	C, Pakistan	G, New Zealand
1	J, Afghanistan	H, West Indies	B, India

Directions: (1-5)The pie chart given below shows the percentage of Scholars in different disciplines in California University for the Year 2016 and The table suggests the percentage of girls.



Percentage of Girls in Disciplines

Disciplines	% of Girls
Arts	28
Commerce	34
Finance	35
HR	23
Management	20
R&D	40
Science	30

1. Number of girls scholar in Arts discipline is what percent more or less than the no. of Male Scholar in Science?

A. 39.46%

B. 38.46%

C. 40.5%

D. 42.82%

E. None of the above

2. What is the ratio of Maximum number of Boys in a discipline given to the maximum no. of girls in a discipline?

A. 16 : 7

B. 16 : 9

C. 15 : 7

D. 7 : 16

E. None of these

3. What is the difference between the average number of boys in all disciplines together to the average number of girls in all disciplines together (approximately)?

A. 222

B. 289

C. 300

D. 336

E. 312

4. Total number of scholars in Commerce, Arts and Science is what percent of Total number of Male scholar in R&D, Management and Finance together?

A. 152.76%

B. 158.48%

C. 168.42%

D. 178 %

E. None of the above

5. Due to some natural calamities in USA, 80% of the scholars from Management left the University . Approximately, What would be the new central angle of Commerce scholar as per current availability? (However, no students from other discipline left the University). (Approximately)

A. 85

B. 70

C. 75

D. 55

E. 60

Directions: (6-10) Following Table shows the Viewers of Five different IPL matches in five different cities, ratio of male and female among them and ratio of adult and minor among them. Answer the given questions based on the table.

City	TEAM	Viewers	Ratio of Male and Female		Ratio of Adult and Minor	
			Male	Female	Adult	Minor
PUNE	RPS	33350	12	11	14	9
Kolkata	KKR	55440	9	7	11	5
Mumbai	MI	36990	4	5	16	11
Bangalore	RCB	25800	7	5	5	3
Mohali	KXIP	28152	8	9	11	6
Delhi	DD	30282	10	11	13	8

6. In Pune, if 16% of the seats were vacant during the match then Total Minor Viewers from all cities except the city which has team RCB and DD is approximately how many times the total no. of seats occupied in Pune?

- A. 3
- B. 2.5
- C. 2
- D. 4
- E. None of these

7. Total number of female viewers from the city Pune, Mumbai and Delhi is what percent more or less than total viewers from KXIP?

- A. 86%

B. 87%

C. 88%

D. 76%

E. 80%

8. What is the difference between Total adult Viewers and average of total Viewers for all teams? (Approximately)

A. 98240

B. 98420

C. 98480

D. 98520

E. None of these

9. Total Female viewers of MI is what percent of total viewers of City Mohali? (Approximately)

A. 69

B. 71

C. 77

D. 73

E. 70

10. What is the ratio of total male viewers of Team KKR to the total adult viewers of the Team in Delhi?

A. 31187 : 18746

B. 31185:18746

C. 411 : 746

D. 18746 : 31185

E. None of these

ANSWER:

1.

$$\text{No. of Female scholar in ARTS} = 60 \times 20 \times \frac{28}{100} = 336$$

$$\text{No. of male Science Scholar} = \frac{70}{100} \times 60 \times 13 = \frac{780 \times 70}{100} = 546$$

$$\text{Desired \%} = \frac{546 - 336}{546} \times 100 = 38.46\%$$

B. 38.46%

2.

A. 16 :

No. of Males disciplinewise	No. of Females disciplinewise
ARTS: $60 \times 20 \times \frac{72}{100} = 864$	ARTS: $60 \times 20 \times \frac{28}{100} = 336$
Commerce: $60 \times 15 \times \frac{66}{100} = 594$	Commerce : $60 \times 15 \times \frac{34}{100} = 306$
Finance: $60 \times 18 \times \frac{65}{100} = 702$	Finance: $60 \times 18 \times \frac{35}{100} = 378$
HR: $60 \times 10 \times \frac{77}{100} = 462$	HR: $60 \times 10 \times \frac{23}{100} = 138$
Management: $60 \times 12 \times \frac{80}{100} = 576$	Management: $60 \times 12 \times \frac{20}{100} = 144$
R & D : $60 \times 12 \times \frac{60}{100} = 432$	R & D: $60 \times 12 \times \frac{40}{100} = 288$
Science: $60 \times 13 \times \frac{70}{100} = 546$	Science: $60 \times 13 \times \frac{30}{100} = 234$

7

3.

Avg. of boys in All discipline together

$$= \frac{1}{7} (864 + 594 + 702 + 462 + 576 + 432 + 546)$$

$$= \frac{4176}{7}$$

Avg. of girls in All discipline together

$$= \frac{1}{7} (336 + 306 + 378 + 138 + 144 + 288 + 234)$$

$$= \frac{1824}{7}$$

$$\text{Difference} = \frac{4176}{7} - \frac{1824}{7} = 336$$

D. 336

4.

C. 168.42%

Total scholar in Commerce, Arts and Science = $60 \times (20 + 15 + 13) = 2880$

Total male scholar in R & D, Management and Finance = $576 + 432 + 702 =$

1710

$$\text{Desired \%} = \frac{2880}{1710} \times 100 = 168.42\%$$

5.

No. of scholars leaving the University

$$= 60 \times 12 \times \frac{80}{100} = 576$$

Total scholars available = $6000 - 576 = 5424$

New central angle for commerce scholar

$$= \frac{60 \times 15}{5424} \times 360 = 60^\circ$$

E. 60

6.

$$\text{Number of occupied seats from Pune} = 84 \times \frac{33350}{100} = 28014$$

Total number of required minors

$$= 33350 \times \frac{9}{23} + 55440 \times \frac{5}{16} + 36990 \times \frac{11}{27} + 28152 \times \frac{6}{17}$$

$$= 13050 + 17325 + 15070 + 9936$$

$$= 55381$$

Hence, Desired Value is approximately two times.

C. 2

7.

Total female viewers from Pune, Mumbai, and Delhi

$$= 33350 \times \frac{11}{23} + 36990 \times \frac{5}{9} + 30282 \times \frac{11}{21}$$

$$= 15950 + 20550 + 15862 = 52362$$

Total viewers from KXIP = 28152

$$\text{Desired Value} = \frac{52362 - 28152}{28152} \times 100 = 86\%$$

A. 86%

8.

B.

98420

Total adult viewers

$$= 33350 \times \frac{14}{23} + 55440 \times \frac{11}{16} + 36990 \times \frac{16}{27} + 25800 \times \frac{5}{8} + 28152 \times \frac{11}{17} +$$

$$30282 \times \frac{13}{21}$$

$$= 20300 + 38115 + 21920 + 16125 + 18216 + 18746$$

$$= 133422$$

$$\text{Avg. of total viewers} = \frac{210014}{6} \approx 35002$$

$$\text{Difference} = 133422 - 35002 = 98420$$

9.

$$\text{Total female viewers of MI} = 36990 \times \frac{5}{9} = 20550$$

$$\text{Desired\%} = \frac{20550 \times 100}{28152} \approx 73\%$$

D. 73

10.

$$\text{KKR's male viewer} = 55440 \times \frac{9}{16} = 31185$$

$$\text{Total adult viewers in Delhi} = 30282 \times \frac{13}{21} = 18746$$

$$\text{B. } 31185:18746 \text{ Ratio} = 31185 : 18746$$

Directions: (1-5) Answer the questions based on the information given below. The given table shows the data regarding the number of Officers and Secretaries in various ministries of a country.

Total Attendants = Officers (Male + Female) + Secretaries (Male + Female)

Ministry	Total officers	Number of officers per secretary	Ratio of male to female officers to female officers
Finance	960	48	7:5
Agriculture	1080	36	5:4
Human Resource Development	720	45	7:5
Panchayati Raj	560	40	5:3
Communication and Information Technology	520	26	8:5

1. If the ratio of male Secretaries to female Secretaries in Finance Ministry is 3:2, respectively then male Secretaries from Finance Ministry is what percentage of the total male officers from Communication and Information Technology Ministry?

- A 2.5%
- B 3.75%
- C 5%
- D 7.25%
- E 12.5%

2. Find the average number of Secretaries from Agriculture, Human Resource Development and Panchayati Raj Ministry.

- A 10
- B 20
- C 16
- D 14
- E 18

3. Total number of Officers from Human Resource Development Ministry is what percentage of total number of Officers from Panchayati Raj Ministry and Communication and Information Technology Ministry taken together?

- A 25%
- B 33.33%
- C 66.67%
- D 75%
- E 82.5%

4. The ratio of male Secretaries to female Secretaries from Agriculture Ministry and Human Resource Development Ministry are 8:7 and 5:3, respectively. Find the absolute difference between total males (Officers + Secretaries) in Agriculture Ministry and Human Resource Development Ministry taken together and total females (Officers + Secretaries) in Agriculture Ministry and Human Resource Development Ministry taken together.

- A 464
- B 536
- C 628
- D 246
- E 178

5. The Government is going to start a new Ministry named Youth Ministry, where total number of Officers will be equal to the average number of Officers from Agriculture and Human Resource Development

Ministry whereas number of Officers per Secretary in that Ministry will be 60. Find out the number of Secretaries who will be in Youth Ministry.

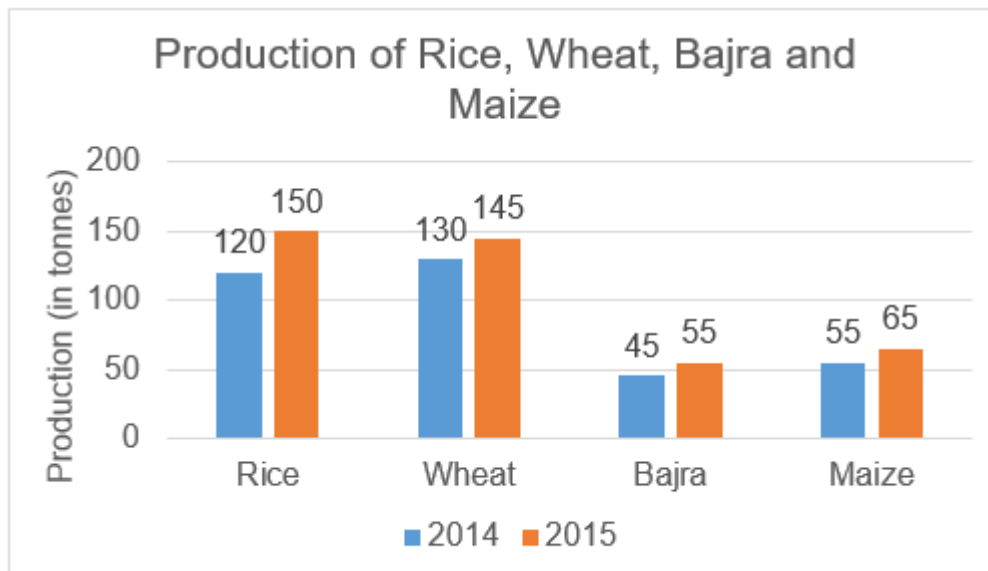
- A 14
- B 15
- C 16
- D 17
- E 18

Directions: (6-10) Answer the questions based on the information given below.

The given bar graph shows the production of Rice, Wheat, Bajra and Maize (in tonnes) in 2014 and 2015 in a village.

The village started production of these crops in 2014 only.

(Crop available for sale in a year = Crops produced in the year + unsold crop of last year)



6. The percentage of rice which remains unsold in 2014 and 2015 is 25% and 30%, respectively, of the rice available for selling in the respective years and production of rice in 2016 is 20% more than the production in 2015. If all the rice available in 2016 is to be sold, then amount of rice sold in 2016 will be approximately what percentage more than the quantity of rice sold in 2015?

- A 98%
- B 86%
- C 72%
- D 66%
- E 54%

7. If the percentage of rice and wheat unsold in 2014 is 30% and 40% of their respective production in 2014, respectively, then total rice available for sale in 2015 is approximately what percentage more or less than the total wheat available for sale in 2015?

- A 5.6%
- B 11%
- C 18.5%
- D 25%
- E 33.3%

8. Out of the given crops, which one shows the highest percentage increase in the production in 2015 with respect to 2014?

- A Rice
- B Wheat
- C Bajra
- D Maize
- E Both Wheat and Bajra

9. There are two varieties of rice namely Basmati and IR24 to be produced. The ratio of Basmati to IR24 produced in 2014 and 2015 is 5:7 and 7:8, respectively. Find the respective ratio of total Basmati rice produced in 2014 and 2015 taken together to the total IR24 rice produced in 2014 and 2015 taken together.

- A 2:3
- B 5:4
- C 3:4
- D 8:7
- E 4:5

10. There are two hybrid varieties of wheat viz. Shresth and Aditya to be produced. Ratio of Shresth to Aditya's production in 2014 is 8:5, respectively and ratio of their selling price per quintal is 2:1, respectively. If only 60% of each variety was sold in 2014 and total revenue generated by selling both varieties wheat is Rs.1134000, then find the price of 1 quintal of Shresth wheat. (Use: 1 tonne = 10 quintal)

- A Rs. 540
- B Rs. 900
- C Rs. 1080
- D Rs. 1800
- E Rs. 2100

ANSWERS:

1.

B. 3.75%

Total Secretaries in Finance Ministry = $960 \div 48 = 20$

Number of male Secretaries in finance Ministry = $\frac{3}{3+2} \times 20 = 12$

Number of male Officers from Communication and Information Technology Ministry = $\frac{8}{8+5} \times 520 = 320$

Therefore, required percentage = $\frac{12}{320} \times 100 = \frac{3}{80} \times 100 = 3.75\%$

Hence, option b.

2.

B. 20

Number of Secretaries in Agriculture Ministry = $1080 \div 36 = 30$

Number of Secretaries in Human Resource Development Ministry = $720 \div 45 = 16$

Number of Secretaries in Panchayati Raj Ministry = $560 \div 40 = 14$

Therefore, required average = $\frac{30+16+14}{3} = \frac{60}{3} = 20$

Hence, option b.

3.

C. 66.67%

Total number of Officers from Human Resource development Ministry = 720

Total number of Officers from Panchayati Raj and Communication and Information Technology Ministry = $560 + 520 = 1080$

Therefore, required percentage = $\frac{720}{1080} \times 100 = \frac{6}{9} \times 100 = 66.67\%$

Hence, option c.

4.

D. 246

Number of Secretaries in Agriculture Ministry = $1080 \div 36 = 30$

Number of Secretaries in Human Resource development Ministry = $720 \div 45 = 16$

Number of male Secretaries in Agriculture Ministry = $\frac{8}{8+7} \times 30 = 16$

Number of female Secretaries in Agriculture Ministry = $30 - 16 = 14$

Number of male Secretaries in Human Resource development Ministry = $\frac{5}{5+3} \times 16 = 10$

Number of female Secretaries in Human Resource department = $16 - 10 = 6$

Male Officers in Agriculture Ministry = $\frac{5}{5+4} \times 1080 = 600$

Therefore, female Officers in Agriculture Ministry = $1080 - 600 = 480$

Number of male Officers in Human Resource development Ministry = $\frac{7}{7+5} \times 720 = 420$

Therefore, female Officers in Human Resource development Ministry = $720 - 420 = 300$

So, required difference = $(16 + 10 + 600 + 420) - (14 + 6 + 480 + 300) = 1046 - 800 = 246$

Hence, option d.

5.

B. 15

Total number of students in Youth Ministry = $\frac{1080 + 720}{2} = 900$

So, total number of secretaries = $900 \div 60 = 15$

Hence, option b.

6.

B. 86%

Quantity of rice unsold in 2014 = 25% of 120 = $0.25 \times 120 = 30$ tonnes

Quantity of rice available for selling in 2015 = $30 + 150 = 180$ tonnes

Quantity of rice unsold in 2015 = 30% of 180 = $0.3 \times 180 = 54$ tonnes

Quantity of rice sold in 2015 = $180 - 54 = 126$ tonnes

Quantity of rice produced in 2016 = (100 + 20)% of 150 = $1.2 \times 150 = 180$ tonnes

Quantity of rice available in 2016 for selling = $180 + 54 = 234$ tonnes

Therefore, required percentage = $\frac{234 - 126}{126} \times 100 = 86\%$

Hence, option b.

7.

A. 5.6%

Unsold rice in 2014 = $0.3 \times 120 = 36$

Unsold wheat in 2014 = $0.4 \times 130 = 52$

Total rice available for sale in 2015 = $150 + 36 = 186$

Total wheat available for sale in 2015 = $145 + 52 = 197$

therefore, required percentage = $\frac{197 - 186}{186} \times 100 = 5.6\%$

Hence, option a.

8.

A. Rice

$$\text{Percentage increase in the production of Rice} = \frac{150-120}{120} \times 100 = \frac{1}{4} \times 100 = 25\%$$

$$\text{Percentage increase in the production of Wheat} = \frac{145-130}{130} \times 100 = 11.5\%$$

$$\text{Percentage increase in the production of Bajra} = \frac{55-45}{45} \times 100 = \frac{2}{9} \times 100 = 22.22\%$$

$$\text{Percentage increase in the production of Maize} = \frac{65-55}{55} \times 100 = \frac{2}{11} \times 100 = 18.18\%$$

Hence, option a.

9.

E. 4:5

$$\text{Basmati rice produced in 2014} = \frac{5}{5+7} \times 120 = 50$$

$$\text{IR24 rice produced in 2014} = 120 - 50 = 70$$

$$\text{Basmati rice produced in 2015} = \frac{7}{7+8} \times 150 = 70$$

$$\text{IR24 rice produced in 2015} = 150 - 70 = 80$$

$$\text{Therefore, required ratio} = (50+70) : (70+80) = 120 : 150 = 4 : 5$$

Hence, option e.

10.

D. Rs. 1800

Total wheat produced in 2014 = 130 tonnes

So, total Shresth wheat produced in 2014 = $\frac{8}{8+5} \times 130 = 80$ tonnes

Therefore, total Aditya wheat produced in 2014 = $130 - 80 = 50$ tonnes

Let, the price of 1 quintal of Aditya wheat be Rs. x .

So, price of 1 quintal of Shresth wheat will be Rs. $2x$

According to question,

$$(80 \times 10 \times 2x + 50 \times 10 \times x) 60\% = 1134000$$

$$(1600x + 500x) \times 0.6 = 1134000$$

$$2100x = 1134000 \div 0.6 = 1890000$$

$$x = 1890000 \div 2100$$

$$x = 900$$

Therefore, required price = $2 \times 900 = \text{Rs. } 1800/\text{quintal}$

Hence, option d.

1) Introducing Shakthi, Siva says, "She is the wife of only nephew of only brother of my mother." How Shakthi is related to Siva?

- a) Wife
- b) Sister
- c) Sister-in-law
- d) Data is inadequate
- e) None of these

2) Pointing to a gentleman, Rajesh said, " His only brother is the father of my daughter's father." How is gentleman related to Rajesh?

- a) Brother
- b) Father
- c) Grand Father
- d) Uncle
- e) None of these

Direction (3- 5): These questions are based on the following information.

'A@B' means 'A is the mother of B'

'A\$B' means 'A is the husband of B'

'A#B' means 'A is the sister of B'

'A*B' means 'A is the son of B'.

3) P#Q*R\$S@T, then which of the following is definitely true?

- a) T is the brother of P
- b) P is the sister of T
- c) P is the brother of Q

- d) T is the brother of Q
- e) None of these

4) Which of the following indicates the relationship 'R' is the daughter of T'?

- a) R#F*B@T
- b) R#F*B\$T
- c) T@B#R*F
- d) T@B#F*R
- e) None of these

5) A*B@C*D, represents what relation of D with A?

- a) Mother
- b) Father
- c) Father-in-law
- d) Sister
- e) None of these

Directions (6-10): Study the information carefully and answer the questions given below.

In a certain code language,

"The truth will out" is written as "9H14, 25H11, 16E10, 9K4"

"Love can find way" is written as "16P6, 9E1, 16V1, 9Y10"

"Legend follows own rules" is written as "36P7, 49V12, 9K0, 25J0"

6) What is the code for the word 'Wheat' in the same language based on the pattern?

- a) 25U7
- b) 25C4
- c) 25E2
- d) 25V8
- e) None of these

7) What is the code for the word 'Instagram' in the same language based on the pattern?

- a) 81Q3
- b) 64U1
- c) 49U1
- d) 100V1
- e) 81Q2

8) How is "Hockey League" coded in the same language based on the pattern?

- a) 36U5 36O8
- b) 36V4 49O9
- c) 25G6 36K8
- d) 36T16 36P6
- e) None of these.

9) How will 'world entrepreneurship summit' be coded in the same language based on the pattern?

- a) 25E18 256V10 36I0
- b) 25E18 256U10 49I0
- c) 25F18 256U10 64I0
- d) 25G18 256U10 25I0
- e) None of these

10) What does the code '16L4' stand for in the same language based on the pattern ?

- a) Well
- b) Dark
- c) Park
- d) Cool
- e) None of these

Answers:

1. Answer a) Wife

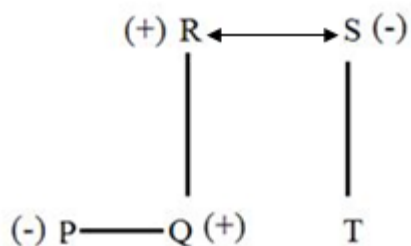
Brother of mother means maternal uncle. Hence only nephew of Siva's maternal uncle means Siva himself. Therefore Sonia is the wife of Siva.

2. Answer d) Uncle

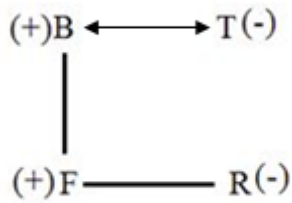
Father of my daughter's Father = Rajesh Father

Brother of Rajesh's father = Rajesh's Uncle

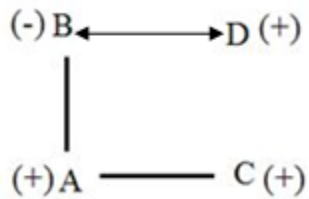
3. Answer b) P is the sister of T



4. Answer b) R#F*B\$T



5. Answer b) Father



Logic

First

Square of the total number of letters

Second

(i) If first letter of the word is vowel than we take preceding letter of the opposite of the first letter in the word.

(ii) If first letter is consonant than we take following letter of the opposite of the first letter in the word.

Third

Number of letter between the first and last letter of the word in the alphabetical series

Example

Wheat = 25E2

6. Answer c) 25E2

7. Answer a) 81Q3

8. Answer d) 36T16 36P6

9. Answer e) None of these

25E18 256U10 36I0

10. Answer c) Park

Q1. If the rate of interest is 10% per annum and is compounded half yearly, the principal of Rs. 400 in $3\frac{1}{2}$ year will amount to

- (a) Rs. 436.05
- (b) Rs. 463.05
- (c) Rs. 563.05
- (d) Rs. 363.05
- (e) Rs. 263.05

Q2. A sum of money invested at compound interest amount to Rs. 2400 in 3 years and in 4 years to Rs. 2,520. The interest rate per annum is:

- (a) 8%
- (b) 10%
- (c) 5%
- (d) 7%
- (e) 9%

Q3. What does Rs. 250 amounts to in 2 years with compound interest at the rate of 4% in the 1st year and 8% in the second year?

- (a) Rs. 280
- (b) Rs. 280.80
- (c) Rs. 468
- (d) Rs. 290.80
- (e) Rs. 270.50

Q4. A sum at R% compound interest doubles in 3 years. In 9 years it will be k times of the original principal. What is the value of k?

- (a) 8
- (b) 9
- (c) 12
- (d) 15
- (e) 20

Q5. The difference between compound interest and simple interest at the same rate for Rs. 5000 for 2 years is Rs. 72. The rate of interest per annum is:

- (a) 6%
- (b) 8%
- (c) 10%
- (d) 12%
- (e) 16%

Solutions

(1-5):

S1. Ans. (b)

Sol.

Given, $r = \frac{10}{2} = 5\%$, $T = 3$ years, $P = \text{Rs. } 400$

$$\begin{aligned}\therefore A &= P \left(1 + \frac{r}{100}\right)^T \\ &= 400 \left(1 + \frac{5}{100}\right)^3 = 400 \left(\frac{21}{20}\right)^3 = \text{Rs. } 463.05\end{aligned}$$

S2. Ans. (c)

Sol.

Let rate of interest be $R\%$

then,

$$\Rightarrow \frac{2520}{2400} = \frac{\left(1 + \frac{R}{100}\right)^4}{\left(1 + \frac{R}{100}\right)^8} \Rightarrow \frac{63}{60} = 1 + \frac{R}{100}$$

So, $R = 5\%$

S3. Ans. (b)

Sol.

$$\text{Amount} = 250 \times \frac{104}{100} \times \frac{108}{100} = \text{Rs. } 280.80$$

S4. Ans. (a)

Sol.

$$A = P \left(1 + \frac{R}{100}\right)^n$$

$$2P = P \left(1 + \frac{R}{100}\right)^3$$

$$\Rightarrow 2 = \left(1 + \frac{R}{100}\right)^3$$

$$(2)^3 = \left[\left(1 + \frac{R}{100}\right)^3\right]^3 = \left(1 + \frac{R}{100}\right)^9$$

$$\Rightarrow k = (2)^3 = 8 \text{ times.}$$

S5. Ans. (d)

Sol.

$$CI_2 - SI_2 = P \left(\frac{R}{100}\right)^2$$

$$72 = 5000 \left(\frac{R}{100}\right)^2$$

$$R^2 = \frac{72 \times 100 \times 100}{5000} = 144$$

$$R = 12\%$$

Q6. The compound interest on a sum of money for 2 years is Rs. 832 and the simple interest on the same sum for the same period is Rs. 800. The difference between the

compound interest and the simple interest for 3 years will be:

- (a) Rs. 48
- (b) Rs. 66.56
- (c) Rs. 98.56
- (d) Rs. 106.56
- (e) Rs. 96

Q7. A man borrows Rs. 12,500 at 20% compound interest. At the end of every year he pays Rs. 2000 as part of repayment. How much does he still owe after three such instalments?

- (a) Rs, 12,000
- (b) Rs, 12864
- (c) Rs, 15,600
- (d) Rs. 14320
- (e) Rs. 12320

Q8. At what percent pr annum will Rs. 3000 amounts to Rs. 3993 in 3 years, if the interest in compounded annually?

- (a) 9%
- (b) 10%
- (c) 11%
- (d) 13%
- (e) 15%

Q9. A person took a loan of Rs. 6000 for 3 years, at 5% per annum compound interest. He repaid Rs. 2100 in each of the first 2 years. The amount he should pay at the end of 3rd to clear all his debts is:

- (a) Rs. 2425.50
- (b) Rs. 2552.50
- (c) Rs. 2635.50
- (d) Rs. 2745.50
- (e) None of these

Q10. A sum of money becomes Rs. 4500 after two years and Rs. 6750 after 4 years on compound interest. The sum is:

- (a) Rs. 4000
- (b) Rs. 2500
- (c) Rs. 3000
- (d) Rs. 3050
- (e) Rs. 3500

Solutions (6-10):

S6. Ans. (c)**Sol.**

Time = 2 years

CI = Rs. 832 \Rightarrow SI = Rs. 800

$$\frac{PR^2}{100^2} = 832 - 800 = 32 \quad \dots\dots\dots(i)$$

$$\frac{2PR}{100} = 800 \quad \dots\dots\dots(ii)$$

Dividing (i) by (ii)

$$R(\text{Rate}) = \frac{32}{400} \times 100 = 8\%$$

$$\text{Principal} = \frac{800}{16} \times 100 = \text{Rs. } 5000$$

$$\text{Difference between CI and SI for 3 years} = \frac{PR^2(300+R)}{100^3} = 5000 \times \frac{1.9712}{100} = \text{Rs } 98.56$$

S7. Ans. (d)**Sol.**

Principal = Rs. 12,500

$$\text{Rate} = 20\% \text{ compounded per annum Now, Amount after first year} = 12500 \times \frac{120}{100}$$

= Rs. 15000

Principal for second year = 15000 – 2000

Rs. 13000

$$\text{Amount after second year} = 13000 \times \frac{120}{100}$$

= Rs. 15600

Principal for third year = 15600 – 2000

Rs. 13600

$$\text{Amount after third year} = 13600 \times \frac{120}{100} = 16320$$

Remaining amount = 16320 – 2000 = Rs. 14320

S8. Ans. (b)**Sol.**

$$\left(1 + \frac{R}{100}\right)^3 = \frac{3993}{3000} = \frac{1331}{1000}$$

$$\left(1 + \frac{R}{100}\right)^3 = \left(\frac{11}{10}\right)^3$$

$$\Rightarrow 1 + \frac{R}{100} = \frac{11}{10}$$

$$\Rightarrow R = \frac{100}{100} \Rightarrow R = 10\%$$

S9. Ans. (a)

Sol.

$$\text{Amount for first year} = 6000 \times \left(\frac{105}{100}\right)$$

$$= \text{Rs. } 6300$$

$$\text{Repaid} = \text{Rs. } 2100, \text{ Rest amount} = 6300 - 2100 = 4200$$

Amount for second year

$$= 4200 \times \left(\frac{105}{100}\right) = \text{Rs. } 4410$$

$$\text{Repaid} = \text{Rs. } 2100, \text{ Rest amount} = 4410 - 2100 = \text{Rs. } 2310$$

$$\text{Amount for third year} = 2310 \times \left(\frac{105}{100}\right)$$

$$= 2425.50$$

S10. Ans. (c)

Sol.

Let the sum be P and rate of interest per annum be R.

$$\frac{6750}{4500} = \frac{P\left(1 + \frac{R}{100}\right)^4}{P\left(1 + \frac{R}{100}\right)^2}$$

$$\frac{6750}{4500} = \left(1 + \frac{R}{100}\right)^2$$

$$\Rightarrow \left(1 + \frac{R}{100}\right)^2 = \frac{9}{6} = \frac{3}{2}$$

$$\text{So, } P \times \frac{3}{2} = 4500$$

$$\Rightarrow P = \frac{4500 \times 2}{3} = \text{Rs. } 3000$$

Q11. A certain amount of money at R%, compounded annually becomes Rs. 1440 and Rs. 1728 respectively after two and three years, find value of R:

- (a) 5%
- (b) 10%
- (c) 15%
- (d) 20%
- (e) 25%

Q12. The population of a city increases at the rate of 5% p.a. If the present population of the city is 185220, then what was its population 3 years ago?

- (a) 181500
- (b) 183433
- (c) 160000
- (d) 127783
- (e) 165450

Q13. On a certain sum of money, the compound interest for 2 years is Rs. 282.15 and the simple interest for the same period of time is Rs. 270. The rate of interest per annum is

- (a) 6.07%

- | | |
|-----|--------|
| (b) | 10% |
| (c) | 9% |
| (d) | 12.15% |
| (e) | 13% |

Q14. The effective annual rate of interest, corresponding to a nominal rate of 6% per annum payable half yearly, is:

- | | |
|-----|-------|
| (a) | 6.06% |
| (b) | 6.07% |
| (c) | 6.08% |
| (d) | 6.09% |
| (e) | 7.09% |

Q15. The compound interest on a sum of money at 5% per annum for 3 years is Rs. 2522. What would be the simple interest on this sum at the same rate and for the same period?

- | | | |
|-----|----------|------|
| (a) | Rs. | 2500 |
| (b) | Rs. | 2400 |
| (c) | Rs. | 2450 |
| (d) | Rs. | 2350 |
| (e) | Rs. 2640 | |

Solutions

(11-15):

S11. Ans. (d)

Sol.

$$\frac{P\left(1+\frac{R}{100}\right)^3}{P\left(1+\frac{R}{100}\right)^2} = \frac{1728}{1440}$$

$$R = 20\%$$

S12. Ans. (c)

Sol.

Let population 3 years ago be x

$$x \times \frac{105}{100} \times \frac{105}{100} \times \frac{105}{100} = 185220$$

$$\text{So, } x = 160000$$

S13. Ans. (c)

Sol.

$$\text{First year SI} = 270/2 = 135$$

$$CI_2 - SI_2 = 282.15 - 270 = 12.15$$

Interest on Rs. 135 for 1 year = Rs. 12.15

$$\text{So, Rate} = \frac{12.15}{135} \times 100 = 9\%$$

S14. Ans. (d)

Sol.

Let the sum be Rs. 100

For initial six months,

$$\text{Interest} = 100 \times \frac{6}{100} \times \frac{6}{12} = 3$$

Now, sum = 100 + 3 = Rs. 103

For another six months,

$$\text{Interest} = 103 \times \frac{6}{100} \times \frac{6}{12} = 3.09$$

∴ Rate of interest per year = 3 + 3.09 = 6.09%

S15. Ans. (b)

Sol. Let sum = Rs. P

$$\therefore 2522 + P = P \left(1 + \frac{5}{100}\right)^3$$

$$= \frac{9261P}{8000}$$

$$\Rightarrow P = 16,000$$

$$\therefore \text{S.I.} = \frac{16000 \times 5 \times 3}{100}$$

$$= \text{Rs. 2400}$$

1. What will be the difference between simple and compound interest @ 10% per annum on the sum of Rs 1000 after 4 years

- A. Rs 62.10
- B. Rs 63.10
- C. Rs 64.10
- D. Rs 65.10

2. Find the compound interest on Rs.16,000 at 20% per annum for 9 months, compounded quarterly

- A. Rs 2520
- B. Rs 2521
- C. Rs 2522
- D. Rs 2523

3. Find the compound interest on Rs. 7500 at 4% per annum for 2 years, compounded annually.

- A. Rs. 610
- B. Rs. 612
- C. Rs. 614
- D. Rs. 616

4. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Rs 1. Find the sum

- A. Rs 600
- B. Rs 625
- C. Rs 650
- D. Rs 675

5. The present worth of Rs.169 due in 2 years at 4% per annum compound interest is

- A. Rs 155.25
- B. Rs 156.25

C. Rs 157.25

D. Rs 158.25

ANSWER:

1. C
2. C
3. B
4. B
5. B