MBA PIONEER 2024

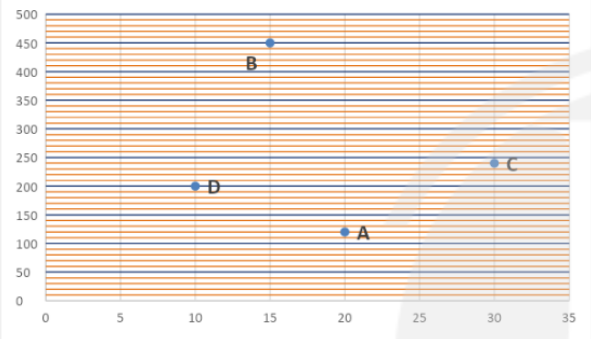
Data Interpretation & Logical Reasoning

DPP -06

Miscellaneous Charts - 1

Directions (1-5) Read the following passage and answer the given questions.

The given scatter graph shows the total capacity of four dams (in hundred litres) (y – axis) and amount of electricity (in units) which can be generated (x – axis) from 100 litres of water in the respective dams.



Q1 Dam 'A' is filled up to 45% of its capacity. If only 50% of water present in dam 'A' was used to produce electricity then find the amount of electricity which can be generated from dam 'A'.

(A) 320 units (B) 480 units
(C) 540 units (D) 640 units

Q2 Find the ratio of the amount of electricity which can be generated from dams 'B' and 'D' when they are full.

(A) 20 : 7 (B) 21 : 4
(C) 12 : 5 (D) 27 : 8

Q3 Dam 'C' is emptied by 6000 litres. The amount of electricity which can be generated from water available in dam 'C' has to be sold for Rs. 5/unit. Find the total amount which can be earned from the electricity generated from dam 'C'.

(A) Rs 27000 (B) Rs 32000
(C) Rs 24000 (D) Rs 30000

Q4 Find the average capacities of given four dams.

(A) 20450 litres (B) 26250 litres
(C) 24350 litres (D) None of these

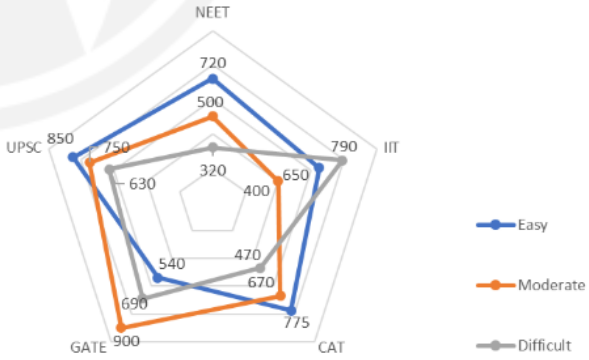
Q5 Find the difference between the amount of electricity which can be produced when dams 'B' and dam 'D' are full to their capacity.

(A) 3840 units (B) 4750 units
(C) 4080 units (D) 4250 units

Directions (6-10) Read the following passage and answer the given questions.

An Edtech company XYZ has a question bank of Five categories NEET, IIT, CAT, GATE, and UPSC. Each Category has a subdivision of Questions based on difficulty level (Easy, Moderate, and Difficult).

Please assume that except these 5 categories, no other category exists in Edtech XYZ.



Q6 What is the average number of Easy questionsEdtech XYZ has ?

(A) 507 (B) 607
(C) 707 (D) 807

Q7 If in CAT, the ratio of VARC, QA and LRDI questions in Easy Moderate and Difficult

section is 1: 1: 3, 3 : 2 : 5 and 5 : 3 : 2 respectively then find the total number of VARC questions in CAT.

(A) 560 (B) 580
(C) 591 (D) 600

Q8 If in CAT, the ratio of VARC, QA and LRDI questions in Easy Moderate and Difficult section is 1: 1: 3, 3 : 2 : 5 and 5 : 3 : 2 respectively then find the total number of LRDI questions in CAT.

(A) 900 (B) 850
(C) 870 (D) 894

Q9 If 20% of moderate questions in IIT are found to be easy and 30% of difficult questions in IIT are found to be moderate then the change in the number of moderate questions will be,

(A) 557 (B) 560
(C) 587 (D) 567

Q10 If in CAT, the ratio of VARC, QA and LRDI questions in Easy Moderate and Difficult section is 1: 1: 3, 3 : 2 : 5 and 5 : 3 : 2 respectively then Find the total number of QA questions in CAT.

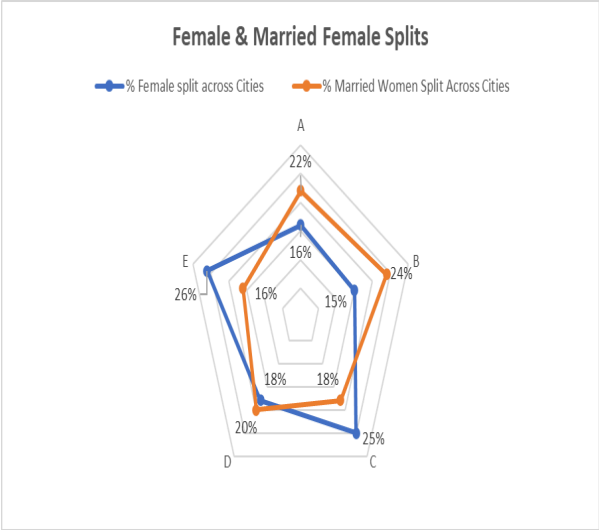
(A) 430 (B) 434
(C) 470 (D) 415

Directions (11-15) Read the following passage and answer the given questions.

Following chart represents the percentage break-ups of the number of females (married + unmarried) in different cities and the percentage break-ups of the number of married females.

Total number of females = 8400.

Total number of married females = 5200



Q11 How many unmarried females are there in city B, D and E together?

(A) 1735 (B) 1836
(C) 1937 (D) 2038

Q12 What is the respective ratio of the number of married females in city E and number of unmarried females in city A?

(A) 99 : 37 (B) 48 : 13
(C) 104 : 25 (D) 57 : 22

Q13 Number of married females in city C and E together are approximately what percent of the number of unmarried females in C and E taken together?

(A) 70% (B) 75%
(C) 80% (D) 85%

Q14 If total population of city D is 3500 and the respective ratio of adult to non-adult male population is 3: 1, then how many adult males are there in city D if it is given that there are only males and females in city D?

(A) 1390 (B) 1491
(C) 1592 (D) 1693

Q15 What is the difference between the female population of city B and married female population of city A and D together?

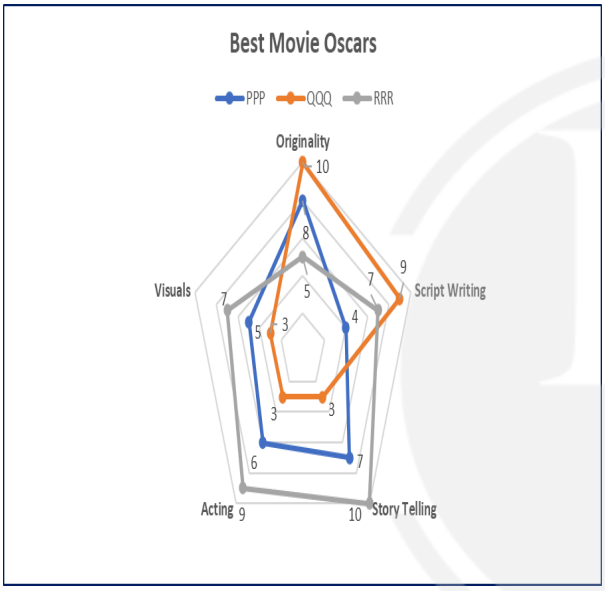
(A) 914 (B) 924

(C) 934 (D) 944

Directions (16-20) Read the following passage and answer the given questions.

3 films were nominated for Oscars 23- PPP, QQQ & RRR. They were rated out of 10 across 5 segments – Originality, Script Writing, Story Telling, Acting and Visuals. The film receiving the highest overall rating wins the Best Movies Award in Oscars.

Note : The overall rating of a film in any of the segment will be obtained by multiplying the weightage of that segment with the Individual Film rating



Q16 If the weightages of each of the 5 segments are 3, 4, 5, 6, and 2 respectively for Originality, Script Writing, Story Telling, Acting & Visuals. The one whose overall rating is more will win the oscar then find the winner(s) of the Oscars-

(A) PPP
(B) QQQ
(C) RRR
(D) Both PPP & QQQ

Q17 If the weightages of each of the 5 segments are 3, 4, 5, 6, and 2 respectively for Originality, Script Writing, Story Telling, Acting & Visuals, then find the ratio of the scores of QQQ & RRR?

(A) 11 : 16 (B) 15 : 23
(C) 11 : 15 (D) 16 : 23

Q18 If the weightages of each of the 5 segments are x, y, 7, 4, and 1 respectively for Originality, Script Writing, Story Telling, Acting & Visuals and it is also known that the net score of all the 3 films are the same, then find the value of (x - 2y).

(A) 10 (B) 9
(C) 8 (D) 7

Q19 If the film QQQ alone has won the Oscars then which of the below options can be the weightages of the 5 segments Originality, Script Writing, Story Telling, Acting & Visuals in the same order?

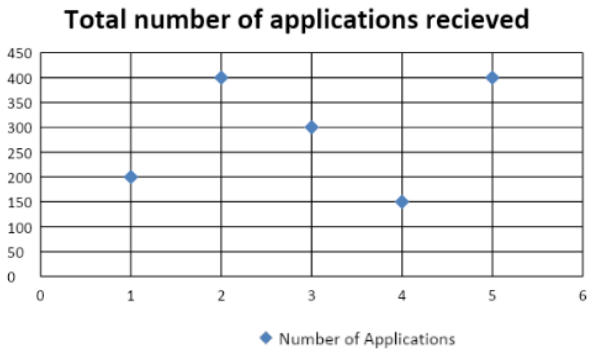
(A) 3,4,5,6,1 (B) 4,2,2,1,1
(C) 4,1,1,2,3 (D) 5,4,2,1,3

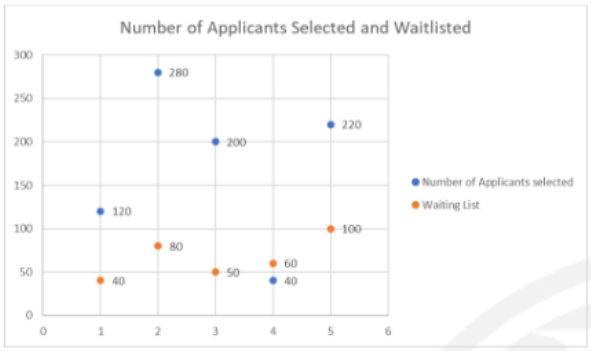
Q20 If the weightages across the 5 segments - Originality, Script Writing, Story Telling, Acting and Visuals are the first 5 prime numbers when arranged in the descending order, then who will win the Oscars?

(A) PPP
(B) QQQ
(C) RRR
(D) Both PPP & RRR

Directions (21-25) Read the following passage and answer the given questions.

The figures shown below give the details about the total number of applications received, the number of applicants selected and the number of applications waitlisted by five companies namely company 1, company 2, company 3, company 4, and company 5 at the annual placement drive organized by XYZ institute of technology.





Q21 If 25% of selected candidates are rejected and 50% of waitlisted candidates are selected for company 5, then the number of selected candidates has decreased by _____.

(A) 10 (B) 5
(C) 15 (D) 20

Q22 For company 1, 20% of the waitlisted candidates are selected and 37.5% of rejected candidates are added to the waiting list. What is the percentage of candidates in the waiting list now?

(A) 25% (B) 20%
(C) 23.5% (D) 22.5%

Q23 If 12.5% and 40% of waitlisted candidates are selected from company 2 and company 4 respectively, find the average number of applicants selected from companies 2 and 4.

(A) 170 (B) 175
(C) 173 (D) 177

Q24 Which company has the highest percentage of the number of applications rejected out of the number of applications received?

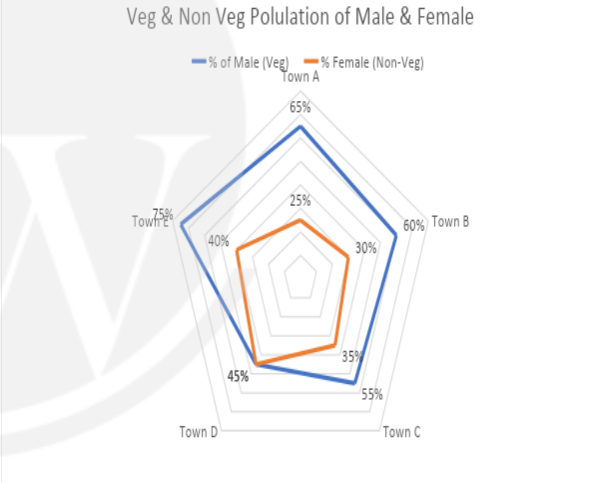
(A) Company 3 (B) Company 1
(C) Company 4 (D) Company 5

Q25 What percentage of waitlisted candidates should be selected by company 4 so that the number of selected, waitlisted and rejected candidates become equal to each other?

(A) 16.66% (B) 15%
(C) 20% (D) 22.5%

Directions (26-30) Read the following passage and answer the given questions.

Following chart represents the percentage of total number of vegetarian male population and percentage of non-vegetarian female population in 5 towns – A, B, C, D & E



The total population of Town A, B, C, D & E are 800, 750, 900, 1200 & 1000 respectively.

Q26 The ratio of male population to female population in town B is 3: 2 respectively and is reversed for town E. What is the difference between total vegetarian population of town B and total non-vegetarian population of town E?

(A) 120 (B) 130
(C) 140 (D) 150

Q27

Total vegetarian population of town A and D are 568 and 588 respectively. What is the respective ratio of total non-vegetarian male population of town A to the total non-vegetarian female population of town D?

(A) 11 : 19 (B) 14 : 27
(C) 8 : 13 (D) 10 : 17

Q28 The difference between total vegetarian female population and total non-vegetarian female population in town C is 108. If the ratio of male population to female population in town D are in the ratio 2: 3 respectively then total male population of town C is what percent of total male population of town D?

(A) 112.5% (B) 98.5%
(C) 106.5% (D) 92.5%

Q29 Total population of town E and F are in the ratio 2: 3 respectively and total male population and total female population in town F are in the ratio 8: 7 respectively. If total 865 people are non-vegetarian in town F out of which 4/5th are males, then find the total vegetarian female population of town F.

(A) 525 (B) 526
(C) 527 (D) 528

Q30 Total 104 males in town A are vegetarian who are 20% less than the total number of vegetarian males in town G. If total population of town B and G is same and the ratio of total vegetarian population and total non- vegetarian population in town G are in the ratio 4: 1 respectively, then what is the average of total vegetarian female population in town A and G taken together?

(A) 470 (B) 475
(C) 480 (D) 485

Answer Key

Q1	(C)
Q2	(D)
Q3	(A)
Q4	(D)
Q5	(B)
Q6	(C)
Q7	(C)
Q8	(D)
Q9	(A)
Q10	(A)
Q11	(B)
Q12	(C)
Q13	(A)
Q14	(B)
Q15	(B)
Q16	(C)
Q17	(B)
Q18	(B)
Q19	(D)
Q20	(B)
Q21	(B)
Q22	(C)
Q23	(D)
Q24	(C)
Q25	(A)
Q26	(C)
Q27	(B)
Q28	(A)
Q29	(C)
Q30	(B)

Hints & Solutions

Q1. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Dam	Total capacity (in litres)	Amount of electricity (in units) which can be generated per 100 litres of water
A	12000	20
B	45000	15
C	24000	30
D	20000	10

Amount of water in dam 'A' = 0.45 × 12000 = 5400

Amount of water used to produce electricity = $\frac{5400}{2}$ = 2700 litres

Amount of electricity which can be generated from dam A = $2700 \times \left(\frac{20}{100}\right)$ = **540** units

Answer: -C

Q2. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Dam	Total capacity (in litres)	Amount of electricity (in units) which can be generated per 100 litres of water
A	12000	20
B	45000	15
C	24000	30
D	20000	10

Amount of electricity produced from dam 'B' = 45000 × $\frac{15}{100}$ = 6750 units

Amount of electricity which can be produced from dam 'D' = $20000 \times \frac{10}{100}$ = 2000 units

Required ratio = 6750:2000 = **27 : 8**.

Answer: -D

Q3. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Dam	Total capacity (in litres)	Amount of electricity (in units) which can be generated per 100 litres of water
A	12000	20
B	45000	15
C	24000	30
D	20000	10

Amount of water available in dam 'C' = 24000 – 6000 = 18000 litres

Amount of electricity which can be generated from available water in dam 'C' = 18000 × $\frac{30}{100}$ = 5400 units

Amount earned = 5400 × 5 = Rs. **27000.**

Answer: -A

Q4. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Dam	Total capacity (in litres)	Amount of electricity (in units) which can be generated per 100 litres of water
A	12000	20
B	45000	15
C	24000	30
D	20000	10

Required average = $\frac{12000+45000+24000+20000}{4}$ = 25250 litres.

Hence, the answer is **none of these**.

Answer: -D

Q5. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Dam	Total capacity (in litres)	Amount of electricity (in units) which can be generated per 100 litres of water
A	12000	20
B	45000	15
C	24000	30
D	20000	10

Amount of electricity which can be produced from dam 'B' = 45000 × $\frac{15}{100}$ = 6750 units

Amount of electricity which can be produced from dam 'D' = 20000 × $\frac{10}{100}$ = 2000 units

Required difference = **4750** units.

Answer: -B

Q6. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

From the above Radar chart one can form the given table :

Category	Easy	Moderate	Difficult
NEET	720	500	320
IIT	650	400	790
CAT	775	670	470
GATE	540	900	690
UPSC	850	750	630

Required Average = $\frac{720+650+775+540+850}{5} = 707.$

The answer is option C.

Q7. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

From the above Radar chart one can form the given table :

Category	Easy	Moderate	Difficult
NEET	720	500	320
IIT	650	400	790
CAT	775	670	470
GATE	540	900	690
UPSC	850	750	630

In Easy, the number of questions in VARC, QA and LRDI is,

=> x + x + 3x = 775

=> 5x = 775

x = 155

VARC = x = 155

QA = x = 155

LRDI = 3x = 465.

Similarly we can find for all difficulties

	Easy	Moderate	Difficult
VARC	155	201	235
QA	155	134	141
LRDI	465	335	94

Total number of VARC questions = 155 + 201 + 235 = 591.

The answer is option C.

Q8. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

From the above Radar chart one can form the given table :

Category	Easy	Moderate	Difficult
NEET	720	500	320
IIT	650	400	790
CAT	775	670	470
GATE	540	900	690
UPSC	850	750	630

In Easy, the number of questions in VARC, QA and LRDI is,

=> x + x + 3x = 775

=> 5x = 775

x = 155

VARC = x = 155

QA = x = 155

LRDI = 3x = 465.

Similarly we can find for all difficulties

	Easy	Moderate	Difficult
VARC	155	201	235
QA	155	134	141
LRDI	465	335	94

Total number of LRDI questions = 465 + 335 + 94 = 894.

The answer is option D.

Q9. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

From the above Radar chart one can form the given table :

Category	Easy	Moderate	Difficult
NEET	720	500	320
IIT	650	400	790
CAT	775	670	470
GATE	540	900	690
UPSC	850	750	630

Easy questions in Moderate category = 400 × 20% = 80 Questions.

Moderate Questions in Difficult category = 790 × 30% = 237 Questions.

New number of moderate questions in IIT category

= 400 - 80 + 237

= 557.

The answer is option A.

Q10. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

From the above Radar chart one can form the given table :

Category	Easy	Moderate	Difficult
NEET	720	500	320
IIT	650	400	790
CAT	775	670	470
GATE	540	900	690
UPSC	850	750	630

In Easy, the number of questions in VARC, QA and LRDI is,

=> x + x + 3x = 775

=> 5x = 775

x = 155

VARC = x = 155

QA = x = 155

LRDI = 3x = 465.

Similarly, we can find all difficulties

	Easy	Moderate	Difficult
VARC	155	201	235
QA	155	134	141
LRDI	465	335	94

Total Number of QA questions in CAT = 155 + 134 + 141 = 430.

The answer is option A.

Q11. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

For city A:

Number of females = 16% of 8400 = 1344

Number of married females = 22% of 5200 = 1144

Then, number of unmarried females = 1344 - 1144 = 200

Similarly,

City	Number of females		
	Total	Married	Unmarried
A	1344	1144	200
B	15% of 8400 = 1260.	24% of 5200 = 1248.	1260 – 1248 = 12
C	25% of 8400 = 2100.	18% of 5200 = 936.	2100 – 936 = 1164
D	18% of 8400 = 1512.	20% of 5200 = 1040.	1512 – 1040 = 472
E	26% of 8400 = 2184.	16% of 5200 = 832.	2184 – 832 = 1352

Number of unmarried females in city B, D and E together = 12 + 472 + 1352 = 1836.

Q12. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

For city A:

Number of females = 16% of 8400 = 1344

Number of married females = 22% of 5200 = 1144

Then, number of unmarried females = 1344 - 1144 = 200

Similarly,

City	Number of females		
	Total	Married	Unmarried
A	1344	1144	200
B	15% of 8400 = 1260.	24% of 5200 = 1248.	1260 – 1248 = 12
C	25% of 8400 = 2100.	18% of 5200 = 936.	2100 – 936 = 1164
D	18% of 8400 = 1512.	20% of 5200 = 1040.	1512 – 1040 = 472
E	26% of 8400 = 2184.	16% of 5200 = 832.	2184 – 832 = 1352

Number of married females in city E = 832

And, number of unmarried females in city A = 200

Therefore, ratio = 832 : 200 = 104: 25

Q13. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

For city A:

Number of females = 16% of 8400 = 1344

Number of married females = 22% of 5200 = 1144

Then, number of unmarried females = 1344 - 1144 = 200

Similarly,

City	Number of females		
	Total	Married	Unmarried
A	1344	1144	200
B	15% of 8400 = 1260.	24% of 5200 = 1248.	1260 – 1248 = 12
C	25% of 8400 = 2100.	18% of 5200 = 936.	2100 – 936 = 1164
D	18% of 8400 = 1512.	20% of 5200 = 1040.	1512 – 1040 = 472
E	26% of 8400 = 2184.	16% of 5200 = 832.	2184 – 832 = 1352

Number of married females in city C and E together $= 936 + 832 = 1768$

Number of unmarried females in city C and E together $= 1164 + 1352 = 2516$

Therefore, required percentage $= \frac{1768}{2516} \times 100 = 70\%$ (approx.)

Q14. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

For city A:

Number of females = 16% of 8400 = 1344

Number of married females = 22% of 5200 = 1144

Then, number of unmarried females = 1344 - 1144 = 200

Similarly,

City	Number of females		
	Total	Married	Unmarried
A	1344	1144	200
B	15% of 8400 = 1260.	24% of 5200 = 1248.	1260 – 1248 = 12
C	25% of 8400 = 2100.	18% of 5200 = 936.	2100 – 936 = 1164
D	18% of 8400 = 1512.	20% of 5200 = 1040.	1512 – 1040 = 472
E	26% of 8400 = 2184.	16% of 5200 = 832.	2184 – 832 = 1352

In city D :

Total population $= 3500$

Female population $= 1512$

Then, male population $= 3500 - 1512 = 1988$

Therefore, adult male population $= 1988 \times \frac{3}{4} = 1491$

Q15. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

For city A:

Number of females = 16% of 8400 = 1344

Number of married females = 22% of 5200 = 1144

Then, number of unmarried females = 1344 - 1144 = 200

Similarly,

City	Number of females		
	Total	Married	Unmarried
A	1344	1144	200
B	15% of 8400 = 1260.	24% of 5200 = 1248.	1260 – 1248 = 12
C	25% of 8400 = 2100.	18% of 5200 = 936.	2100 – 936 = 1164
D	18% of 8400 = 1512.	20% of 5200 = 1040.	1512 – 1040 = 472
E	26% of 8400 = 2184.	16% of 5200 = 832.	2184 – 832 = 1352

Female population of city B = 1260

And, married female population of city A and D together

= 1144 + 1040

= 2184

Therefore, difference = 2184 - 1260 = 924.

Q16. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Chart

Let's first simplify the data shared in the radar chart and present it in the tabular format-

		Individual Rating		
Segments	**Weightage**	**PPP**	**QQQ**	**RRR**
Originality	3	8	10	5
Script Writing	4	4	9	7
Story Telling	5	7	3	10
Acting	6	6	3	9
Visuals	2	5	3	7

The overall rating of a film in any of the segments will be obtained if we multiply the

weightage of that segment with the Individual Film rating. So, the overall rating of film data looks like below-

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	2	5	3	7	10	6	14

The film with the highest rating wins the Oscars. So, the total rating looks like this -

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	2	5	3	7	10	6	14
Overall					121	105	161

Thus, RRR is the winner of Oscars.
The answer is option C.

Q17. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Chart

Let's first simplify the data shared in the radar chart and present it in the tabular format-

Segments	Weightage	Individual Rating		
		PPP	QQQ	RRR
Originality	3	8	10	5
Script Writing	4	4	9	7
Story Telling	5	7	3	10
Acting	6	6	3	9
Visuals	2	5	3	7

The overall rating of a film in any of the segments will be obtained if we multiply the weightage of that segment with the Individual Film rating. So, the overall rating of film data looks like below-

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	2	5	3	7	10	6	14

The film with the highest rating wins the Oscars. So, the total rating looks like this -

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	2	5	3	7	10	6	14
Overall					121	105	161

Thus the ratio of the weighted scores of QQQ & RRR is 105 : 161 = 15 : 23.
The answer is option B.

Q18. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Chart

Let's first simplify the data shared in the radar chart and present it in the tabular format-

Segments	Weightage	Individual Rating		
		PPP	QQQ	RRR
Originality	3	8	10	5
Script Writing	4	4	9	7
Story Telling	5	7	3	10
Acting	6	6	3	9
Visuals	2	5	3	7

The overall rating of a film in any of the segments will be obtained if we multiply the weightage of that segment with the Individual Film rating. So, the overall rating of film data looks like below-

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	2	5	3	7	10	6	14

The total rating looks like this :-

Segments	Weightage	Individual Rating			Weighted Rating		
		PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	x	8	10	5	8x	10x	5x
Script Writing	y	4	9	7	4y	9y	7y
Story Telling	7	7	3	10	49	21	70
Acting	4	6	3	9	24	12	36
Visuals	1	5	3	7	5	3	7
Overall					8x + 4y + 78	10x + 9y + 36	5x + 7y + 113

So,
(10x + 9y + 36) = (8x + 4y + 78)
= 2x + 5y = 42 .....(I)
Also,
(10x + 9y + 36) = (5x + 7y + 113)
= 5x + 2y = 77 .....(II)

On solving I and II we get,11

$y = \frac{8}{3}$

$x = \frac{43}{3}$

So, $(x - 2y) = 9$

The answer is option B.

Q19. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Chart

Let us try to find the overall scores corresponding to the weightages as mentioned in option A –

		Individual Rating			Weighted Rating		
Segments	Weightage	PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	3	8	10	5	24	30	15
Script Writing	4	4	9	7	16	36	28
Story Telling	5	7	3	10	35	15	50
Acting	6	6	3	9	36	18	54
Visuals	1	5	3	7	5	3	7
Overall					116	102	154

By using this Weightage RRR will win the Oscar.

Thus, clearly option A cannot be the answer.

Now let's look into the option B -

		Individual Rating			Weighted Rating		
Segments	Weightage	PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	4	8	10	5	32	40	20
Script Writing	2	4	9	7	8	18	14
Story Telling	2	7	3	10	14	6	20
Acting	1	6	3	9	6	3	9
Visuals	1	5	3	7	5	3	7
Overall					65	70	70

Here, QQQ is not the only Oscars winner. Thus, this is not the right answer.

In option C we can create the below table –

		Individual Rating			Weighted Rating		
Segments	Weightage	PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	4	8	10	5	32	40	20
Script Writing	1	4	9	7	4	9	7
Story Telling	1	7	3	10	7	3	10
Acting	2	6	3	9	12	6	18
Visuals	3	5	3	7	15	9	21
Overall					70	67	76

This is clearly not the answer.

Now, let's see what option D leads us to –

		Individual Rating			Weighted Rating		
Segments	Weightage	PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	5	8	10	5	40	50	25
Script Writing	4	4	9	7	16	36	28
Story Telling	2	7	3	10	14	6	20
Acting	1	6	3	9	6	3	9
Visuals	3	5	3	7	15	9	21
Overall					91	104	103

Here we can clearly see that QQQ wins the Oscar.

The answer is option D.

Q20. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Chart

The Weightage of Originality, Script Writing, Story Telling, Acting and Visuals is 11, 7, 5, 3, and 2 respectively. Now let's find the total ratings across all the segments as shown in the table below-

		Individual Rating			Weighted Rating		
Segments	Weightage	PPP	QQQ	RRR	PPP	QQQ	RRR
Originality	11	8	10	5	88	110	55
Script Writing	7	4	9	7	28	63	49
Story Telling	5	7	3	10	35	15	50
Acting	3	6	3	9	18	9	27
Visuals	2	5	3	7	10	6	14
Overall					179	203	195

As seen from the table, QQQ has the highest rating. So, QQQ is the winner.

The answer is option B.

Q21. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Company	Number of application (A)	Number of applicant selected (S)	Number of applicants waitlisted (W)	Number of applicants Rejected (R)	Rejected Percent = $\frac{R}{A}$ ×100	Selected/ Rejected = $\frac{S}{R}$
1	200	120	40	40	20 %	3.00
2	400	280	80	40	10 %	7.00
3	300	200	50	50	16.67 %	4.00
4	150	40	60	50	33.33 %	0.80
5	400	220	100	80	20 %	2.75
Sum	1450	860	330	260	17.93 %	3.31

Number of selected candidates changes to,

= 220 × 0.75 + 100 × 50% = 165 + 50 = 215

Required change = 220 - 215 = 5.

The answer is option B.

Q22. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Company	Number of application (A)	Number of applicant selected (S)	Number of applicants waitlisted (W)	Number of applicants Rejected (R)	Rejected Percent = $\frac{R}{A}$ ×100	Selected/Rejected = $\frac{S}{R}$
1	200	120	40	40	20 %	3.00
2	400	280	80	40	10 %	7.00
3	300	200	50	50	16.67 %	4.00
4	150	40	60	50	33.33 %	0.80
5	400	220	100	80	20 %	2.75
Sum	1450	860	330	260	17.93 %	3.31

The number of candidates on waitlist now = 40 × 0.8 + 40 × 0.375 = 32 + 15 = 47

Percentage of candidates on the waiting list now = $\frac{47}{200}$ × 100 = 23.5%.

The answer is option C.

Q23. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Company	Number of application (A)	Number of applicant selected (S)	Number of applicants waitlisted (W)	Number of applicants Rejected (R)	Rejected Percent = $\frac{R}{A}$ ×100	Selected/Rejected = $\frac{S}{R}$
1	200	120	40	40	20 %	3.00
2	400	280	80	40	10 %	7.00
3	300	200	50	50	16.67 %	4.00
4	150	40	60	50	33.33 %	0.80
5	400	220	100	80	20 %	2.75
Sum	1450	860	330	260	17.93 %	3.31

If 12.5 % and 40% of waitlisted candidates are selected from company 2 and 4 respectively,

The average number of applicants selected from companies 2 and 4 = $\frac{(280 + 80\times.125+40+60\times.4)}{2}$

$=\frac{(280+10+40+24)}{2} = \frac{354}{2} = 177$

The answer is option D.

Q24. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Company	Number of application (A)	Number of applicant selected (S)	Number of applicants waitlisted (W)	Number of applicants Rejected (R)	Rejected Percent = $\frac{R}{A}$ ×100	Selected/Rejected = $\frac{S}{R}$
1	200	120	40	40	20 %	3.00
2	400	280	80	40	10 %	7.00
3	300	200	50	50	16.67 %	4.00
4	150	40	60	50	33.33 %	0.80
5	400	220	100	80	20 %	2.75
Sum	1450	860	330	260	17.93 %	3.31

It can be seen from the table that the required percentage is maximum in the case of company 4.

The answer is option C.

Q25. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Scatter Charts

Company	Number of application (A)	Number of applicant selected (S)	Number of applicants waitlisted (W)	Number of applicants Rejected (R)	Rejected Percent = $\frac{R}{A}$ ×100
1	200	120	40	40	20 %
2	400	280	80	40	10 %

3	300	200	50	50	16.67 %
4	150	40	60	50	33.33 %
5	400	220	100	80	20 %
Sum	1450	860	330	260	17.93 %

The number of selected, waitlisted and rejected candidates are 40, 60 and 50 respectively for company 4 which received 150 applications.

So if 10 of the waitlisted candidates get selected then the number of selected, waitlisted and rejected candidates will become equal.

Required % = $\frac{10}{60} \times 100 = 16.66$ %.

The answer is option A.

Q26. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

Town	Total Population	Percentage of vegetarian male population	Percentage of non-vegetarian female population
A	800	65%	25%
B	750	60%	30%
C	900	55%	35%
D	1200	45%	45%
E	1000	75%	40%

In town B:

Total male population $= 750 \times \frac{3}{5} = 450$

Total female population $= 750 \times \frac{2}{5} = 300$

Then, total vegetarian population $= 60\%$ of $450 + (100 - 30)\%$ of $300 = 480$

In town E:

Total male population $= 1000 \times \frac{2}{5} = 400$

Total female population $= 1000 \times \frac{3}{5} = 600$

Then, total non-vegetarian population $(100 - 75)\%$ of $400 + 40\%$ of $600 = 340$

Therefore, difference between total vegetarian population of town B and total non-vegetarian population of town $E = 480 - 340 = 140$.

Q27. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

Town	Total Population	Percentage of vegetarian male population	Percentage of non-vegetarian female population
A	800	65%	25%
B	750	60%	30%
C	900	55%	35%
D	1200	45%	45%
E	1000	75%	40%

In town A:

Let total male population = a

Total female population = 800 - a

Then, 568 = 65% of a + (100-25)% of (800 - a)

a = 320

Then, total non-vegetarian male population = (100 - 65) % of 320 = 112

In town D:

Let total male population = b

Total female population = 1200 - b

Then, 588 = 45% of b + (100 - 45) % of (1200 - b)

b = 720

Then, total non-vegetarian female population = 45% of (1200 - 720) = 216

Therefore, ratio = 112: 216 = 14: 27

Q28. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

Town	Total Population	Percentage of vegetarian male population	Percentage of non-vegetarian female population
A	800	65%	25%
B	750	60%	30%
C	900	55%	35%
D	1200	45%	45%
E	1000	75%	40%

Total female population of town $C = 108 \times \frac{100}{65-35} = 360$

Then, total male population of town $C = 900 - 360 = 540$

And, total male population of town $D = 1200 \times \frac{2}{5} = 480$

Therefore, percentage $= \frac{540}{480} \times 100 = 112.5\%$

Q29. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

Town	Total Population	Percentage of vegetarian male population	Percentage of non-vegetarian female population
A	800	65%	25%
B	750	60%	30%
C	900	55%	35%
D	1200	45%	45%
E	1000	75%	40%

Total population of town $F = 1000 \times \frac{3}{2} = 1500$

Total female population of town $F = 1500 \times \frac{7}{15} = 700$

Total non-vegetarian female population of town $F = 865 \times \frac{1}{5} = 173$

Therefore, total vegetarian female population of town $F = 700 - 173 = 527$

Q30. Text Solution:

Topic: Miscellaneous Charts

Sub Topic: Radar Charts

Town	Total Population	Percentage of vegetarian male population	Percentage of non-vegetarian female population
A	800	65%	25%
B	750	60%	30%
C	900	55%	35%
D	1200	45%	45%
E	1000	75%	40%

Total vegetarian male population of town $A = 104$

Then, total non-vegetarian male population of town $A = 104 \times \frac{7}{13} = 56$

Then, total female population of town $A = 800 - 104 - 56 = 640$

Now, total vegetarian female population of town $A = (100 - 25)\%$ of $640 = 480$

Total vegetarian male population of town $G = 104 \times \frac{100}{80} = 130$

Total population of town $G = 750$

Then, total vegetarian population of town $G = 750 \times \frac{4}{5} = 600$

Now, total vegetarian female population of town $G = 600 - 130 = 470$

Therefore, average of total vegetarian female population in town A and G taken together

$$= \frac{480 + 470}{2}$$
$$= 475$$