Quantitative Aptitude

Funnel Chart Based Data Interpretations

Level-1

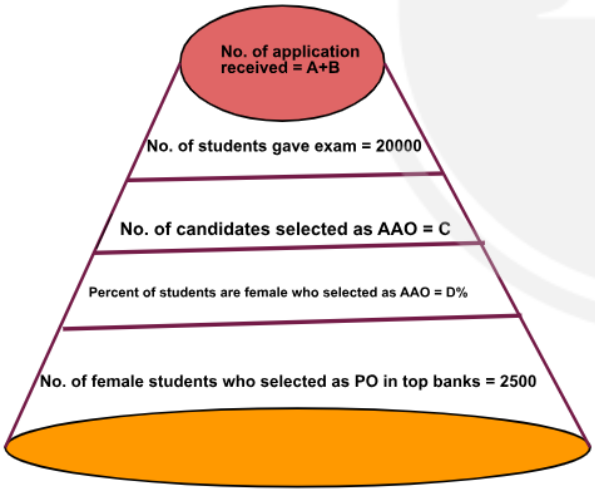
Directions (1-5) Read the following passage and answer the given questions.

Below data shows the number of applications received for the recruitment of AAO and ADO in the banks. Among the Students, some were called for exam some students absent and some attended the exams. There are two types of recruitments are there, AAO and ADO. The AAO work in two types of banks one is Top banks and other is Below average banks.

Number of people applied for AAO work = A

Number of people applied for Clerk = B

(Note: Values given in percentage are out of the number of application received and values obtained in one question can be used in other)



Q1 If 83.33% of the students who applied gave exams for AAO and ADO. If 16.66% of the applied students got failed in the exam and the ratio of the failed AAO and ADO students are 1:1, then how many failed non-selected Students are there who applied for AAO?

(A) 2800 (B) 2500

(C) 2000 (D) 4000

(E) None of these

Q2 If number of Students not present for exam are 2500 more than the number of females selected for AAO but not for Top banks, then find the value of D.

(A) 16.66% (B) 9.09%

(C) 11.11% (D) 25%

(E) None of these

Q3 If Students selected for AAO are 5/12th number of applications received, then how many males are selected for AAO?

(A) 1500 (B) 2500

(C) 4000 (D) 6000

(E) None of these

Q4 If number of applications received for AAO are 8000 more than the number of applications received for ADO, then students selected for ADO are approximately what percent of students applied for ADO?

(A) 75% (B) 60%

(C) 25% (D) 45%

(E) None of these

Q5 If 16.66% Students did not came for exam, then what is the value of 2C-180D-2B?

(A) 2000 (B) 2500

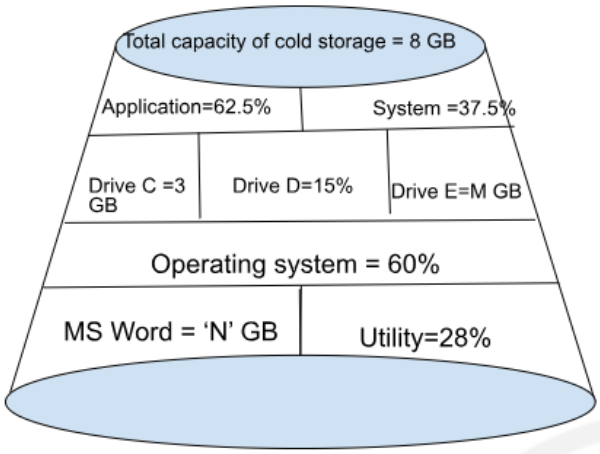
(C) 1000 (D) 2200

(E) None of these

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

Graph given below shows the total storage capacity of a Laptop out of which some is kept for Application software and remaining for system software. Total storage capacity of

laptop is divided into three drives C, D and E. Some percent of storage capacity of system software is used for Operating system and part of storage capacity of application software is used by MS Word and Utility programs.



Q6 If remaining storage capacity of Application software after MS Word and Utility software is 2.4 GB, then what is the difference between value of 'M' and value of 'N'?

(A) 1.7 GB (B) 1.5 GB
(C) 2.2 GB (D) 2.6 GB
(E) NOT

Q7 If storage capacity of MS word is 1.6 GB and remaining storage capacity of application software is used for Database software and Multimedia software in the ratio of 3: 2, then what per cent of total capacity of computer is used for Database and Operating System together?

(A) 52.5% (B) 37.5%
(C) 60% (D) 40%
(E) None of these

Q8 If operating system uses storage capacity of all the three drives in the ratio of 5: 1: 3, then what is the ratio of average of remaining storage capacity that is not used by operating system of all the three drives respectively?

(A) 10:5:6 (B) 15:10:16
(C) 10:5:16 (D) 10:10:16
(E) None of these

Q9 Ratio of storage capacity of application software in Drives C, D and E are 10: 8: 7 respectively and 0.9 GB of operating system is stored in drives E and $16\frac{2}{3}\%$ operating system is stored in drive D, then operating system in drive C is what percent of storage capacity of system software in that drive?

(A) 60% (B) 40%
(C) 80% (D) 50%
(E) None of these

Q10 If average storage capacity of device driver is 122.88 MB and average storage capacity of other application software is 115.2 MB. Value of 'N' is 1.8 and device drivers are to be installed in system storage while application software are to be installed in application storage, then what is the sum of newly installed device drivers and application software in the computer's available space? Take 1 GB = 1024 MB.

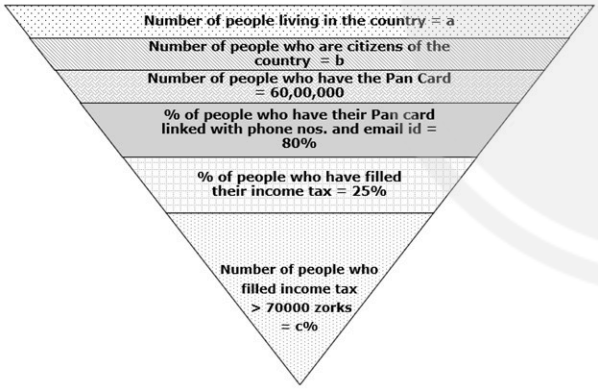
(A) 24 (B) 22
(C) 32 (D) 38
(E) None of these

Level-2

Directions (1-4) Read the following passage and answer the given questions.

Direction: Read the given information carefully and answer the questions that follow.

The following diagram in the form of funnel shows the data related to income tax and Pan Card of a country. It represents the number of people living in the country, number of people who are citizens of the country and living in it, number of people who have a Pan-Card(which is only given to the citizens of the country), percentage of people who have their Pan-Card linked with phone numbers and email-id (out of those who have the Pan-Card), percentage of people who have filled their income tax (out of those who have their Pan-Card linked with phone number and email-id), percentage of people who have their income tax greater than 70000 zorks (currency of the country) out of those who have filled their income tax.



Q1 Out of the people who had their Pan Card linked with mobile number and email-id, how many didn't fill their income tax?

(A) 4600000 (B) 3600000
(C) 3200000 (D) 2400000
(E) None of these

Q2 If the number of people who have filled income tax greater than 70000 zorks is 25% of the average of the number people who have the Pan Card and the number of people who have it linked with mobile number and email-id, what is the number of people who have filled income tax greater than 70000 zorks?

(A) 1350000
(B) 1450000
(C) 1250000
(D) Can't be determined
(E) None of these

Q3 The question below is followed by two statements I and II. You have to determine whether the data given in the statement is sufficient to answer the question. You should use the data and your knowledge of Mathematics to choose the best possible answer.

What is the number of people living in the country?

Statement I: The number of people who are citizens of the country and living in it and the number of people who are living in the country is in the ratio 4 : 5.

Statement II: The number of people living in the country is 1400% more than the number of people who filled income tax greater than 70000 zorks.

(A) Statement I alone is sufficient, but statement II alone is not sufficient to answer the question asked.
(B) Each statement alone is sufficient to answer the question asked.
(C) Even Statements I and II together are NOT sufficient to answer the question asked and additional data are needed.
(D) Both statements I and II together are sufficient to answer the question asked, but neither statement alone is sufficient.
(E)

Statement II alone is sufficient, but statement I alone is not sufficient to answer the question asked.

Q4 The number of people who didn't link Pan Card with their mobile number, those who didn't link Pan Card with their email-id and those who didn't link both mobile number and email-id are in the ratio 3 : 4 : 1. If the number of people who didn't link Pan Card with mobile number is equal to the number of people who filled income tax > 70000 zorks, what is the value of c?

(A) 40 (B) 55

(C) 50 (D) 65

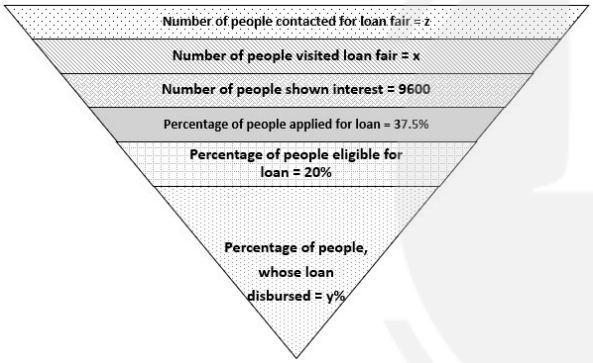
(E) None of these

Level-3

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

Directions : Study the following information carefully and answer the given questions.

The diagram, given below shows the data related to loan fair. In total z number of people contacted for a loan fair, from which x number of people visited loan fair and 9600 people shown interest for a loan. Out of the total number of people shown interest for a loan only 37.5% applied for the loan. Out of the total number of people applied for the loan, only 20% are eligible for a loan. Out of the total number of people eligible for a loan, loan of only y% people are disbursed.



Q1 If out of the number people who have applied for loan, 2880 were not eligible for a loan, then how many people are eligible for a loan?

(A) 720 (B) 560
(C) 640 (D) 830
(E) None of these

Q2 If 6000 people, who visited loan fair but not shown interest and 7400 people, who were contacted but did not visit the loan fair, then how many people contacted for the loan fair?

(A) 27000 (B) 23000
(C) 32000 (D) 42000
(E) None of these

Q3 Ratio of the number of people, who did not visit the loan fair and the number of people, who visited the loan fair but not shown interest is 7 : 5. If the total number of people contacted for the loan fair is 19200, then find the value of x.

(A) 13200 (B) 12600
(C) 14400 (D) 15600
(E) None of these

Q4 Loan of 40% of the people did not disbursed who were eligible for a loan, then find the ratio of the number of people, who shown interest and the number of people, whose loan disbursed.

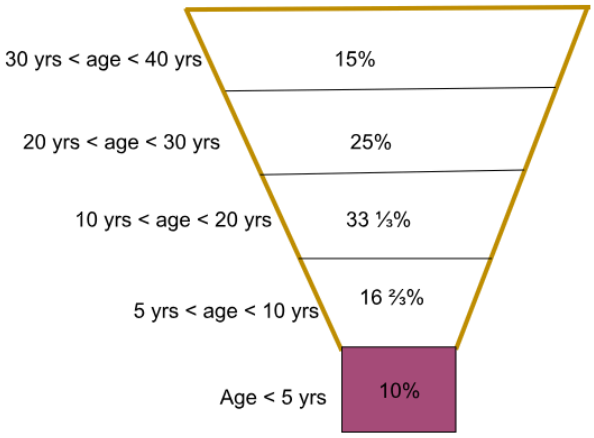
(A) 650 : 23 (B) 600 : 27
(C) 560 : 19 (D) 725 : 29
(E) None of these

Q5 Number of people who were eligible for a loan but whose loans were not disbursed is equal to the 9% of the number of people who shown interest in the loan but did not apply for a loan. Find the value y.

(A) 180 (B) 210
(C) 260 (D) 165
(E) None of these

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

Directions (1-5): - Funnel chart given below shows percentage distribution of five different age groups of the France city.



Q6 If total population of city is 72000, then what is the average of population of persons having ages below 5 yrs, above or equal to 5 yrs but below 10 yrs and above or equal to 10 yrs but below 20 yrs

(A) 16240 (B) 14440
(C) 13400 (D) 12400
(E) None of these

Q7 If total population is 144000 and persons having age of 25 yrs, 35 yrs and 16 yrs are $33\frac{1}{3}\%$,80%,and 75% respectively of their respective age group, then what is the total population having age of 25 yrs, 35 yrs and 16 yrs together?

(A) 42680 (B) 65280
(C) 36280 (D) 27280
(E) None of these

Q8 If ratio of male to female whose age is greater than or equal to 30yrs and below or equal to 40yrs and greater than or equal to 20yrs and below 30yrs are 3 : 2 and 8 : 7 respectively. Find no. of males whose age is greater than or equal to 30yrs and below or equal to 40yrs is how much percent more or less than no. of female whose age is greater or equal to 20yrs and below 30 yrs?

(A) 12.5% (B) 25%
(C) $22\frac{6}{7}\%$ (D) $33\frac{1}{3}\%$
(E) None of these

Q9 If difference between persons whose age group is greater than equal to10 yrs or less than 20 yrs and persons with age group greater than or equal to 5 yrs but less than 10 yrs is 15000, then find the number of person with age group less than 5 yrs.

(A) 11000 (B) 9000
(C) 8000 (D) 12000
(E) None of these

Q10 If the total population increases at rate of 10% p.a and total population previously known was 60,000. then find thepopulation of age group of $5 \leq x < 10$ and $10 \leq x < 20$ after 3 yrs? [if percentage distribution remains the same]

(A) 33030 (B) 39030
(C) 30030 (D) 39930
(E) None of these

Answer Key

Level-1

Q1	(C)	Q6	(D)
Q2	(A)	Q7	(B)
Q3	(D)	Q8	(C)
Q4	(A)	Q9	(A)
Q5	(C)	Q10	(E)

Level-2

Q1	(B)	Q3	(C)
Q2	(D)	Q4	(C)

Level-3

Q1	(A)	Q6	(E)
Q2	(B)	Q7	(B)
Q3	(C)	Q8	(C)
Q4	(B)	Q9	(B)
Q5	(A)	Q10	(D)

Hints & Solutions

Level-1

Q1. Text Solution:

83.33% = $\frac{5}{6}$of the students who applied gave exams for AAO and ADO,

Number iof students who gave exam = 20000, so

5 = 20000

1 = 4000

6 = 24000

The number of students who applied for the exam = 24000

Number of failed students = $\frac{1}{6} \times 24000 = 4000$

the ratio of the failed AAO and ADO students are 1:1

Number of failed non-selected Students are there who applied for AAO = 2000

Number of failed non-selected Students are there who applied for ADO = 2000

Q2. Text Solution:

Number of applications received = 24000

Number of students not present for exam = 4000

ATQ, number of females selected for AAO but not for top banks = 4000 - 2500 = 1500

Number of female who select as AAO = 2500 + 1500 = 4000

Percent of students are felmale who selected as AAO = $\frac{4000}{24000} \times 100 = 16.66\%$

Q3. Text Solution:

Number of applications received = 24000

Students selected for AAO are = $\frac{5}{12} \times 24000 = 10000$

Female students selected for AAO = 4000

Male students selected for AAO = 10000 - 4000 = 6000

Q4. Text Solution:

The number of applications received for AAO are 8000 more than the number of applications received for ADO

Number of applications received for ADO = 8000

Number of applications received for AAO = 24000 - 8000 = 16000

Number of failed non-selected Students are there who applied for AAO = 2000

Total students who selected for AAO = 10000

Total students who gave AAO exam = 10000 + 2000 = 12000

Number of applications received for AAO = 24000 - 8000 = 16000

Difference = 16000 - 12000 = 4000

Number of applications received for ADO = 8000

Number of failed non-selected Students are there who applied for ADO = 2000

Difference = 8000 - 2000 = 6000

Students selected for ADO are approximately what percent of Students applied for ADO = $\frac{6000}{8000} \times 100 = 75\%$

Q5. Text Solution:

The value of C = 10000

The value of D = 16.66

The value of B = 8000

The value of 2C-180D-2B

$2 \times 10000 - 180 \times 16.66 - 2 \times 8000 = 4000 - 30 = 2$

Q6. Text Solution:

Total capacity = 8 GB

Storage for Application Software = 62.5% of 8 = 5 GB

Storage for System Software = 37.5% of 8 = 3 GB

Storage for C drive = 3 GB

Storage for D drive = 15% of 8 = 1.2 GB

Storage for E drive = M = 8 – 3 – 1.2

M = 3.8 GB

Storage capacity for operating System = 60% of 3 = 1.8

GB

Storage Capacity of Utility = 28% of 5 = 1.4 GB

According to the question:

N + 1.4 + 2.4 = 5

N + 3.8 = 5

N = 1.2

M = 3.8

Required difference = 3.8 – 1.2 = 2.6 GB

Q7. Text Solution:

Storage capacity of MS word = 1.6 GB

Remaining storage capacity of Application software = 5 – 1.6 – 1.4 = 2 GB

Storage capacity used for Database software = $2 \times \frac{3}{5}$ = 1.2 GB

Total storage capacity used for Database and Operating System together = 1.2 + 1.8 = 3GB

Required percent = $\frac{3}{8} \times 100 = 37.5\%$

Q8. Text Solution:

Total capacity of operating system = 1.8 GB

Total capacity of C drive used by operating system = $1.8 \times \frac{5}{9} = 1 \quad GB$

Total capacity of D drive used by operating system = $1.8 \times \frac{1}{9} = 0.2 \quad GB$

Total capacity of E drive used by operating system = $1.8 \times \frac{3}{9} = 0.6 \quad GB$

Required ratio = (3 – 1): (1.2 – 0.2): (3.8 – 0.6)

= 2 : 1 : 3.2

= 20: 10: 32

= 10: 5: 16

Q9. Text Solution:

Storage capacity of system software in drive C = $3 - 5 \times \frac{10}{25} = 1$ GB

Part of operating system in drive E = 0.9 GB

Part of operating system in drive D = $16\frac{2}{3}\% \quad of \quad 1.8 = 0.3$ GB

Part of operating system in drive C = 1.8 – 0.9 – 0.3 = 0.6 GB

Required percent = $\frac{0.6}{1} \times 100 = 60\%$

Q10. Text Solution:

ATQ,

Total available space in system storage of computer = 3 – 1.8 = 1.2 GB

Total available space in application storage of computer = 5 – 1.8 – 1.4 = 1.8 GB

Average storage capacity of device driver = $\frac{122.28}{1024} = 0.12$GB

Total new device drivers installed = $\frac{1.2}{0.12} = 10$GB

Average storage capacity of application software = $\frac{115.2}{1024} = 0.1125$ GB

Total new application software installed = $\frac{1.8}{0.1125} = 16$ GB

Required sum = 10 + 16 = 26

Level-2

Q1. Text Solution:

Number of people who have the Pan Card = 6000000

Number of people who have their Pan Card linked with mobile number and email-id = 6000000 × 0.8 = 4800000

Number of people who have filled their income tax = 4800000 × 0.25 = 1200000

Required answer = 4800000 – 1200000 = 3600000

Q2. Text Solution:

Number of people who have the Pan Card = 6000000

Number of people who have their Pan Card linked with mobile number and email-id = 6000000 × 0.8 = 4800000

Number of people who have filled their income tax = 4800000 × 0.25 = 1200000

Required average = $\frac{6000000 + 4800000}{2} = 5400000$

Required answer = 5400000 × 0.25 = 1350000

In this case, the number of people who have filled income tax greater than 7000 zorks is greater than number of people who have filled income tax which is not possible.

Q3. Text Solution:

Statement I:

Let the number of people who are citizens of the country and living in it be 4x

Number of people who are living in the country = 5x

Just the ratio is given, from which the number of people living in the country cannot be found out from statement I alone.

Statement II:

Number of people living in the country = 15 × Number of people who filled income tax greater than 70000 zorks

Just a relation can be found out here, hence number of people living in the country cannot be found out from statement II alone.

Using Statement I and II together:

5x = 15 × Number of people who filled income tax greater than 70000 zorks

Again, just a relation can be found out, hence number of people living in the country cannot be found out from statement I and statement II together.

Q4. Text Solution:

Number of people who didn't link Pan Card with their mobile number be 3x

Number of people who didn't link Pan Card with their email-id = 4x

Number of people who didn't link Pan Card with both mobile number and email-id = x

Number of people who don't have their Pan Card linked with mobile number or email-id or both

= 6000000 – 4800000 = 1200000 = 3x + 4x – x = 6x

⇒ x = 200000

Number of people who didn't link Pan Card with their mobile number = 3x = 600000

∴ c = $\frac{6000000}{12000000} \times 100 = 50$

Level-3

Q1. Text Solution:

Total number of people shown interest for a loan = 9600

Total number of people who have applied for loan = 37.5% of 9600

= $\frac{75}{200}$ × 9600 = 3600

Since, 2880 were not eligible for a loan,

So, total no. of people eligible for loan = 3600 – 2880 = 720

Q2. Text Solution:

Total number of people shown interest for a loan = 9600

Total number of people visited for a loan fair = 9600 + 6000 = 15,600

Total number of people contacted for a loan fair = 15,600 + 7400 = 23,000.

Q3. Text Solution:

Total number of people contacted for loan fair = z

Here, z is given as 19200

Total number of people visited for the loan fair = x

Total number of people who have shown interest for the loan fair = 9600

Total number of people who did not visit for the loan fair = z – x or, 19200 – x

Total number of people who visited but did shown interest loan = x – 9600

Now, according to the question = $\frac{19200-x}{x-9600} = \frac{7}{5}$

Þ x = 14,400

Q4. Text Solution:

Total number of people eligible for loan = 20% of 37.5% of 9600

or, $\frac{20}{100} \times \frac{75}{200} \times 9600$ = 720

Loan of 40% of the people did not disbursed who were eligible for a loan = 40% of 720

or, $\frac{40}{100} \times 720$ = 288

Total number of people whose loan disbursed = 720 – 288 = 432

Hence, required ratio = $\frac{9600}{432} = \frac{200}{9}$ = 600 : 27

Q5. Text Solution:

Total number of people eligible for loan = 20% of 37.5% of 9600

or, $\frac{20}{100} \times \frac{75}{200} \times 9600$ = 720

Total number of people who shown interest but did not apply for loan = 62.5% of 9600

or, $\frac{625}{1000}$× 9600 = 6000

Now, 9% of 6000 = 540 = whose loans were not disbursed

So, people whose loans were disbursed = 720 – 540 = 180

Hence, value of y = 180

Q6. Text Solution:

$16\frac{2}{3}\% = \frac{1}{6}$

$33\frac{1}{3}\% = \frac{1}{3}$

Required average =

$\left(\frac{1}{100} \times 72000 + \frac{1}{6} \times 72000 + \frac{1}{3} \times 72000\right) \times \frac{1}{3}$

$= \frac{1}{3}(72000 + 12000 + 24000)$

$= \frac{1}{3} \times 43200$

$= 14400$

Q7. Text Solution:

Population whose age is 25 yrs = $\frac{1}{3} \times \frac{25}{100} \times 144000 = 12000$= 12000

Population whose age is 35 yrs = $\frac{80}{100} \times \frac{15}{100} \times 144000 = 17280$

Population whose age is 16 yrs = $\frac{75}{100} \times \frac{1}{3} \times 144000 = 36000$

Required population = 12000 + 17280 + 36000 = 65280

Q8. Text Solution:

	Male : Female
30 ≤ age ≤ 40 – 15x	9x : 6x
20 ≤ age < 30 – 25x	$\frac{40}{3}x$: $\frac{35}{3}x$

Required percentage

= $\frac{\frac{35}{3}x - 9x}{\frac{35}{3}x} \times 100 = 22\frac{6}{7}\%$

Q9. Text Solution:

Let total value of group be y

(20 > x yrs ≥ 10) – (10 > x ≥ 5) = 15000

$\left(33\frac{1}{3}\% - 16\frac{2}{3}\%\right)y = 15000$

$y = 90000$

Required population $\frac{10}{100} \times 90000 = 9000$

Q10. Text Solution:

Required population=

$60000 \times (1.1)^3 \times \frac{50}{100} = 39930$