Graduate Diploma in Systems Analysis (GDipSA)
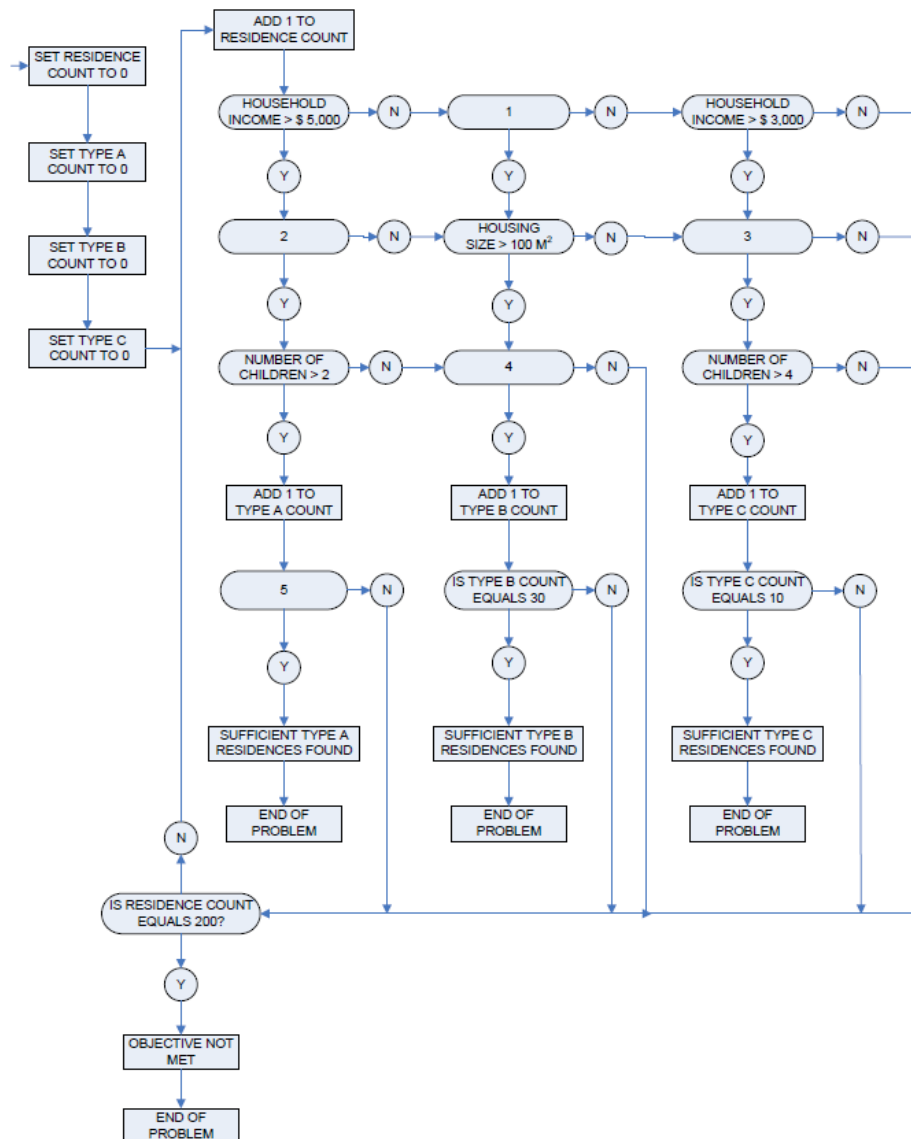# Aptitude Test Sample

All GDipSA applicants are required to sit for the aptitude test. This is a test to measure your aptitudes for learning and performing the job of computer programming and systems analysis. There are three parts to the test and each part will be timed separately – Diagram Ability, Reasoning and Number Ability. It is designed to test your problem-solving ability, your ability to read and understand diagrams, etc. You can't really study for the test. It is designed to test what abilities you have, as opposed to testing what facts or information you know. Total 40 multiple choice questions and the duration of the test is 1 hour.

Sample Questions

Diagramming [10 Marks]
Question 1 - 10

In this section there are a number of problems with flow charts (schematic diagrams) that illustrate the process by which each problem is solved. The solution to a problem is illustrated in its diagram by following the arrows from cell to cell.

Sample question 1:

Problem and conditions for Drawing 1

    A. *200 Residences are randomly drawn from a pool of 5000 Residences.*

    B. *The objective is to get a group of residences of any Type (A, B or C) of a certain quantity.*

    C. *Acceptance Criteria for various types of residences are as follows:*

Variable	Type A	Type B	Type C
Household Income	> $5,000	> $4,000	> $3,000
Housing Size	> 120 m^2	> 100 m^2	> 90 m^2
Number of Children	> 2	> 1	> 4
Quantity Required	20	30	10

    D. *A residence can be classified as more than one Type. (ie a Residence could be Type A as well as Type C). However the selection criteria require the residence to be of a single type. An order of preference is therefore used to select the final type for such Residences. The order of preference is classified as follows:*

        1. *Type A*

        2. *Type B*

        3. *Type C*

In other words, a residence having both Type A and C will be considered having a type of Type A.

Cell 1
A. Household Income > $ 5,000?
B. Household Income > $ 4,000?
C. Household Income > $ 3,000?
D. Residence is not Type A?
E. Residence is not Type B?
Answer: (B)

Cell 2
A. Household Income > $ 5,000?
B. Household Income > $ 4,000?
C. Household Income > $ 3,000?
D. Housing Size > 100 m^2?
E. Housing Size > 120 m^2?
Answer: (E)

Cell 3
A. Housing Size > 80 m^2?
B. Housing Size > 90 m^2?
C. Housing Size > 100 m^2?
D. Household Income > $ 3,000?
E. Household Income > $ 4,000?
Answer: (B)

Cell 4
A. Number of Children > 1?
B. Number of Children equals 1?
C. Number of Children > 2?
D. Number of Children equals 2?
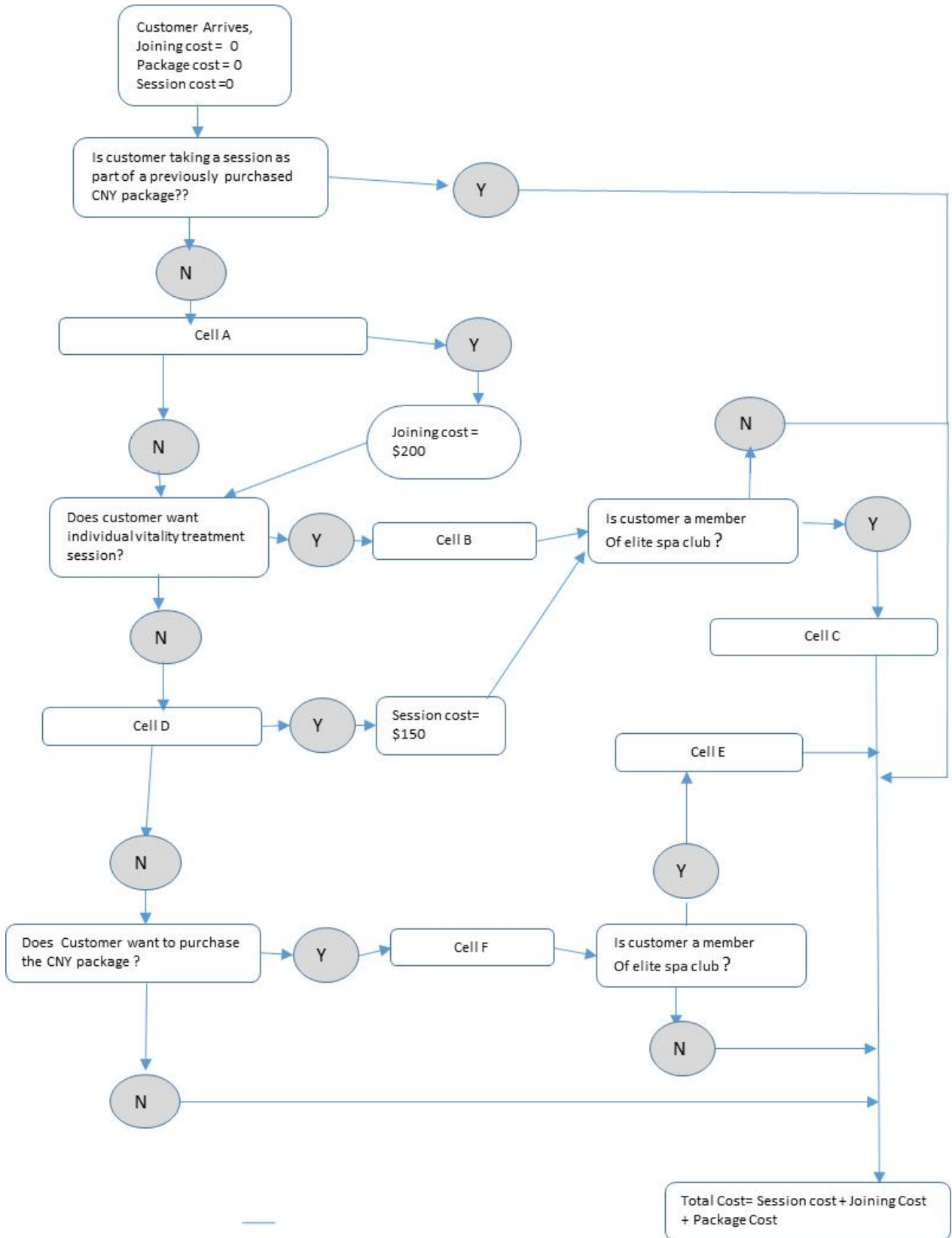*E. Number of Children > 3?*
Answer: (A)

Cell 5
A. Is Type A Count equals 10?
B. Is Type B Count equals 20?
C. Is Type C Count equals 30?
D. Is Type A Count equals 20?
E. Is Type B Count equals 30?
Answer: (D)

Sample question 2:

Customer Arrives,
Joining cost = 0
Package cost = 0
Session cost = 0

Is customer taking a session as part of a previously purchased CNY package??

Cell A

Joining cost = $200

Does customer want individual vitality treatment session?

Cell B

Is customer a member Of elite spa club ?

Cell C

Session cost= $150

Cell E

Cell D

Does Customer want to purchase the CNY package ?

Cell F

Is customer a member Of elite spa club ?

Total Cost= Session cost + Joining Cost + Package Cost

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Problem and conditions for Drawing 2

The Singapore based Elite Spa company offers a set of health treatments and revitalising treatments. When a customer walks into one of the elite spa centres they can purchase
- An individual Vitality treatment session costing $100
- An individual Aromatherapy treatments session costing $150
- Note that Customers can only attend one session

Customers can also become members of the elite spa exclusive club for $200 per annum.
- They can join on the spot when they walk in
- If a customer is also a member then they will get 20% discount on the price of any individual session

The Club has also launched a special CNY packages to celebrate the Chinese lunar New Year.
- This Package gives the customer three individual Vitality treatment sessions and three individual Aromatherapy treatment sessions for the price of $600
- Customers who are also Elite Spa exclusive club members can purchase this package for an additional discount of 10%

If a customer is simply in the middle of a CNY package (i.e., they started this in a previous session) then of course they will pay nothing
Drawing 2 shows the process Elite Spa receptionists will follow to determine the total cost when a customer arrives for treatment.

Cell A
A. Cell A is "Does customer want individual aromatherapy treatment session"
B. Cell A is "Does customer want to immediately join Elite Spa club?"
C. Cell A is "Does Customer want to purchase the CNY package?"
D. Cell A is "Is customer a member of elite spa club?"
E. Cell A is "Reduce session cost by 20%"
Answer: (B)

Cell B
A. Cell B is "Session cost = $100"
B. Cell B is "Session cost = $150"
C. Cell B is "Does customer want individual aromatherapy treatment session?"
D. Cell B is "Reduce session cost by 20%"
E. Cell B is "Reduce session cost by 10%"
Answer: (A)

Cell C is
A. Cell C is "Does customer want individual vitality treatment session?"
B. Cell C is "Does Customer want to purchase the CNY package?"
C. Cell C is "Reduce session cost by 10%"
D. Cell C is "Reduce session cost by 20%"
E. Cell C is "Is customer a member of elite spa club?"
Answer: (D)

Cell D

A. Cell D is "Reduce session cost by 10%"
B. Cell D is "Does customer wants to immediately join Elite Spa club?"
C. Cell D is "Does Customer wants to purchase the CNY package?"
D. Cell D is "Is customer a member of elite spa club?"
E. Cell D is "Does customer want individual aromatherapy treatment session"

Answer: (E)

Cell E and Cell F

A. Cell E is "Reduce CNY Package cost by 20%" and Cell F is "Package Cost = $500"
B. Cell E is "Reduce CNY Package cost by 10%" and Cell F is "Package Cost = $600"
C. Cell E is "Does Customer want to purchase the CNY package?" and Cell F is "Reduce session cost by 10%"
D. Cell E is "Package Cost = $600" and Cell F is "Reduce CNY Package cost by 10%"
E. Cell E is "Does customer want individual aromatherapy treatment session?" and Cell F is "Is customer a member of elite spa club?"

Answer: (B)

Reasoning [15 Marks]
Question 11-25

This is a test of your ability to reason and to express problems in a simple form using conventional mathematical symbols. The items in the test require you to read a problem and formulate an answer for it.

Sample question 1: A new homeowner ordered an air-conditioning system which costs A dollars, six wardrobes which cost W dollars a piece, and a dozen beds which cost B dollars each. The total cost of the order is
    A.   *A + W + B*
    B.   *AB + 6W*
    C.   *A + 6W + 12B*
    D. *A + (W + B) / 2*
    E. *A + (2W +B)6*
Answer: (C)

Sample question 2: S dollars are divided amongst 3 persons, so that the first person receives $20 less than the second person, and the second person receives $20 less than the third person. What does the last person receive?
    A.   *S – 60*
    B.   *S- 40*
    C. *S/3 -20*
    D. *S/3 +20*
    E. *None of the above*
Answer: (D)

Sample question 3: When a shipment of eggs was received, it was found that R eggs out of the total of P eggs were broken. Which of the following expressions indicates the percent of the eggs that were <u>*unbroken*</u>*?*
    A. *R*100 / P*
    B. *P / R*
    C. *P/R *100*
    D. *(P-R)*100 / P*
    E. *P + R*
Answer: (D)

Sample question 3: When a shipment of eggs was received, it was found that R eggs out of the total of P eggs were broken. Which of the following expressions indicates the percent of the eggs that were <u>unbroken</u>?

    A. R*100 / P

    B. P / R

    C. P/R *100

    D. (P-R)*100 / P

    E. P + R

Answer: (D)

Sample question 4: In a box containing Z pens, S pens contain red lead and the rest contain blue lead. Which of the following expressions indicates the percent of the pen containing blue lead?

    A. [100 (Z – S)] / Z

    B. 100 – (Z / S)

    C. S / (Z – S)

    D. (Z – S) / (Z + S)

    E. 100S / (Z – S)

Answer: (A)

Number Ability [15 Marks]
Question 26- 40

This test measures your ability to make rapid numerical calculations and estimates.

Sample question 1: 123.4 ÷ 1/10 (approximate)

    A. 1.2

    B. 12

    C. 120

    D. 1200

    E. 12000

Answer: (D)

Sample question 2: 40% of 645 (approximate)

    A. 230

    B. 260

    C. 25

    D. 269

    E. 250

Answer: (B)

Sample question 3: 13.5 + 49.4 – 35.2

    A. 72.20

    B. 27.70

    C. 37.20

    D. 17.40

    E. 2.77

Answer: (B)

Sample question 4: 4/7 x 3.90
    A. 0.222
    B. 22.22
    C. 2.228
    D. 222.2
    E. 2.222
    Answer: (C)

Sample question 5: (36/9 + 16) / (5 x 5 – 20)
    A. 40
    B. 0.4
    C. 0.44
    D. 44
    E.   4
Answer: (E)