TRAINER'S MANUAL

VERSION : 1.0

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Naipunnya Learning Center

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The Power of the Dream

Deep within each heart
There lies a magic spark
That lights the fire of our imagination
..
..
Your mind will take you far
The rest is just pure heart
You'll find your fate is all your own creation
 (Celine Dion)

The Bible says "Where there is no vision, the people perish; but happy is he who keeps the law".

We can't achieve anything in life without goals, and for these goals, we need to dream. A.P.J Abdul Kalam says, "You have to dream before your dreams can come true".

In this session, the trainer enlightens the students about the importance of dreaming. The trainer helps them to dream. Make the students understand that the more powerful the dream is the easier it is to achieve it. Teach students how to dream.

Goal Setting

Objective:
To help students to have a clear cut idea of what they want to learn, gain and achieve. A personal SWOT analysis will be done while setting the goal.

Time Required:
- 90 minutes

Number of participants:
> 30

Number of trainers required
> One trainer

Why goals ?	Goals should be:
- Goals pave path to walk - It helps you to make easy decisions - Saves time when making decisions - Helps you in prioritizing activities - You become responsible and meaningful	**S**: Specific **M**: Measurable **A**: Achievable **R**: Realistic **T**: Time bound

Questions to help students to set their goal.

- What is your plan immediately after the degree course?
- What are the steps required to achieve your plan?
- What is your biggest quality to reach your aim?
- What are the hindrances that you perceive to attain your aim?
- What is your long term goal?

Students will be asked to write down the answers to the above questions. They could rework on this and make a better plan later.

Art of Communication

Life can be summed up in three words −Stewardship, Relationship and Leadership. Communication is the basis of relationship.

Communication is the process of sending and receiving message/information among people. Effective communication is the communication which produces intended or desired result.

The 7 C's of effective communication:

1. Completeness	5. Concreteness
2. Conciseness	6. Courtesy
3. Consideration	7. Correctness
4. Clarity	

Communication	Order Learned	Extent Used	Extent Taught
Listening	First	First	Fourth
Speaking	Second	Second	Third
Reading	Third	Third	Second
Writing	Fourth	Fourth	First

How to be an effective listener?

- Understand the complexities of listening   - Prepare to listen   - Adjust to the situation   - Delay judgment   - Encourage others to talk   - Focus on ideas or key points   - Establish eye contact with the speaker   - Take notes effectively

What can be done to improve the communication skills?

1) Expose the ghost of fear of communication to light.
   Find out the reason for fear of communication and resolve them.

2) Practice session on simple communication
   Students will be given practice sessions on simple communication. This is a conversion building event by which students will gain confidence to meet speak to others. Just A Minute (JAM) and Talk on a topic games can be used.

3) Organizational communication
   Communication is a critical component of corporate initiative. Identify the real value of communication in organizations. Discuss different types of communication. Communication helps corporations to achieve their objectives. Communication solves business problems

4) Interpersonal skills
   It is the ability to work with people. Different techniques to improve the interpersonal skills will be discussed.

5) Practice sessions for Managerial Communication
   This is an interactive event where students will play the role of managers / leaders and employees / customers of an organization.

How to develop Interpersonal Skills

It is the ability to work with people. The steps given below are to be followed in the process of developing this skill.

<u>Active listening / clarify by:</u>

- Paying attention and responding to other's feeling and ideas
- Not interrupting
- Making open-ended enquiries
- Not judging others
- Summarizing and reflecting back others ideas and feeling

<u>Supporting /building by:</u>

- Accepting what others have to say.
- Not debating, persuading, controlling or manipulating others
- Speaking in friendly, warm terms
- Creating opportunities for others to make their own thoughts and feelings known
- Assuming others have useful ideas, information etc.
- Building on other's ideas
- Reopening in an open spontaneous way
- Encouraging, divergent points of view
- Freely offering new ideas at appropriate times

<u>Differing/confronting by</u>:

- Continually focusing on the problem solving
- Questioning own and others assumption in a non-threatening way
- Dealing directly specially with apparent discrepancies
- Reflecting on how the team is doing with regards to
  - Progress
  - Personal relations
  - Time

Self Analysis

Objective:

To help students to identify their strengths and weaknesses. Once this is done, they can go about putting together a winning career strategy.

Time Required:
- 20 minutes for tips
- 30 minutes for exercise (to write down about them, their strengths and weaknesses
- This is an ongoing process; students can continue the exercise after the training hours.

Self-awareness is the central characteristic of a successful professional. This exercise will enable one to track, with self-awareness, the skills one is developing throughout the career.

Who am I?   Is the identity
Do I matter? Is the importance
Where am I? Is the impact

You are most likely to succeed in your life if you use your strengths/ talents to their fullest extent. Similarly, you will suffer from fewer problems if you identify your weaknesses and manage them.

Personal SWOT Analysis

Looking at yourself using the SWOT (Strength, Weakness, Opportunity, Threats) framework, you can start to separate yourself from your peers, and further develop the specialized talents and abilities you need to advance in your career.

Personal SWOT Analysis

Strengths
- Well educated - master degree
- Proficient English
- Patient and careful
- Team worker
- Extensive reading
- Quick learner

Weaknesses
- Not experienced in SEO field.
- Easily distracted
- Often procrastinate
- Disorganized
- Not creative enough

Opportunities
- English speech platforms like TED.
- Lots of chances to communicate with native speakers in after-sales service.
- English learning clubs.

Threats
- People with better webpage design skills do better than me.
- Not a good team leader.
- Used to work for small company which doesn't offer professional training.

Relationship with self and others:

The Johari window is a technique that helps people better understand their relationship with themselves and others

	Known to Self	Unknown to Self
Known to Others	**OPEN SELF** Information about you that both you & others know.	**BLIND SELF** Information about you that you don't know but others do know.
Unknown to Others	**HIDDEN SELF** Information about you that you know but others don't know.	**UNKNOWN SELF** Information about you that neither you nor others know.
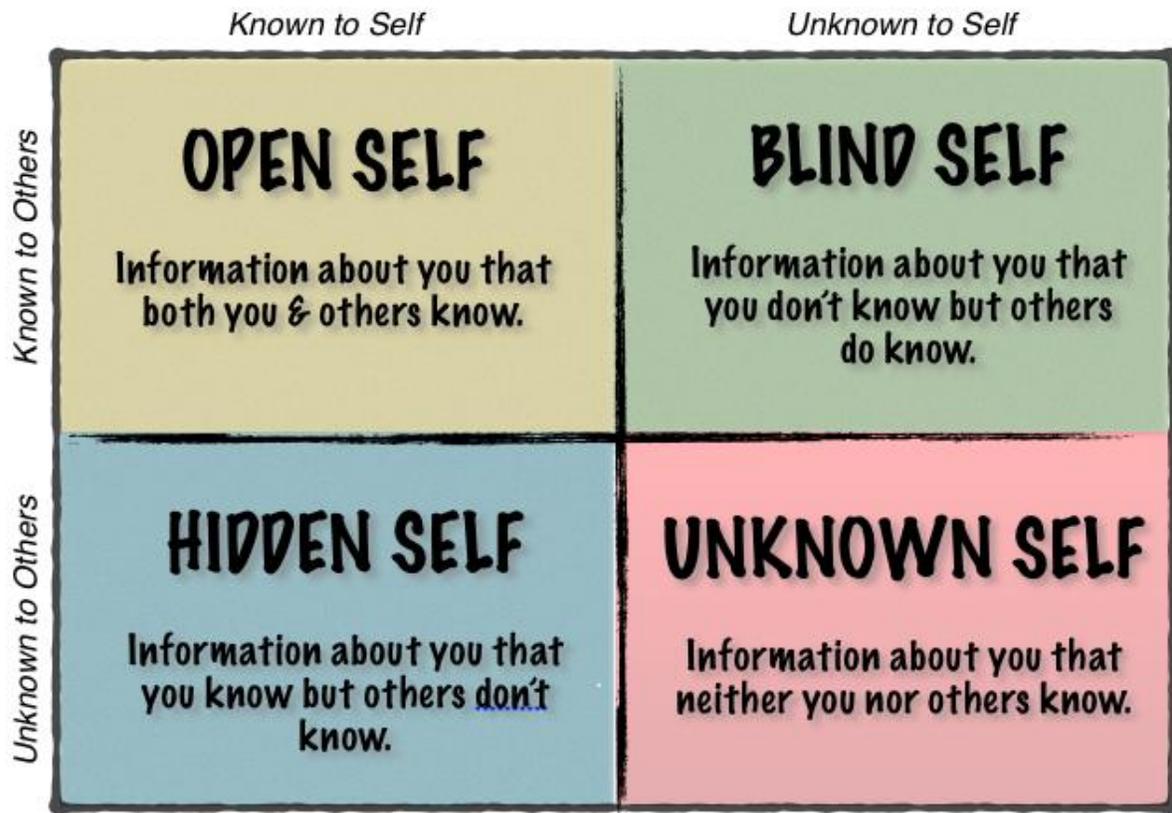
Life positions are basic beliefs about self and others, which are used to justify decisions and behavior

You are okay with me

I am not OK **You are OK** *The One-down position* *"I wish I could do that as well as you do."*	**I am OK** **You are OK** *The Healthy position* *"Hey, we're making good progress now."*
I am not OK **You are not OK** *The Hopeless position* *"Oh this is terrible – we'll never make it."*	**I am OK** **You are not OK** *The One-up position* *"You're not doing that right – let me show you."*

(left axis label) I am not okay with me

(right axis label) I am okay with me

You are not okay with me

Questionnaire to help self-analysis

1. Why did you choose your major subject?
2. Why did you go to college?
3. Where have you shown leadership potential?
4. How have you changed since beginning college?
5. What course has excited you the most and why?
6. What are the characteristics in a friend that you admire?
7. To what personal characteristics in your teachers have you responded?
8. Do you possess a strong, mild, gruff, loud, or wavering voice?
9. What type of temperament do you possess?
10. Are you an emotional or a very private person?
11. What social activities appeal to you? Why?
12. What activities excite you? School, sports, work, politics, etc.?
13. Do you prefer team or individual projects?
14. Is your speech clear?
15. What importance do you place on appearance?
16. What degree of confidence do you show in your abilities?
17. Is prestige and status important to you?
18. Does money, fear, or praise motivate you?
19. Do you crave independence or association?
20. What do you do with your leisure tune?

Self- Introduction

Objective:

To help student to present himself/herself, to build confidence in speaking in front of a group and to participate in an interview with successful self-introductory talk

Time Required:
- 10 minutes for tips
- 5 minutes for exercise and correction for each student
- 2 hour session for 20 students
- One more repeat session required

Number of participants:
20

Number of trainers required
One trainer

Self-introduction

Introducing oneself is not a very easy task. Self-introduction is often required at the first meeting of a group. It is one of the commonest ways used to break ice in a group. People frequently have to introduce themselves before a group.

For a job interview, self-introductory talk is very important. A candidate is supposed to answer by introducing himself/herself to the questions like "introduce yourself", "tell us about yourself", "say something about yourself".

The student should consider some of the following question areas for developing the speech.
- Environment: Have you been shaped by where you grew up or by your culture?
- Influential person: Has some person who has made a great impact on you?
- Experience: Has some unique experience shaped your life?

- Activities: Do you enjoy an activity or hobby that is meaningful?
- Career or work: Are you largely defined by what you do for an occupation?
- Goals: Do you have an overwhelming purpose in your life that defines what you do?
- Values: do you have some values that are important to your way of life?

Preparation:

- Have a good awareness of yourself
- Write down your strengths and qualities
- Note down your activities and achievements in the college/ organization
- Write down your critical success factors
- Training/ learning that you have received from the institution that you attended, should be noted down
- Remember your interests and hobbies
- Write down your belief system - an inspiring quote or motivating phrase that leads you in life

Elements of introductory talk

1. State your name clearly
2. Place yourself:
   a. Where you are from, the institution where you study, the program that you are pursuing
3. Focus on your strengths and qualities
   a. Preferably it should be helpful in carrying out the job
4. Your academic performance
5. Your extra-curricular activities and achievements in the college
6. Your project, training received, what leads you in life
7. Interests, passion, goals

Sample self-introduction speech

I was born and brought up in Hyderabad. I currently pursue my graduation in Hotel Management and Culinary Arts from Naipunnya College. I have completed my schooling from (school, place) and Plus 2 from (school, place).

My passion for food production led me to look for an entry level job in one of the best hotels around. I'm a fresher but I have a hunger for learning new things at different positions. My strong academic background and theoretical knowledge will help me perform well in the positions that I take up. The learning that I have experienced from attending 6 months training in Holiday Inn, Cochin and from various outdoor catering services strengthened my practical knowledge in this field. I see myself as a people-oriented person and over-achiever. I have strong interpersonal skills and work well in groups as a team player. I demonstrated this by working in various group events with different types of people in which I was able to perform successfully. I believe that a successful person is one who can balance success and failures in life. Having had learned and trained in multicultural environments, I aim for a successful career in the international hospitality arena.

I have actively participated in extracurricular activities in the college and won prizes. I enjoy listening to music, playing cricket and during my leisure time I surf net.

I want to be a critical contributor to the success of the organization for which I work.

Group Discussion

Objective:

Naipunnya Learning Centre

To help students to understand the basics underlying group discussion, to help them to participate in group discussion successfully

Time Required:
- 20 minutes for giving GD tips
- 15 minutes for group discussion exercise
- Two separate sessions (one hour each) is preferred for the same group

Number of participants:
Between 10 and 25

Number of trainers required
One trainer

Seating arrangement
- 30 chairs (freely movable)
- Arranged in circle or semi-circle
- Inner circle for 50% of participants and outer circle for the rest

Why do we need groups

- Groups will bring wider knowledge and skill than an individual
- There is enhanced self-respect and low stress in a group, for each individual
- Better and multiple ideas are generated in a group
- As quantity breeds quality, the decisions made in a group could be of better quality
- Working in groups is enjoyable
- Synergy

Roles in a Group Discussion

- Initiator

- Information giver
- Information seeker
- Procedure facilitator
- Clarifier
- Harmonizer
- Compromiser
- Summarizer

Personality Traits and behavior evaluated

- Team player
- Reasoning ability
- Leadership
- Flexibility
- Assertiveness
- Initiative
- Creativity/ out of the box thinking
- Inspiring ability
- Listening
- Awareness

Tips for Success in GD

- ➢ Always enter with a pen and paper; make notes if you are allowed to do so
- ➢ Always address the group and not an individual
- ➢ Encourage the group members who want to speak
  - ○ While you are speaking if someone tries to enter the discussion, hold him/her off by acknowledging the interruption but continue, saying, "I am about to finish" or some similar words.
- ➢ Do not encourage the person who does not want to speak
- ➢ Listen to others
  - ○ You will be able to make use of other person's content in your speech
- ➢ Display original ideas
  - ○ Success depends on the quality of your arguments and not on the quantity of your arguments

- ➢ Minimize interruptions (if needed, do it only by agreeing)
- ➢ Do not speak too less or too much
- ➢ Keep your cool
  - ○ Be patient; do not take discussion personally
- ➢ Respect other's viewpoint
- ➢ Do not appoint a leader
- ➢ Do not fix time or turn
- ➢ Do not go for voting on the result/ decision
- ➢ Do not argue
- ➢ Maintain eye contact with everyone in the group
- ➢ Do not repeat what has been said; you may develop on ideas already expressed

How will you be evaluated?

The general criteria based on which you are evaluated are the following:
1. Communication/ Interpersonal skills
   a. How well you express yourself
   b. Speaks in a natural manner
   c. Shows interest and enthusiasm
   d. Has something worthwhile to say

2. Leadership skills
   a. Takes initiative to open discussion
   b. Introduces new ideas
   c. Summarizes the discussion
   d. Reminds the group of the objective when it goes off the track
   e. Encourages others who want to speak

3. Problems solving skills
   a. Thinks through all possible options
   b. Concentrates on the main issues
   c. Quick to understand and answer questions

       d. Ask questions to get the matter explained

4. Knowledge
    a. Knowledge on the subject discussed
    b. Logic/ facts/ figures used during discussion

5. Non-verbal cues

<u>How to summarize discussion</u>
In the summary, cover all of the following:
- The problem in brief
- Majority point of view
- Dissenting viewpoints
- Whether the group has been able to reach a consensus or not

Résumé Preparation

Objective:
To help students to write an effective résumé for getting a call for an interview

Time Required:
- 20 minutes for giving tips
- 40 minutes for writing a résumé

(Correction time for résumé is about 5 minutes per résumé)

Number of participants:
> Between 30 and 40

Number of trainers required
> One to two trainers

Follow up of training
- Collect the materials from the students
- Correct the résumé and return it
- Ask them to submit the final résumé by a given deadline

<u>Why résumé?</u>
- A résumé will help one to get an appointment for a job interview
- A résumé should be attractive and should catch the attention of the reader so that you get an appointment
- It is about 10 seconds an employer is going to give your résumé in deciding to keep it or pass on it. Your résumé should pass this 10 second test
- A résumé is the first meeting between you and your employer.
- Your résumé should convince the employer that you are worth an interview
- Keep as brief as possible without sacrificing the essential qualifications
- Do not lie or exaggerate
- Your résumé matches the job/ industry requirement

<u>Contents of résumé</u>
- Job objective
- Education and Training
- Project details
- Skills related to job objective
- Work Experience
- Certification, Affiliation, Membership

- Activities, Accomplishments
- Interests, Hobbies
- Personal details
- References

Do's and Don'ts
- Keep your résumé length to two pages or less
- Label your second page
- Reverse chronological order of event is preferred
- Maintain a pleasing lay-out
- Ensure you résumé always follows a cover letter
- Avoid errors - spelling and grammatical mistakes
- Avoid abbreviations and acronyms
- Avoid folding résumés

Use attitude and action verbs in your résumé
- Team player
- Involved with
- Served on
- Managed
- Contributed to
- Volunteered to
- Implemented
- Executed

Interview Skills

Objective:
To prepare students to attend interviews successfully

Time Required:
- 60 minutes for the do's and don'ts in an interview
- 10 minutes for interview and 10 minutes for corrections for a mock interview session

Number of participants:
    Between 30 and 40

Number of trainers required
    One trainer for giving tips
    2-3 trainers for mock interview

3 essentials to be successful in an interview
- Confidence
- Presence of mind
- Preparation

Do's in an interview
- Organize all the required material neatly.
- Have a good dress sense, groom well.
- Reach the place of interview well in advance.
- Be cheerful and expressive.
- Have positive body posture.
- Be honest, sincere and simple in your talk.
- Be assertive and confident.
- Be polite in answering.
- Leave a good last impression by saying "thank you."
- Rearrange the chair and other things in the original place when you leave the room.

Don'ts in an interview
- Don't search for anything in an interview as it creates a bad impression.
- Don't fold arms or close palms.
- Don't drag the chair and make a noise.
- Don't be rigid. Don't cross your legs.
- Don't tell lies.
- Don't be very submissive or aggressive.
- Don't argue, confront, challenge.

- Don't feel frustrated if you lose the interview.

85% of the interviews are decided in first two/three minutes. So be careful about:

- Handshake
- Eye contact
- Body language
- Right posture

Frequently asked questions

Facing interviews is a nightmare for some students, but for some others it is an excellent forum to display their knowledge, skills and confidence. Can you guess the reason? It's simple – 'Proper Practice'. A list of FAQs is given below.

- Introduce Yourself.
- What are your strengths and weaknesses?
- Can you tell something about our company?
- Why should we hire you?
- Are you willing to relocate/travel?
- What was the toughest decision you ever had to make?
- Would you lie for the company?
- On a 10 point scale how do you rate yourself in communication skills?
- How long would you like to work for us if we hire you?
- What is your expected salary/package?

Aptitude Questions

Average

Formulae : Average is the sum of all data values divided by the number of values

Average = (x)/n

If the Average of n1 items is x1 and the average of n2 items is x2, The average of the whole set is [(n1*x1)+(n1*x2)]/(n1+n2)

Questions and Answers:

1) The average of first five multiples of 3 is:

    1) 10   2) 9   3) 8   4) 11

   Solution: 1, 2, 3 ..... n

If n is odd, the formula is $[(n + 1)/2]$th term

The five multiples of 3 is 3, 6, 9, 12, 15

$[(n + 1)/2)] => (5 + 12)$th term

$=> 62$ th term $= 3$rd term

Here 3rd term is 9

Water day was celebrated

2) The average of 50 numbers is 30. If two numbers, 35 and 40 are discarded, then the average of the remaining numbers is nearly:

    1) 29.68   2) 29.27   3) 28.32   4) 28.78

Solution: Total sum of 48 numbers = (50 x 30) − (35 + 40) = 1500 − 75 = 1425

    Average = 1425/48 = 29.68

3) The average score of a cricketer for ten matches is 38.9 runs. If the average for the first six matches is 42, then find the average for the last four matches.

    1) 35   2) 33.5   3) 30.25   4) 34.25

Solution: Total sum of last 4 matches = (10 × 38.9) − (6 × 42) = 389 − 252 = 137

    Average = 137 / 4 = 34.25

4) A Batsman makes a score of 87 runs in the 17th inning and thus increases his average by 3. Find his average after 17th inning.

    1) 39   2) 54   3) 40   4) 53

Solution: Let the average after 17th innings = x

    Then average after 16th innings = (x−3)

    Therefore 16(x−3) + 87 = 17x

    Therefore x = 39

5) Rahul obtained 76, 65, 82, 67 and 85 marks (out of 100) in English, mathematics, physics, chemistry and biology. What are his average marks?

    1) 59   2) 75   3) 65   4) None of above

Solution: Average=[(76+ 65 +82+ 67+ 85)/ 5] =375 / 5 =75

average=75

Time and Work

Time and work depend upon on many factor such as number of persons doing the work, individual and combined efficiencies of persons, amount of the work to be done, and number of days to complete the work.

Formulae, Tips and Tricks.

1. If a man can do a piece of work in X days, then work done by the man in one day = 1/X.

2. If the ratio of time taken by A and B in doing a work is = X:Y

   then, the ratio of work done by A and B is = (1/X): (1/Y) = Y : X

   So will be the ratio of wages distribution.

3. If n men can do a work in X1 , X2 , X3, …,Xn days , Then the ratio for the distribution of wages will be = (1/X1):(1/X2): (1/X3): … : (1/Xn)

4. If A is (X/Y) times better work man than B , then A will take (Y/X) of the time to complete the work than B's time to complete the work.

5. If number of persons engaged in doing one job is changed in the ration of X:Y , the days required in completing the work will change in the ratio of Y:X.

6. If M men can do a piece of work in D days, Then 1 man can do the same work in D x M days, and N man can do the work in D*M/N.

7. If A can do a piece of work in X days, and B in Y days. In how many days both A and B can finish the work together?

   A and B together will do the work in = XY / (X+Y) days

And one day's work of A and B = (X+Y)/ XY

8. If A and B working together can do a piece of work in X days, whereas B alone can do the work in Y days. Then A alone can complete the work in XY / (Y–X) days

9. If Pipe A can fill a tank in X hours and Pipe B can empty it in Y hours, then when both pipes are opened together, the tank will be filled in XY/(YX) hours.

   And one hour's work of both the pipes is = (Y–X)/XY

10. A pipe can fill the cistern in X hours but due to leakage in the bottom, it is filled in the Y hours. Then time taken by the leak to empty the Cistern = XY / (Y–X)

11. A and B can do a work in X and Y days respectively. They started a work together but A left D days before the completion of the work . Then time taken to finish the work is = Y * (X +D)/ (X+Y)

12. If A man or B women can do a piece of work in X days. Then M men and N women together can finish the work in ABX/(AN+BM)

13. If A and B can finish a work in X and DX days respectively. In other words, D is a times efficient than B or A can do D times more work than B can do. Then working together they can finish the work in DX / (D+1) days.

14. If A is X times efficient than B, and working together they finish a work in Y days. Then time taken by A = Y (X+1)/X and that taken by B is = Y (X+1)

Questions and Answers:

1) A and B together can complete a piece of work in 4 days. If A alone can complete the same work in 12 days, in how many days B alone would be able to complete that work?

1) 6 days   2) 5 days   3) 10 days   4) 9 days

Solution : (A+B)'s one day's work = 1/4,

       A's one day's work = 1/12

       Therefore, B's one day's work = 1/4 – (1/12) = 1/6

       Hence, B alone can complete the work in 6 days.

2) If 20 men can do a piece of work in 40 days, in how many days will 40 men do the same work?

     1) 15 days   2) 25 days   3) 20 days   4) 29 days

Solution: Time taken by 40 men = 20 * 40 /40 = 20 days

3) If 30 men can do a piece of work in 30 days, in how many days will 15 men do the same work?

      1) 30 days   2) 45 days   3) 20 days   4) 60 days

 Solution : Time taken by 15 men = 30 * 30/15 = 60 days

4) A and B can do a piece of work in 12 days, B and C in 15 days, A and C in 20 days. In how many days working together, will they be able to complete the work?

      1) 10 days   2) 15 days   3) 9 days   4) 3 days

Solution: (A+B) + (B+C) + (A+C) = 1/12 + 1/15 + 1/20

     = > 2 (A+B+C) = 1/5

     = > A+B+C = 1/10

     Therefore, together they will finish the work in 10 days

5) A, B and C can do a piece of work in 12, 15 and 20 days respectively. In

How many days working together they will finish the work?

       1) 10 days   2) 5 days   3) 9 days   4) 3 days

Solution: 1 day's work of A, B and C = 1/12 +1/15 + 1/20

$$= (5+4+3)/60 = 12/60 = 1/5$$

Therefore, 5 days is the answer.

Percentage

The rules discussed here widely apply to Discount, Profit and Loss, Simple Interest, Compound Interest , Mensuration etc.

A) Percent: Percent means 'per hundred'. It is denoted by % sign. If we say x %, it implies 'x out of hundred'. In fraction x% can be written as x/100.

   Example: 29% means 29 out of hundred. In fraction 29% can be written

   as 29/100   and in decimal it can be written as 0.29.

B) Converting fraction into a fraction or decimal:

   Method: Divide the given number by 100.

   Example: 25% = 25/100 = 1/4 = (or 0.25 in decimal)

C) Converting a Fraction or decimal into percentage:

   Multiply the given fraction or decimal by 100.

   Example: 1/4 implies in percent to the following => 1/4 * 100 = 25 %

   0.89 implies in percent to the following => 0.89 * 100 = 89%

D) Frequently used fractions:

1. 1 = 100%
2. 1/2 = 50%
3. 1/3 = 33.33%
4. 1/4 = 25%
5. 1/5 = 20%
6. 1/6 = 16.67 %

Questions and Answers:

1) A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?

    1) 46 %   2) 45 5/11 %   3) 45 %   4) 56 5/13 %

Solution: Number of runs made by running = 110 (3 * 4 + 8 * 6)

$$= 110 - (60)$$

$$= 50.$$

Required percentage = {(50/110) * 100}% = 45 5/11%

2) If b equals 10% of a and c equals 20% of b, then which one of the following equals 30% of c?

    1) 8 %   2) 40 %   3) 5 %   4) 10 %

Solution: b = 10% of a = (10/100) x a = 0.1a

    c = 20% of b = (20/100) x b = 0.2b = 0.2 x 0.1a

    Now, 30% of c = (30/100) x c = 0.3c = (0.3) (0.2)(0.1a) =0.006a = 0.6%a

3) Two boys appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are:

    1) 42,33   3) 45,32   2) 38,40   4) 32,34

Solution: Let their marks be (x + 9) and x.

Then, x+9 = (56/100) (x+9+x)

25(x + 9) = 14(2x + 9)

3x = 99

x = 33

So, their marks are 42 and 33.

4) In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

   1) 26500   2) 2700   3) 2200   4) 3340

Solution : Number of valid votes = 80% of 7500 = 6000.

Valid votes polled by other candidate = 45% of 6000

=(45/100) x 6000 = 2700.

5) If 50% of x equals the sum of y and 20, then what is the value of x −2y?

   1) 40   2) 30   3) 10   4) 55

Solution: 50% of x equals the sum of y and 20.

Expressing this as an equation yields:(50/100) * x = y + 20

x/2 = y + 20

x = 2y + 40

x − 2y = 40

Partnership:

Two or more people can get together to do business by pooling resources. The deal is known to be Partnership. All the people who have invested money or resources in the partnership are called partners.

Or in other words

When two or more persons run a business jointly, they are called partners and the deal is known as partnership.

Calculation of Ratio and Divisions of Gains:

A) When investments of all the partners are for the same time, the gain or loss is distributed among the partners in the ratio of their investments. For example, suppose A and B invest Rs. X and Rs. Y respectively for a year in a business, then at the end of the year :

   A's profit share: B's profit share = X:Y

B) When investments are for different time periods, then equivalent capitals are calculated for a unit of time for each partner by taking unit of time which is calculated as below:

   Equivalent Capital = Capital * Number of units of time.

   Now, for example, suppose A invests Rs. X for P months and B invests Rs. Y for Q months then, A's profit share : B's profit share = (X*P) : (Y*Q)

Questions and Answers:

1) P starts business with Rs.3500 and after 5 months, Q joins with P as his partner. After a year, the profit is divided in the ratio 2:3. What is Q's contribution in the capital?

   1) 6500   2) 5000   3) 1200   4) 9000

   Solution: Let Q's capital be Rs.x.

   Then, 3500 * 12 / 7x= 2/3

   14x= 126000 x= 9000.

2) P and Q are partners in a business. P contributes 1/4 of the capital for 15 months and Q received 2/3 of the profit. For how long Q's money was used?

1) 12 months   2) 8 months   3) 10 months   4) 4 months

Solution: Let the total profit be Rs.z.

Then, Q' share = Rs. 2z/3, P's share = Rs. [z– 2z/3] = Rs.z/3

P : Q =z/3 : 2z/3 = 1 : 2.

Let the total capital be Rs.x and suppose Q's money was used, for x months. Then [1/4x* 15] / [3/4x*y] = 1/2 y= [15 * 2 / 3] = 10.

Thus, Q's money was used for 10 months.

3) P began a business with Rs. 85,000. He was joined afterwards by Q with Rs.42,500. For how much period does Q join, if the profits at the end of the year are divided in the ratio of 3 : 1?

    1) 8 months   2) 6 months   3) 10 months   4) 4 months

Solution: Suppose Q joined for x months. Then,

85000 * 12 / 42500 *x= 3/1 or

x= 85000 * 12 / 42500 * 3 = 8.

So, Q joined for 8 months.

4) Sachin started a business investing Rs. 45,000. After 3 months, Dravid joined him with a capital of Rs. 60,000. After another 6 months, Virat joined them with a capital of Rs. 90,000. At the end of the year, they made a profit of Rs.16,500. Find the share of each.

    1) 3300   2) 1250   3) 1100   4) 6600

Solution : Here, Sachin invested his capital for 12 months, Dravid for 9 months and Virat for 3 months.

So, ratio of their capitals = (45000 * 12): (60000 * 9) : (90000 * 3)

= 540000 : 540000 : 270000

= 2:2:1.

Sachin's share = Rs. [16500 * 2/5] = Rs. 6600;

Dravid's share = Rs. [16500 * 2/5] = Rs. 6600;

Virat's share = Rs. [16500 * 1/5] = Rs. 3300.

5) P and Q invested in a business. They earned some profit which
    They divided in the ratio of 2 : 3. If P invested Rs. 40,000, the amount
    invested by Q is :

    1) 30000   2) 60500   3) 60000   4) 40000

    Solution : Suppose Q invested Rs. y.

    Then, 40000/y = 2/3 or y = [40000 * 3 / 2]

    = 60000

HCF and LCM

A) Factors and Multiples :

   If a number a divides another number b exactly, then a is a factor of b.
   and b is called a multiple of a.

B) Highest Common Factor (H.C.F) or Greatest Common Measure (GCM)
    or Greatest Common Divisor (GCD) :

    The HCF of two or more than two numbers is the greatest number that
    divides each of them exactly.

Questions and Answers :

1) Let M be the greatest number that will divide 1305, 4665 and 6905,
    leaving the same remainder in each case. Then sum of the digits in M is:

    1) 4   2) 7   3) 2   4) 1

    Solution: M = H.C.F. of (4665 – 1305), (6905 – 4665) and (6905 – 1305)

    = H.C.F. of 3360, 2240 and 5600 = 1120.

    Sum of digits in M = (1 + 1 + 2 + 0) = 4

2) Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.

      1) 4   2) 7   3) 8   4) 1

Solution: Calculate the HCF of the differences between all the numbers.
As the number which is Highest Common Factor of the difference will divide the difference exactly. And hence, whatever left is the remainder which is equal for each of the number to be divided.

Required number = H.C.F. of (91 – 43), (183 – 91) and (183 – 43)

= H.C.F. of 48, 92 and 140 = 4.

3) The product of two numbers is 4107. If the H.C.F. of these numbers is 37, then the greater number is:

      1) 78   2) 109   3) 56   4) 111

Solution: Let the numbers be 37a and 37b.

Then, 37a x 37b = 4107

=> ab = 3.

Now, co-primes with product 3 are (1, 3). So, the required numbers are (37 x 1, 37 x 3) i.e., (37, 111).

=> Greater number = 111.

4) The G.C.D. of 1.08, 0.36 and 0.9 is:

      1) 0.201   2) 0.1   3) 1.3   4) 0.18

Solution: Given numbers are 1.08, 0.36 and 0.90.

=> H.C.F. of 108, 36 and 90 is 18,

=> H.C.F. of given numbers = 0.18.

5) The H.C.F. of two numbers is 23 and the other two factors of their

L.C.M. are 13 and 14. The larger of the two numbers is:

      1) 222   2) 108   3) 322   4) 296

Solution: The numbers are (23 x 13) and (23 x 14).

      Larger number = (23 x 14) = 322

Statement and Assumption

Statement — Assumption Questions are an integral part of logical reasoning/Critical Reasoning. The question may be asked in different formats but the essence of the question remains the same, i.e. is the assumption used to answer, implicit in the statement? Or which of the given options (different assumptions) actually supports the conclusion given in the argument

What is an Argument?

An argument is a set of propositions where one proposition leads to the other. This means it has a premise and a conclusion. A premise may be overtly or covertly expressed in an argument. A premise when covertly (not explicit) present in the argument is known as assumption or a hidden premise.

Example:

My car does not start. Premise

My car does not have fuel. Conclusion

What is the assumption in the above argument? How can we support the conclusion?

The conclusion is true if we assume that the car will not start if there is no fuel in the car. This is not explicitly stated in the argument and hence it is the assumption.

Questions and Answers:

1) "If you want timely completion of work, provide independent cabins" –

an employee tells the director of a company.

Assumptions: I. There are enough cabins.

II. Others' presence hinders timely completion of work.

1) if only assumption II is implicit   3) if both I and II are implicit

2) if either I or II is implicit   4) if neither I nor II is implicit

Solution: We can't say about sufficient number of cabins, but it on the other hand assumed that others' presence hinder timely completion of work. Hence, assumption II is implicit.

2) The chairman and secretary of the housing society have requested society members to use water economically to help society save on water tax.

Assumptions: I. Majority of members of society are likely to follow the request.

II. It is desirable to reduce expenditure wherever possible.

1) Neither I nor II is implicit   3) Only assumption I is implicit

2) Only assumption II is implicit   4) Both I and II are implicit

Solution: Nothing about the response of society members can be deduced from the statement so I is not implicit.

But II is implicit.

3) Statement: Why don't you invite Anthony for the Christmas party this year?

Assumptions: 1. Anthony is not from the same city.

2. Unless invited Anthony will not attend the party.

1) Only assumption II is implicit   3) Both I and II are implicit

2) Either I or II is implicit   4) Only assumption I is implicit

Solution: Anthony's place of living is not mentioned in the statement.
So, I is not implicit. Assumption II follows from the statement and
so it is implicit.

4) Statement: Most people who stop smoking gain weight.

Assumptions: 1. If one stops smoking, one will gain weight.

2. If one does not stop smoking, one will not gain weight.

1) Both I and II are implicit   3) Neither I nor II is implicit

2) Only assumption I is implicit   4) Only assumption II is implicit

Solution: The statement talks of most people' and not 'all'. So, I is not
necessarily true. Thus, I is not implicit. The condition, if one does
not stop smoking, cannot be deduced from the statement.
So, II is also not implicit.
=> Neither I nor II is implicit

5) Statement: "In order to bring punctuality in our office, we must provide
conveyance allowance to our employees." – In charge of a company tells
Personal Manager.

Assumptions: Conveyance allowance will not help in bringing punctuality.

Discipline and reward should always go hand in hand.

1) Both I and II are implicit   3) Neither I nor II is implicit

2) Only assumption I is implicit   4) Only assumption II is implicit

Solution   Assumption I goes against the statement. So, it is not implicit.
The allowance will serve as a reward to the employees and shall
provoke them to come on time. So, II is implicit.
=> Only assumption II is implicit

Problems on Ages

In these kind of problems, ratios of ages of two persons at two different points of time are given and we need to calculate their ages at given point of time .

Formulae: Ages of A and B are in the ratio of a:b . After "y" years, the ratio of ages becomes m:n .Then their present ages are "ax" and "bx" years, where

X =y(m−n)/(an−bm) = Difference in Time * Difference in new ratio / Difference in multiplication of new and old ratios.

Questions and Answers:

1) 5 years ago, A was 10 year younger than B. What will be the

   difference between their ages after 2 years from now?

        1) 10 years   2) 9 years   3) 8 years   4) 7 years

   Solution: Difference between their ages will always remain same i.e. 10 years.

2) Ajay got married 9 years ago. Today his age is 13 time of his age at the

   time of his marriage . Find his present age.

        1) 30 years   2) 28 years   3) 36 years   4) 29 years

   Solution :   Let his age at the time of marriage = X

        9 years = (1/3) * X

        So, Ajay's age at the time of marriage = > X = 3 x 9 =27 years

        Therefore his present age = 27 + 9 = 36 years

3) The sum ages of Kartik and his father is 78 years . 6 years hence, father's

age will be twice of Kartik's age . Find present age of father.

  1) 60 years   3) 58 years   2) 46 years   4) 54 years

Solution: Sum of ages of Kartik and his father ,6 years from now

  = 78 + 2 * 6 = 90 years

  Therefore, father's age after 6 years

  = (2/3) * 90 = 60 years

  = > Father's present age = 60 −6 = 54 years.

4) Ratio of present ages of P and Q is 2:3 . After 6 years, ratio of their ages is 3:4. Find the present age of P.

  1) 10 years   2) 11 years   3) 12 years   4) 18 years

Solution: After 6 years both the ratios are increased by 1.

  Therefore, Present age of P = 2 * 6 years = 12 years.

5) The sum of ages of Kartik and his father is 35 years. When Kartik's age will be equal to present age of his father , then sum of their ages will be 85 years. Find present age of Kartik's father.

  1) 30 years   3) 29 years   2) 22 years   4) 28 years

Solution: Let Kartik's age be X and his father's age be Y.

  Given at present , X+ Y = 35 years

  Sum of their ages will be 85 years after = (85 − 35) / 2 = 25 years

  So, Kartik's current age = (35 − 25) / 2 = 5 years

  Therefore, percentage of father = 35 − 5 = 30 years

Coding and Decoding

For solving coding and decoding questions, you have to learn a few basics

1. Letter position (A=1, B=2, C=3, D=4.......Y=25, Z=26)
2. Opposite position of letters (A=26, B=25....Z=1)
3. Opposite of each letter (A is opposite to Z and B is opposite to Y and C is opposite to X.....learn all alphabets opposite)

Questions and Answers:

1) If AB = 3 then CD = _____?

      1) 7   2) 9   3) 8   4) 6

  Solution: A BC D... Y Z

       1 2 3 4 ... 25 26

       => AB = 1 + 2 = 3;

       => CD = 3 + 4 = 7;

2) If STUDY = 89 then BOOK = _____?

     1) 34   2) 45   3) 43   4) 47

Solution: A=1; B= 2; C=3; D=4;

            :

     K=11; L = 12; M=13; N =14;

     O=15; P = 16; Q=17; R = 18;

     S=19; T =20; U=21;

     STUDY =19 + 20+ 21 + 4 + 25 = 89

     BOOK = 2 +15 +15 +11 = 43

3) If HOME= 41 then LOCK = _____?

     1) 40   2) 35   3) 32   4) 45

Solution: A=1; B= 2; C=3; D=4;

     :

     K=11; L = 12; M=13; N =14; O=15; P = 16;

     HOME = 8+15+13+5= 41

     LOCK =12+15+3+11 = 35

4) If YZ = 3 then XY = _____?

    1) 5   2) 3   3) 4   4) 6

 Solution: here, alphabets numbering arranged in reverse direction:

     x y z

     3 2 1

     Y + Z = 2 + 1 = 3;

     X + Y = 3 + 2 = 5;

5) If AIR = 53 then DUST = _____?

    1) 54   2) 43   3) 35   4) 44

  Solution: Here, alphabets numbering arranged in reverse direction:

     A =26 ;B=25 ; C = 24 ; D = 23 ; I = 18 ; R= 9 ;S = 8 ; T =7 ; U = 6 .

     AIR = 26 + 18 + 9 = 53

     DUST =23+6+8+7= 44