To Our Parents
Preface to the Series

For almost a decade, we have been receiving tremendous responses from GATE aspirants for our earlier books: GATE Multiple Choice Questions, GATE Guide, and the GATE Cloud series. Our first book, GATE Multiple Choice Questions (MCQ), was a compilation of objective questions and solutions for all subjects of GATE Electronics & Communication Engineering in one book. The idea behind the book was that Gate aspirants who had just completed or about to finish their last semester to achieve his or her B.E/B.Tech need only to practice answering questions to crack GATE. The solutions in the book were presented in such a manner that a student needs to know fundamental concepts to understand them. We assumed that students have learned enough of the fundamentals by his or her graduation. The book was a great success, but still there were a large ratio of aspirants who needed more preparatory materials beyond just problems and solutions. This large ratio mainly included average students.

Later, we perceived that many aspirants couldn’t develop a good problem solving approach in their B.E/B.Tech. Some of them lacked the fundamentals of a subject and had difficulty understanding simple solutions. Now, we have an idea to enhance our content and present two separate books for each subject: one for theory, which contains brief theory, problem solving methods, fundamental concepts, and points-to-remember. The second book is about problems, including a vast collection of problems with descriptive and step-by-step solutions that can be understood by an average student. This was the origin of GATE Guide (the theory book) and GATE Cloud (the problem bank) series: two books for each subject. GATE Guide and GATE Cloud were published in three subjects only.

Thereafter we received an immense number of emails from our readers looking for a complete study package for all subjects and a book that combines both GATE Guide and GATE Cloud. This encouraged us to present GATE Study Package (a set of 10 books: one for each subject) for GATE Electronic and Communication Engineering. Each book in this package is adequate for the purpose of qualifying GATE for an average student. Each book contains brief theory, fundamental concepts, problem solving methodology, summary of formulae, and a solved question bank. The question bank has three exercises for each chapter: 1) Theoretical MCQs, 2) Numerical MCQs, and 3) Numerical Type Questions (based on the new GATE pattern). Solutions are presented in a descriptive and step-by-step manner, which are easy to understand for all aspirants.

We believe that each book of GATE Study Package helps a student learn fundamental concepts and develop problem solving skills for a subject, which are key essentials to crack GATE. Although we have put a vigorous effort in preparing this book, some errors may have crept in. We shall appreciate and greatly acknowledge all constructive comments, criticisms, and suggestions from the users of this book. You may write to us at rajkumar.kanodia@gmail.com and ashish.murolia@gmail.com.

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We wish you good luck!
R. K. Kanodia
Ashish Murolia
GATE Electronics & Communications

IES Electronics & Telecommunication
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CHAPTER 5
ADJECTIVE

5.1 INTRODUCTION

An adjective is a word used with a noun (or a pronoun) to add something for its meaning. In the following section, we will discuss various types of adjectives and their usage.

5.2 USES OF ADJECTIVE

The adjective may be used as follows

1. **Attributive usage**: In attributive usage, the adjective stands next to the noun.
   
   Example: There were dark clouds in the sky.

2. **Predicative usage**: In predicative usage, the adjectives are used as complement after linking verbs.
   
   Example: The clouds in the sky were dark.

RULES

1. The adjective is correctly used with a verb when some quality of the subject, rather than of the action of the verb, is to be expressed.
   
   Incorrect: Flowers were plucked freshly.
   
   Correct: Flowers were plucked fresh.

2. Due to and prior to should be used as predicative adjectives. When prepositional functions are to be performed, use because of in place of due to, and before in place of prior to.

   Incorrect: Wickets fell due to superb bowling.
   
   Correct: Wickets fell because of superb bowling.

5.3 KINDS OF ADJECTIVE

In this section, we will discuss different kinds of adjective and their uses.

5.3.1 Adjective of Quality

It shows the kind of quality of a person or a thing. It is also known as descriptive adjective.

Example: He loves her soft skin.

**Verbal and Oral**

Verbal means of or pertaining to words. Oral means the word delivered by mouth. Its opposite is written.

Incorrect: His written statement differs from his verbal one.

Correct: His written statement differs from his oral one.

**Common and Mutual**

Common means shared by all concerned. If a fact is common knowledge, it means the knowledge of the fact is shared by all. Everyone knows about it. Mutual means in relation to each other. If you and I are mutual admirers, it means I admire you and you admire me.

Incorrect: We started smoking on the advice of a mutual friend.

Correct: We started smoking on the advice of a common friend.

5.3.2 Adjective of Quantity

It is an adjective which shows how much of a thing is meant.

**Some, Any**

Both of them express quantity or degree. Some is used in affirmative sentences. Any is used in negative or interrogative sentences. However, if the question is in fact a request or a command, some is used.

Incorrect: I shall not buy some rice.

Correct: I shall not buy any rice.
Little, a little, the little
Little has a negative meaning. It means not much or hardly any.
Example: He has little knowledge of politics.

The above sentence means that he hardly knows politics. It is implied that there is no sense in turning to him when it comes to politics. A little has a positive meaning. It means some, though not much.
Example: He has a little knowledge of politics.

The above sentence means though he is not thorough with politics, he does have some knowledge of the subject. You could look up to him for simple issues. The little means not much, but all there is.
Example: The little knowledge of politics that he has (possesses) has been gained through newspapers.

5.3.3 Adjective of Number
It is also known as numeral adjective, it shows how many person or things are meant, or in what order a person or thing stands.
Example: The face of a clock has sixty divisions.

Numerical adjective can be further classified as
1. Definite Numeral Adjective: It denotes an exact number. It may be a cardinal denoting how many; as, one, two, three, etc. It may be an ordinal denoting the order; as, first, second, third etc.
Example: It is a twenty-kilometer walk.

2. Indefinite numeral adjective: It does not denote an exact number.
Example: There are many petitions lying on the table.

3. Distributive numeral adjective: It refers to each one of a number. Distributive numeral adjectives are the same as distributive pronouns.
Example: Each time he missed the bus.

5.3.4 Demonstrative Adjective
Demonstrative adjective points out which person or thing is meant.
Example: This table is made of wood.

5.3.5 Interrogative Adjective
When an interrogative pronoun is used with a noun to ask a question, it is called an interrogative adjective.
Example: What options are available after graduation?

5.3.6 Emphasising Adjective
Emphasising adjective is used to lay a particular emphasis on a noun.
Example: This is evident from your own words.

5.3.7 Exclamatory Adjective
Exclamatory adjective is used with a noun in exclamatory sentences.
Example: What a show!

5.4 COMPARISON OF ADJECTIVES
Adjectives change in form to show comparison. There are three degrees of comparison.

1. Positive degree: The positive degree of an adjective is the adjective in its simple form. It merely tells us of a quality of a thing but does not make any comparison.
Example: This is a small town.

2. Comparative degree: The comparative degree of an adjective denotes a higher degree of the quality than the positive, and is used when two things are compared.
Example: This town is smaller than Ludhiana.

3. Superlative Degree: The superlative degree of an adjective denotes the highest degree of the quality, and is used when more than two things are compared.
Example: This is the smallest town in India.

RULES

1. Most of the adjectives form the comparative by adding -er and the superlative by adding -est to the positive.
Example: Fast (positive)
   Faster (comparative)
   Fastest (superlative)

2. When the positive ends in -e, only -r and -st are added.
   Example: Fine (positive)
   Finer (comparative)
   Finest (superlative)

3. When the positive ends in -y, preceded by a consonant, the -y is changed into -i before adding -er and -est.
   Example: Dirty (positive)
   Dirtier (comparative)
   Dirtiest (superlative)

4. When the positive is a word of one syllable and ends in a single consonant, preceded by a short vowel, this consonant is doubled before adding -er and -est.
   Example: Big (positive)
   Bigger (comparative)
   Biggest (superlative)

5. Adjectives of more than two syllables, and many of those with two, use the adverbs more and most respectively.
   Example: Difficult
   More difficult
   Most difficult

6. Some of the adjectives do not go by the above rules. The list of those adjectives are given below.

<table>
<thead>
<tr>
<th>Positive</th>
<th>Comparative</th>
<th>Superlative</th>
</tr>
</thead>
<tbody>
<tr>
<td>good, well</td>
<td>better</td>
<td>best</td>
</tr>
<tr>
<td>bad, evil, ill</td>
<td>worse</td>
<td>worst</td>
</tr>
<tr>
<td>little</td>
<td>less, lesser</td>
<td>least</td>
</tr>
<tr>
<td>much</td>
<td>more</td>
<td>most</td>
</tr>
<tr>
<td>many</td>
<td>more</td>
<td>most</td>
</tr>
<tr>
<td>late</td>
<td>later, latter</td>
<td>latest, last</td>
</tr>
<tr>
<td>old</td>
<td>older, elder</td>
<td>oldest, eldest</td>
</tr>
<tr>
<td>far</td>
<td>farther, further</td>
<td>farthest, furthest</td>
</tr>
<tr>
<td>near</td>
<td>nearer</td>
<td>nearest, next</td>
</tr>
<tr>
<td>fore</td>
<td>former</td>
<td>foremost, first</td>
</tr>
</tbody>
</table>
EXAMPLES

EX 1  Mark Waugh scored less runs in this series than in the previous one.

ANS 1  Mark Waugh scored fewer runs in this series than in the previous one.

Less is the comparative degree of little. We know that little is an adjective of quantity. An adjective of quantity is used with nouns which are names of measurable (not countable) things. Can runs be measured? No, they are counted. So, an adjective of number should be used. Few in this category corresponds to little. And since it is in the comparative degree, the appropriate word is fewer.

EX 2  This building is taller than any building in this city.

ANS 2  This building is taller than any other building in this city.

In this given sentence, between which two is the comparison? This building and any building. If we think carefully, we find that any building includes this building also. This means that this building is being compared to this building. Absurd! How to set things right? We have to remove this building from the latter term of comparison in the given sentence. The relationship is mathematical as follows

any building - this building = any other building

EX 3  Sita is more intelligent than all of her sisters.

ANS 3  Sita is more intelligent than any of her sisters.

Usually, an individual is compared to another individual - not to a group, but to a representative of the group or one member of the group at a time. Sita is an individual. Her intelligence cannot be compared to the entire group - all of her sisters. The latter form of comparison should also be individuals.

EX 4  The living dog is better than the dead lion.

ANS 4  A living dog is better than a dead lion.

Which dog? The living dog. As soon as the noun becomes qualified (here by the participle living), we except the definite article the to pop in. But note that here we are not singling out a particular living dog, it could be any living dog.

EX 5  Cynics believe that a few persons are good in this world.

ANS 5  Cynics believe that few persons are good in this world.

This one is also a vocabulary test. Who is a cynic? One who thinks that people tend to act only in their own interests. He always has a low opinion of people's reasons for doing things. For him, hardly anyone is good. Now, the correct substitute for hardly anyone is few. A few, on the other hand, would mean some and if you believe some persons to be good, you have a somewhat positive approach. Then you are not a cynic.

EX 6  Of all militant groups, Hamara Watan is the most extreme.

ANS 6  The sentence is correct.

It is true that in usual cases, extreme does not admit of any comparison (like round, perfect, unique etc.) But that is because it means greatest possible or furthest possible. Since it is already in the superlative, we are left with no room for comparison.
The given sentence is, however, different. When we talk of extremist groups, we see that their extremity varies in degrees—from moderately extreme to extremely extreme. Extreme in their case means going beyond the usual limits. But, once having gone beyond the usual limits, the extent to which they go varies in degrees. Hence, comparison (the use of superlative) is justified in this case.

**EX 7**

The intelligence tests have questions based on figures as well as oral ones.

**ANS 7**

The intelligence tests have questions based on figures as well as verbal ones.

**EX 8**

Footballer in him could not resist itself as soon as a ball came into sight.

**ANS 8**

The footballer in him could not resist itself as soon as a ball came into sight.

Here, footballer stands for the qualities of the footballer. The rule says that the definite article is used before a common noun to give it the meaning of an abstract noun.

**EX 9**

Lok Sabha passed the bill today.

**ANS 9**

The Lok Sabha passed the bill today.

Lok Sabha is the Indian version of the House of Commons. Note the use of the in the last sentence. Now, House of Commons could have been a common noun. But a capital H and a capital C ensure that it is the lower house of the Parliament and no other house of commons. So, the is used Similarly, the United States of America (USA, now more popular as US).

Nehru made a famous speech on the historical occasion of independence.

**ANS 10**

Nehru made a famous speech on the historic occasion of independence.

Historical means connected with history as a study. For example, you conduct historical research. It also means based on or representing events in the past. You might have read a historical play or a historical novel. But anything that is likely to have an influence on history is historic, not historical. Now, Independence was one such occasion.
VERBAL ABILITY
**CHAPTER 5**

**SPOTTING THE ERRORS**

**Directions For Q.1 to 10:**
Each of these questions has four parts. Identify the part which is not correct.

5.1 Even after hearing the leader (A)/ for a long time (B)/ the followers could not make out (C)/ which he was talking about. (D)

5.2 The principal along with the teachers (A)/ were seen boarding a bus (B)/ to go to a picnic (C)/ on a national holiday (D).

5.3 Lost in thought, (A)/ with a vacant look in his eyes, (B)/ he laid (C)/ on the couch. (D)

5.4 He would (A)/ never have taken the job if he had been knowing (B)/ what great demands it would make (C)/ on his time. (D)

5.5 Smoking is not allowed at petrol pumps because there is (A)/ too many (B)/ easily ignited (C)/ material in the vicinity. (D)

5.6 Hard work and self-discipline often result (A)/ in a rise (B)/ not only in one’s (C)/ salary but also in your self-esteem. (D)

5.7 Studying the science of (A)/ logic is one way to (B)/ cultivate one’s reason (C)/ skills. (D)

5.8 The water flows at (A)/ about 2.5 m per second for about 12 hours when the tide is rising (B)/ through the channel, paused (C)/ at high tide and then reverses direction. (D)

5.9 Many animals and plants live in water (A)/ but not in the same kind of water (B)/ because not all water is the same. (C)/ Sea water, for instance, contains a lot of salt, fresh water contains very little. (D)

5.10 The book is well-printed (A)/ and attractively bound (B)/ making altogether (C)/ an attractive volume. (D)

**Directions For Q. 11 to 130:**
Read each sentence to find out whether there is any error in it. The error, if any, will be in one part of the sentence. Mark the number of that part with error as your answer. If there is no error, mark (D). (Ignore errors of punctuation, if any.)

5.11 The car flew off the road (A)/ and fell into the valley (B)/ because Amit was driving faster. (C)/ No error (D)

5.12 Yuvanika is one (A)/ of the latest (B)/ addition to good drama which appeared in recent times. (C)/ No error (D)

5.13 I will always remember (A)/ you standing by me (B)/ and offering me encouragement. (C)/ No error (D)

5.14 As soon as the sun rose (A)/ over the mountains (B)/ the valley became unbearable hot. (C)/ No error (D)

5.15 The clothes were neatly (A)/ hanged (B)/ on the cloth line. (C)/ No error (D)

5.16 You will be ready (A)/ to start while (B)/ he comes. (C)/ No error (D)

5.17 Hardly I stepped (A)/ out of my house when I saw some policemen (B)/ coming towards my house. (C)/ No error (D)
5.18 Swati has such a fine memory that she can (A) / recollect anything what (B) / happened many years ago. (C) / No error (D)

5.19 The officer along with (A) / his family members were (B) / invited at the reception party organised by his employer. (C) / No error (D)

5.20 A nationwide survey has (A) / brought up an (B) / interesting finding regarding infant mortality rate in India. (C) / No error (D)

5.21 When your father inquired (A) / about your marks you lied to him, (B) / have you not? (C) / No error (D)

5.22 Simplest solution (A) / than this expensive method which you are suggesting (B) / should be found out. (C) / No error (D)

5.23 When he went out he left the radio on (A) / so that his parents shall think (B) / that he was still in the house. (C) / No error (D)

5.24 We admired the way he had completed all his work (A) / and appreciating the method (B) / adopted by him. (C) / No error (D)

5.25 Even after worked in the office (A) / for as many as fifteen years, he still does not understand (B) / the basic objectives of the work. (C) / No error (D)

5.26 He is so realist and so practical that he thinks (A) / imaginary things should (B) / not place even in poetry. (C) / No Error (D)

5.27 No method of making (A) / other people agree to your view-point is (B) / as effective as this method. (C) / No error (D)

5.28 If we had Mohan (A) / in our team we (B) / would have won the match against your team. (C) / No error (D)

5.29 Neither the size nor the colour (A) / of clothes which I purchased for him (B) / yesterday were right. (C) / No error (D)

5.30 My daughter never (A) / would write to me (B) / so I never know what she is doing. (C) / No error (D)

5.31 The manager with (A) / his wife and two sons were (B) / killed by bandits mercilessly in a broad day light. (C) / No error (D)

5.32 As I reached the hospital (A) / I had found a great rush of visitors (B) / whose relatives had been admitted there for one or the other ailment. (C) / No error (D)

5.33 As he went through the forest Ram marked the trees (A) / to let the rest of the party knew (B) / which way he had gone. (C) / No error (D)

5.34 He thinks that (A) / once he paid money (B) / he is relieved of all his responsibilities. (C) / No Error (D)

5.35 Now a days (A) / the accidents of diabetes (B) / among urban children is one the rise. (C) / No error (D)

5.36 The instructions clearly state that (A) / each item is having (B) / two options. (C) / No error (D)

5.37 Hritik along with his family (A) / are visiting (B) / the Prince of Wales museum day after tomorrow. (C) / No error (D)

5.38 You have to remove (A) / the fish scales before (B) / you fry them. (C) / No error (D)

5.39 He carried his clothes (A) / in a black heavy (B) / steel trunk. (C) / No error (D)

5.40 The man who is perpetually hesitating (A) / which of the two things (B) / he will do first, will ultimately do either. (C) / No error (D)

5.41 The demand of the Citizen's Forum that the prices of essential (A) / commodities to lower down will (B) / soon be considered by the Government. (C) / No error (D)
5.42 He was having a bath when the phone rang (A)/ very unwillingly he got out of the bath (B)/ and went to answer it. (C)/ No error (D)

5.43 The customer scarcely had (A)/ enough money to pay (B)/ to the cashier at the cash counter. (C)/ No error (D)

5.44 I am contacting you (A)/ some time in next week (B)/ to explain to you my problem in detail. (C)/ No Error (D)

5.45 Our teeming masses, nevertheless illiterate they may be, (A)/ have a very high sense of consciousness (B)/ and they are fully capable of exercising their franchise. (C)/ No error (D)

5.46 People are worried more because of the frequency (A)/ of occurrence of the crime rather (B)/ than the magnitude of each one. (C)/ No error (D)

5.47 A gang of armed thieves has (A)/ raided (B)/ the house of Mr Gupta late last night (C)/ No error (D)

5.48 That is one of (A)/ the books (B)/ that is listed in the catalogue (C)/ No error (D)

5.49 Everyone is expected to attend (A)/ the staff meeting today, but (B)/ the sales manager and I. (C)/ No error (D)

5.50 Many people in Bangladesh don’t scarcely (A)/ know about the hardships that the (B)/ Chakma refugees are experiencing. (C)/ No error (D)

5.51 Due to (A)/ the trucker’s strike, the vegetable vendors were doing about half of (B)/ the business that they were doing before. (C)/ No error (D)

5.52 Between you and I (A)/, I am convinced that this painting by Neetu shows greater (B)/ artistry that than of Reshma. (C)/ No error (D)

5.53 The company is planning a training (A)/ programme for their (B)/ senior officers sometime in December. (C)/ No error (D)

5.54 There was only (A)/ a loaf of bread and two bottles of milk in the refrigerator when (B)/ we came back after a weekend in Manali. (C)/ No error (D)

5.55 Tonsillitis is (A)/ among those (B)/ disease that is curable. (C)/ No error (D)

5.56 We think him as (A)/ a (B)/ silly boy. (C)/ No error (D)

5.57 Health is (A)/ more (B)/ preferable to wealth. (C)/ No error (D)

5.58 The Chief Minister, Mr. Charan Singh, with his (A)/ Cabinet colleagues, were (B)/ warmly received at the (C)/ No error (D)

5.59 Satyajit Ray was one of the (A)/ greatest film directors (B)/ that has ever lived. (C)/ No error (D)

5.60 Neither the carpenters nor the (A)/ plumber have (B)/ finished the work. (C)/ No error (D)

5.61 Either the Head office nor (A)/ the branch offices close (B)/ at 5.00 p.m. (C)/ No error (D)

5.62 A few of the windows (A)/ in the main hall was broken (B)/ by the demonstrators. (C)/ No error (D)

5.63 Every book and every (A)/ magazine have (B)/ been entered in the record register. (C)/ No error (D)

5.64 Sanjay bought (A)/ the suit before (B)/ he met Neetu. (C)/ No error (D)

5.65 I enjoyed (A)/ during my (B)/ stay in England. (C)/ No error (D)

5.66 I believe that respect (A)/ is more preferable than (B)/ money. (C)/ No error (D)

5.67 I never have visited (A)/ or intend to visit (B)/ foreign countries. (C)/ No error (D)
5.68 John's salary (A)/ is much larger than (B)/ Tom. (C)/ No error (D)

5.69 Ramesh helped (A)/ not only me (B)/ but also my brother when he was in need. (C)/ No error (D)

5.70 The English defeated (A)/ French (B)/ in the battle of Waterloo. (C)/ No error (D)

5.71 The three last chapters (A)/ of this book (B)/ are very interesting (C)/ No error (D)

5.72 In summer days are (A)/ warm than (B)/ nights. (C)/ No error (D)

5.73 He is (A)/ the strongest and very tall (B)/ boy in the whole college. (C)/ No error (D)

5.74 I was born (A)/ on the August 3, 1947 (B)/ in Bihar. (C)/ No error (D)

5.75 We should always (A)/ side with those who are true and unselfish (B)/ and work for other. (C)/ No error (D)

5.76 His manners indicate that he has no other intention (A)/ than (B)/ to steal his money. (C)/ No error (D)

5.77 Page after page (A)/ of Gita were read (B)/ and it gave great consolation to his mind. (C)/ No error (D)

5.78 The short story should not exceed (A)/ more than (B)/ two hundred words. (C)/ No error (D)

5.79 Our teacher often emphasises on (A)/ the need for (B)/ a lot of oral practice. (C)/ No error (D)

5.80 There was (A)/ a number of conferences which produced little (B)/ of practical value (C)/ No error (D)

5.81 There was no play (A)/ on the fourth day of the test match (B)/ due to the heavy rain (C)/ No error (D)

In spite of the late hour (A)/ and the bad weather (B)/ Naveen decided to brave it out and drink at bar. (C)/ No error (D)

Hari was unhappy (A)/ that he would (B)/ not attend the marriage of his friend yesterday. (C)/ No error (D)

While going to his office yesterday (A)/ Bhola remembered that (B)/ he had not taken one important office file. (C)/ No error (D)

He was extremely annoyed (A)/ when I reported the matter to him (B)/ and has fired me. (C)/ No error (D)

The director, along with the staff members (A)/ were present for (B)/ the annual day celebrations. (C)/ No error (D)

It is our duty (A)/ to put off our shoes (B)/ before entering the sanctum sanctorum of any temple or mosque. (C)/ No error (D)

Raman was one of those great sons of India (A)/ who has earned everlasting fame (B)/ for scientific researches. (C)/ No error (D)

The taxi was (A)/ hired by the ladies for (B)/ its picnic. (C)/ No error (D)

His ability to talk to strangers (A)/ is one of his (B)/ stronger points. (C)/ No error (D)

I have hunted and (A)/ shot myself (B)/ so I know what it is like. (C)/ No Error (D)

Priyamvada was unhappy to hear the news (A)/ of her son’s failing (B)/ in the final examination. (C)/ No error (D)

Have you read (A)/ this book (B)/ farther than I? (C)/ No error (D)

The production of different kinds of artificial materials (A)/ are essential to the conservation of (B)/ our natural resources. (C)/ No error (D)
5.95 The disclosure of the synopsis of (A) the Thakkar Commission Report (B) on the assassination of Mrs. Gandhi has raised several vital question. (C) No error (D)  
5.109 The discreet enquiry revealed that his involvement in (A) the fraud cases have been (B) more than what was first guessed. (C) No error (D)  
5.96 Do you really believe (A) that she has blamed us (B) for the accident, especially you and I? (C) No error (D)  
5.110 I know nothing about chess because (A) my games teacher also (B) was not knowing nothing about it. (C) No error (D)  
5.97 Two men have been arrested (A) by the police who are believed (B) to be involved in the robbery. (C) No error (D)  
5.111 I asked the salesman if I could exchange (A) the faulty camera (B) with another one. (C) No error (D)  
5.98 The manager tested (A) the peon to see (B) if he could read English. (C) No error (D)  
5.112 It took me (A) almost a hour (B) to fill the application form. (C) No error (D)  
5.99 But for his cousin's help (A) he would have been (B) at the height of his career. (C) No error (D)  
5.113 He is neither in favour of arms race (A) or in favour of (B) simple nuclear disarmament. (C) No error (D)  
5.100 Soon after their child was born (A) he went off (B) leaving her in the lurch. (C) No error (D)  
5.114 I was surprised to find that the computer was out of order (A) and enquired if any one of them (B) have used it recently. (C) No error (D)  
5.101 Hardly had we settled down for the night’s rest (A) when we were started by (B) loud noises outside the house. (C) No error (D)  
5.115 If your mother (A) will come again, (B) I shall report against you. (C) No error (D)  
5.102 No sooner did (A) the train arrived at the station (B) than the passengers rushed towards it. (C) No error (D)  
5.116 The recent study has (A) indicated that there is a perceptible change in (B) the attitude of the people. (C) No error (D)  
5.103 None of the rooms (A) are available (B) for occupation at present. (C) No error (D)  
5.117 As it was Rajan's (A) first interview, he dressed him (B) in his most formal suit. (C) No error (D)  
5.104 Sumitra appealed to the managing committee (A) that she may be (B) allowed to join the volunteer force. (C) No error (D)  
5.118 I shall go to Australia (A) for higher studies (B) if you like it or not. (C) No error (D)  
5.105 The company has ordered (A) some (B) new equipments (C) No error (D)  
5.119 They never thought (A) that Raja was oldest other than other (B) professors in the faculty. (C) No error (D)  
5.106 The Arabian Nights (A) are indeed (B) an interesting book. (C) No error (D)  
5.120 The reason why (A) he was rejected (B) was because he was too young. (C) No error (D)  
5.107 He (A) loved her (B) despite of himself. (C) No error (D)  
5.108 Of all the models (A) Sessica is (B) the more good-looking on. (C) No error (D)  
5.121 Now that she is living in her own flat, (A) she
cleans the windows (B)/twice a week in the summer and once a week in the winter. (C)/ No error (D)

5.122 As he had taken only a few sips (A)/ there was still little water (B)/ left in the glass. (C)/ No error (D)

5.123 If a man diligently seeks to come into the contact (A)/ with the best that has been thought and said in this world, (B)/ he will become simple and selfless. (C)/ No error (D)

5.124 May I (A)/ know who you want (B)/ to see please. (C)/ No error (D)

5.125 Being a very (A)/ hot day, I (B)/ remained indoors. (C)/ No error (D)

5.126 No sooner did I open the door (A)/ when the rain, heavy and stormy, rushed in, (B)/ making us shiver from head to foot. (C)/ No error (D)

5.127 He (A)/ came across (B)/ with a beggar. (C)/ No error (D)

5.128 It was time that (A)/ you started (B)/ working. (C)/ No error (D)

5.129 The wheat (A)/ this year is (B)/ finer than last year. (C)/ No error (D)

5.130 I am pleased to sanction one special increment (A)/ to all the employees (B)/ with this month. (C)/ No error (D)

Directions For Q. 131 to 134:

In each of these questions, one sentence has been split into four parts. There is an error in one part. Identify the part having the error.

5.131 (A) During the last centuries (B) whaling voyages departed regularly from the New England states (C) and because each voyage normally extends for years (D) the hold was packed with supplies before a whaling ship set sail.

5.132 (A) Because they refuse to follow the conventional dress code (B) neither Shivam (C) nor her friends (D) is invited to the local society function

5.133 (A) A very miserly (B) farmer who lived (C) with his wife (D) in the Jamaican islands

5.134 (A) The moment they came to know (B) that their leader (C) was issued a charge sheet (D) the entire groups of workers went on a strike

Directions For Q. 135 to 140:

In each of the following questions four sentences are given which are on the same theme. Decide which sentence is the most preferable with respect to grammar, meaning and usage, suitable for a formal letter or report or any formal writing in English and mark the number of that sentence on the answer sheet.

5.135 (A) If XAT aspirants had not taken so long checking each question before attempting the next question they might not have run out of time. (B) If XAT aspirants had taken so long checking each question before attempting the next question they might not have run out of time. (C) Had XAT aspirants not took so long checking every question before attempting the next question they might not have run out of time. (D) Had XAT aspirants not taken so long checking all questions before attempting the next question they might not have run out of time.

5.136 (A) If you would have told me that you were in Bombay I would have certainly contacted you instead of getting bored there. (B) If you would have told me that you were in Bombay I had certainly contacted you to

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instead of getting bored there.
(C) If you had told me that you were in Bombay I would have certainly contacted you instead of getting bored there.
(D) If you had told me that you were in Bombay I would have certainly contacted you despite getting bored there.

Directions For Q. 141 to 155:
In these questions, the words or phrases underlined may be incorrectly used. Identify the word or phrase that has an error. The letter indicated against it would be the answer.

5.141  His assistants have (A)/ and are still (B)/ doing excellent (C)/ work for the (D)/ organization.

5.142  There is something more in the (A)/ fact that the (B)/ guns have (C)/ or are about (D)/ to be sent abroad.

5.143  The (A)/ deceased lord along with (B)/ his brother started a (C)/ business in India. (D)

5.144  He relieved (A)/ the monotony of book peddling (B)/ by becoming (C)/ an assistant to a conjuror or to other (D)/ similar engagements.

5.145  The entire (A)/ party is for the (B)/ Bill ready to (C)/ stake their (D)/ political existence.

5.146  He has suffered (A)/ from a similar (B)/ attack but milder as (C)/ that (D)/ of last year.

5.147  Such starling (A)/ never (B)/ have neither (C)/ can and never will be (D)/ offered again.

5.148  For (A)/ this delightful (B)/ excursion it was felt by the members (C)/ that it was due to (D)/ the secretary.

5.149  Most of the critics, (A)/ all over the world, agree (B)/ that this is one (C)/ of the most interesting novels that has (D)/ recently appeared.

5.150  He always (A)/ practices (B)/ the (C)/ justice and cares (D)/ for moral principles.

NOTE:
An abstract noun, when it is qualified by an adjective or an adjectival phrase or clause may have the article; as the wisdom of Solomon is famous.

5.151  Some one had said that the English excelled (A)/ all other nations, the Dutch being avaracious,
(B)/ the French, a set of (C)/ sycophants, the Germans drunk and glutinous and the Spaniards were proud and insolvent. (D)

5.152 I hope you will excuse me (A)/ leaving early, (B)/ as (C)/ I have to attend to (D)/ a patient.

5.153 Such goods (A)/ are made for export, (B)/ and are seldom or ever (C)/ used in (D)/ the country.

5.154 The wise people, who (A)/ are very few (B)/ in our country, they think (C)/ before they act. (D)

5.155 You cannot skip it over; (A)/ it is only a (B)/ part and parcel (C)/ of the ceremony. (D)

Directions For Q. 156 to 159:
Given below are sentences that may or may not have errors. Mark (A) if there is only one error. Mark (B) if there are two errors. Mark (C) if there are three errors. Mark (D) if there are no errors.

5.156 She still is in bed despite I've tried to awake her.

5.157 I have no objection to hear your story again.

5.158 You should have told to me about it early so that I should have talked to the relevant authorities and sort out the issue.

5.159 Which of the following sentences is not correct?
(A) For years now, pitches have been prepared to suit the home team’s strengths and that is fine so long as the pitch is not a lottery.
(B) It is here that BCCI needs to show the same will, as they have shown in making players play domestic cricket.
(C) The only problem is that the wickets that are on offer for domestic cricket are hardly conducive for batsman.
(D) If one goes by the scores in some of the matches, especially Delhi’s games, then it is quite obvious that the pitches prepared are substandard and not conducive to a fair contest between bat and ball.

******
5.1 Correct option is (D).
Replace which with what.

5.2 Correct option is (B).
Replace were with was. When two nouns are joined by along with, verb agrees with the first noun.

5.3 Correct option is (C).
Lay (laid, laid) means to put something in a definite position; to put oneself flat means lie (lay, lain); so lay. Lie (lied, lied) has another meaning which is to speak false.

5.4 Correct option is (B).
In past conditional after if past perfect follows; so had known.

5.5 Correct option is (B).
Subject is material and it has been treated here as uncountable and singular (there is). That's why, it should be too much. We cannot make material plural putting s because then we will have to change b as there are and then there will be mistakes in both of them.

5.6 Correct option is (C).
Since your cannot be changed as it is not underlined we will have to change one's to make the pronouns similar; so your.

5.7 Correct option is (C).
Before skills an adjective is required; reason is a noun; so reasoning.

5.8 Correct option is (C).
For a natural action present indefinite is used; so pauses (is rising is o.k. because it denotes a point of time).

5.9 Correct option is (D).
Because the last sentence contains two individual sentences, use a conjunction (either and or while) before fresh water to combine both sentences.

5.10 Correct option is (C).
The object of making is missing which gives a misleading meaning; so it should be making it altogether.

5.11 Correct option is (C).
Replace faster with fast because there is no comparison.

5.12 Correct option is (C).
Replace addition with additions. After one of the noun is in plural form.

5.13 Correct option is (B).
Replace you with your. Before gerund.

5.14 Correct option is (C).
Replace unbearable with unbearably because to qualify an adjective (hot) adverb is needed.

5.15 Correct option is (B).

5.16 Correct option is (B).
With present indefinite (here he comes) while cannot be used (while in continuous); so either when or by the time.
5.17 Correct option is (A).
Rewrite the part as Hardly did I step. (Rule of inversion - auxiliary verb will come before the subject.)

5.18 Correct option is (B).
Replace what with that. (After anything, everything etc. only that can be used as relative pronoun).

5.19 Correct option is (B).
Replace were with was. (The noun coming before along with is the subject of the sentence.)

5.20 Correct option is (B).
Replace up with out. (Bring up = to look after, Bring out = to publish).

5.21 Correct option is (C).
Replace have you not with didn't you. (In question tag auxiliary verb of the main sentence is used.)

5.22 Correct option is (A).
than indicates that the sentence is in comparative.
Replace simplest with simpler

5.23 Correct option is (B).
Replace shall with should because the sentence is in past.

5.24 Correct option is (B).
Replace appreciating with appreciated. (The verb coming after and or but takes the same form as its counterpart before and or but (admired)

5.25 Correct option is (A).
Replace worked with working. (After preposition the verb is in gerund i.e. V4 form)

5.26 Correct option is (C).
Place should be in passive form- be placed or have no place.

5.27 Correct option is (A).
Use other after no. In positive and comparative degree, if the subject is part of the group to which it is compared (here this method is compared with other methods), after no, every, all etc. use of other is must.

5.28 Correct option is (D).
Past conditional, so the first sentence should have been If s had + v3 (had had). But in the meaning of possession has / have / had is not used in perfect structure.

5.29 Correct option is (C).
Replace were with was. The verb is used according to the noun coming after or/ nor.

5.30 Correct option is (B).
Replace would write with writes because the sentence indicates a general condition of present.

5.31 Correct option is (B).
Replace were with was. When two nouns are joined by with, the noun coming before with is the subject of the sentence and verb follows it.

5.32 Correct option is (B).
Replace had found with found. To denote an incident in the past, past indefinite is used.

5.33 Correct option is (B).
Replace knew with know. The verb coming after let is always in v1 form.

5.34 Correct option is (B).
Replace paid with pays. Representing a normal thinking present indefinite should be preferred.

5.35 Correct option is (B).
Accident is irrelevant in terms of meaning here. Proper will be to use incidence i.e. the number of times something bad occurs.
5.36 Correct option is (B).
Replace is having with has. In the meaning of containing or possession, has is not used in continuous form.

5.37 Correct option is (B).
Replace are with is. When two nouns are combined with along with the verb agrees with the first noun. (Hritik here).

5.38 Correct option is (B).
Them indicates that its antecedent is fish and should be in plural. So rewrite it fishes scales.

5.39 Correct option (B).
Rewrite the part as heavy black to ensure proper word agreement.

5.40 Correct option is (C).
Replace either with neither. The sentence should be negative in meaning.

5.41 Correct option is (B).
Replace to lower down with be lowered down. (that is conjunction here and so after this a complete sentence should come. So infinitive (to lower) should be given a principle verb form)

5.42 Correct option is (B).
Use and after rang because a different sentence is to be combined.

5.43 Correct option is (B).
Replace enough with any because scarcely is negative and in negative any is used.

5.44 Correct option is (B).
Remove in. When before a time denoting word an adjective comes (next + week), it takes no preposition.

5.45 Correct option is (A).
Replace nevertheless with though. Nevertheless means even then whereas here a word meaning even if is required.

5.46 Correct option is (C).
Comparison should be in equal things. If after more because of has come, after than also because of should be there. Rewrite the part as than because of its magnitude.

5.47 Correct option is (B).
A gang of armed thieves raided the...
The use of past tense (raided)-not present perfect tense (has raided)- is necessary because the sentence has a specific time reference (last night).

5.48 Correct option is (C)
....the books that are listed....
That refers to books, plural noun, and, therefore, the verb must be plural (are, and not is).

5.49 Correct option is (C)
....But the sales manager and me.
The preposition but is understood before me. Since me is the object of the preposition but, it has an objective from (me), not a nominative form.

5.50 Correct option is (A)
Many people in Bangladesh scarcely know....
The word scarcely is sufficiently negative to express the meaning of the sentence. The word don't should be omitted.

5.51 Correct option is (A)
Because of the....doing before.
Do not begin a sentence with the words due to. Due to is an adjective, which must have a noun to modify.

5.52 Correct answer is (A)
Between you and me,.....
The object of the preposition between must be an objective case from (me and not I).
5.53 Correct option is (B)
...training programme for its...
A singular pronoun-adjective (its, not their) must be used to refer to a collective noun (company) when the members of the collective noun are considered a unit.

5.54 Correct option is (A)
There were only....
The subject of the sentence is plural (a bread and bottles)
Therefore, the verb must be plural (were, not was). Here the word there is not the subject.

5.55 Correct option is (C)
are curable
A relative pronoun (that, who, which) used as a subject takes on a singular or plural verb to accord with its antecedent Here that is referring to diseases that are curable.

5.56 Correct option is (C)
We think him a silly boy; Verbs like consider, think, call etc. are not followed by as

5.57 Correct option is (B)
Health is preferable to wealth. The adjective of comparative degree like senior, junior, prefer, superior are always followed by to instead of than

5.58 Correct option is (B)
......were warmly... should be replaced by ......was warmly... when a singular subject is attached to a phrase introduced by with or as well as the verb is always singular.

5.59 Correct option is (C)
....has ever lived should be replaced by have ever lived. In this sentence, the subject of as ever lived is that. It is plural because its antecedents directors are plural. A relative pronoun agrees in number with its antecedent

5.60 Correct option is (B)
.........have finished.... to be replaced by ......has finished.... when one singular and one plural subjects are joined by or and nor the subject closer to the verb determines the number of the verb.

5.61 Correct option is (D)
No error, The subject branch offices is plural and the verb close is also plural here.

5.62 Correct option is (B)
......was broken.... should be changed to ......were broken...... Some infinite pronouns like a few, many, several etc. are always plural and take plural verb.

5.63 Correct option is (B)
has been entered.; If the subject consists of two or more singular nouns connected by and and presided by each or every, the verb is in singular.

5.64 Correct option is (A)
had bought : Past perfect tense indicates that an event had taken place before another event in the past. The suit was purchased before meeting Neetu.

5.65 Correct option is (A).
I enjoyed myself in place of I enjoyed. Some verbs take reflexive pronouns after them. See Rule 12.

5.66 Correct option is (B).
Preferable to in place of more preferable than. Preferable is a word indicating a comparative sense and thus more is superfluous. Secondly, prefer is followed by to.

5.67 Correct option is (B).
Nor in place of or. Nor is used after neither.

5.68 Correct option is (C).
That of Tom in place Tom. See Rule 27.
<table>
<thead>
<tr>
<th></th>
<th>Correct option is (D).</th>
<th>Correct option is (B).</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.69</td>
<td>Correct option is (D).</td>
<td>No Error</td>
<td></td>
</tr>
<tr>
<td>5.70</td>
<td>Correct option is (B).</td>
<td>The French in place of French. The French means the French people.</td>
<td></td>
</tr>
<tr>
<td>5.71</td>
<td>Correct option is (A).</td>
<td>The last three in place of The three last. Explained earlier. See Rule 35.</td>
<td></td>
</tr>
<tr>
<td>5.72</td>
<td>Correct option is (B).</td>
<td>Warmer; in place of warm. Here the sentence is in the comparative degree and thus warmer is appropriate.</td>
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</tr>
<tr>
<td>5.73</td>
<td>Correct option is (B).</td>
<td>The stronger and tallest in place of very tall. A word showing superlative degree should not be joined by a word showing comparative or the assertive degree. Both qualifiers must be of the same degree.</td>
<td></td>
</tr>
<tr>
<td>5.74</td>
<td>Correct option is (B).</td>
<td>On 3rd August in place of the 3rd August. When the letter or the number form is used, the article is not required. When it is in the word form, the article will be used. Thus we can say 3rd August and the third August.</td>
<td></td>
</tr>
<tr>
<td>5.75</td>
<td>Correct option is (C).</td>
<td>Who work for others in place of work for others. One form of the verb pattern should be used with one subject. If the verb pattern changes the subject must be mentioned. Here the subject is those who and the verb is are. It is an auxiliary verb. But, in the next clause, the verb is main verb or action verb. Thus there must be a subject.</td>
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<tr>
<td>5.76</td>
<td>Correct option is (B).</td>
<td>But in the place of than.</td>
<td></td>
</tr>
<tr>
<td>5.77</td>
<td>Correct option is (B).</td>
<td>The Gita was in place of Gita were.</td>
<td></td>
</tr>
<tr>
<td>5.78</td>
<td>Correct option is (B).</td>
<td>More than should be deleted. Double comparatives are to be avoided. Exceed is sufficient.</td>
<td></td>
</tr>
<tr>
<td>5.79</td>
<td>Correct option is (B).</td>
<td>Of in place of for. Here the correct preposition will be of.</td>
<td></td>
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<tr>
<td>5.80</td>
<td>Correct option is (A).</td>
<td>There were in place of was.</td>
<td></td>
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<tr>
<td>5.81</td>
<td>Correct option is (B).</td>
<td>Because of in place of due to. Due to always takes an abstract noun after it.</td>
<td></td>
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<tr>
<td>5.82</td>
<td>Correct option is (A).</td>
<td>Despite in place of in spite of. The meaning of in spite of is not appropriate here.</td>
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<tr>
<td>5.83</td>
<td>Correct option is (B).</td>
<td>That he could in place of that he would. See the Rules of tense.</td>
<td></td>
</tr>
<tr>
<td>5.84</td>
<td>Correct option is (A).</td>
<td>While he was going to his office in place of going to his office. In sentences beginning with while, when, this, it, or similar conjunctions, you should be careful to see that the meaning is clear. There should be no confusion in the first part.</td>
<td></td>
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<tr>
<td>5.85</td>
<td>Correct option is (C).</td>
<td>And fired him in place of and has fired me. The reporting verb is in the past tense and thus other clauses must be in the past tense.</td>
<td></td>
</tr>
<tr>
<td>5.86</td>
<td>Correct option is (B).</td>
<td>Was present in place of were present. In the case of along with, the verb is in accordance with the first object.</td>
<td></td>
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<tr>
<td>5.87</td>
<td>Correct option is (B).</td>
<td>Pull off in place of put off.</td>
<td></td>
</tr>
</tbody>
</table>
5.88 Correct option is (B).
who have in place of who has. Who has been used here for sons and as this is plural, the verb should also be in accordance with that.

5.89 Correct option is (C).
Their in place of its. The pronoun must be in accordance with ladies.

5.90 Correct option is (C).
Strong points in place of stronger points. No need of the comparative degree. See Rules of degree.

5.91 Correct option is (B).
Myself is unwanted. It confuses the meaning.

5.92 Correct option is (B).
Son failing in place of son’s failing. The use of the apostrophe is not required here.

5.93 Correct option is (C).
Further in place of Farther. Farther is used to denote a sense of distance and further is used to indicate more.

5.94 Correct option is (B).
Is essential in place of are essential. The subject is production, not materials. As the subject is singular, the verb will be singular. Be careful about the subject-verb accord.

5.95 Correct option is (C).
Vital questions in place of vital question.

5.96 Correct option is (C).
You and me in place of you and I,

5.97 Correct option is (B).
Here the words who are create confusion. It is not clear whether the words are for the police or for the men who have been arrested. Such tags cause confusion and should be avoided.

5.98 Correct option is (B).
To see is redundant. It should be deleted. Tested and to see both mean the same thing.

5.99 Correct option is (B).
He would not have been in place of he would have been. In an expression beginning with but for, the next part should contain a negative to make the meaning.

5.100 Correct option is (B).
Went out in place of went off. For a living man, the correct expression is went out. Went off may be used in cases like The light went off.

5.101 Correct option is (D).
No Error.

5.102 Correct option is (B).
Arrive in place of arrived. After no sooner did the verb will be in the present tense. Did is followed by the present form of verb: Did he go? He did not come on time.

5.103 Correct option is (B).
None of the rooms here indicates a singular sense and thus the verb will be singular. Usually none is used in singular.

5.104 Correct option is (B).
Might in place of may. The reporting verb is appealed. It is in the past tense and thus all other clauses will be in the past tense.

5.105 Correct option is (C).
The word equipment is uncountable noun hence equipment should be used in place of equipments.

5.106 Correct option is (B).
The Arabian Nights name of book and is singular hence is indeed should be used in place of are indeed.
5.107 Correct option is (C).
Despite himself should be used because despite of himself is improper word.

5.108 Correct option is (C).
More than one degree can not be used for single subjects.

5.109 Correct option is (B).
As we are referring to his involvement, it should be has been and not have been. There has to be agreement between the noun, number and the verb. Don’t make the mistake of matching the verb with fraud cases.

5.110 Correct option is (C).
Was not knowing nothing has a wrong tense usage and also involves two negatives. It should be did not know anything (or knew nothing) in place of was not knowing nothing.

5.111 Correct option is (C).
For should replace with in this sentence. It would also be better to replace one with camera to avoid the impression that one faulty camera is to be exchanged for another faulty camera.

5.112 Correct option is (B).
Hour should be preceded by an as hour is pronounced with a vowel sound.

5.113 Correct option is (B).
It should be nor, and not or. Neither... nor form correlative or corresponsive conjunctions. The first part of the conjunction pair complements the other part.

5.114 Correct option is (C).
Past perfect tense (had used) and not present perfect is to be used here. This is because the second action (that of someone using the computer) had finished when the first occurred (when I was surprised to find the computer not working and enquired).

5.115 Correct option is (B).
This is a conditional sentence. The future tense verb should not be used here in (B); it should be replaced by a verb in simple present tense. Will come should be replaced by comes.

5.116 Correct option is (A).
The reference is to one of the recent studies, not a particular one. So the definite article the should not be used at the beginning. As there is no clear reference to a specific study, it is preferable to use the indefinite article A instead of the definite article The.

5.117 Correct option is (B).
One dresses oneself. So, Rajan dressed himself. Himself is a compound personal pronoun of the reflexive kind. It refers back to the subject or turns back the action of the verb upon the doer.

5.118 Correct option is (C).
Whether should replace if. Whether you like it or not implies irrespective of - that is, the action of going has already been decided upon. If, when used, makes the meaning of the sentence ambiguous. Whether... or not is accepted usage; if... or not is a construction that is not used.

5.119 Correct option is (B).
When a comparison is being made, a comparative and not superlative form of the word should be used. It should be older and not oldest.

5.120 Correct option is (B).
When the reason why is used, there is no need for a because in the sentence as the two convey the same meaning. It should be that instead of because.

5.121 Correct option is (C).
The should not be used before summer and winter in this sentence as no specific summer and winter are referred to. It is correct to say Now that...twice a week in summer and once a week in winter.
5.122 Correct option is (B).
Some should be used before water in place of little. The meaning of little is practically nil which wouldn't go with still in the sentence.

5.123 Correct option is (A).
Article the is wrongly placed before contact. No specific contact is being referred to here. A general fact or situation is being stated. Correct usage is come into contact with; no a or the before contact when it is used after into.

5.124 Correct option is (B).
Whom, which is in the objective case, should replace who which is in the subjective case. Whom is the object of the verb here (want to see whom?).

5.125 Correct option is (A).
Being should be replaced by As it was. When we used a participial phrase, the noun which it governs must be placed next to it. Being a hot day seems to lack a noun to modify, as it cannot refer to I. It is a case of a dangling modifier. So the sentence construction is wrong. We can also write (A) as It being a very hot day.

5.126 Correct option is (B).
No sooner should be followed by than and not when. the pair no sooner...than is a subordinate conjunction of time. It indicates that the second event occurs immediately after the first one.

5.127 Correct option is (C).
In across with, two prepositions are placed together and this is a wrong usage. Came across a beggar is the correct expression.

5.128 Correct option is (A).
It is time is the correct beginning. The correct usage is it is time you + past tense (use of that, as in the given sentence, is incorrect). Use of it was time would be correct in indirect speech only: He said it was time I started working.

5.129 Correct option is (C).
As we are comparing the wheat produce in the two years, it should be last year's (that is, last year's wheat) at the end. Otherwise we would be comparing dissimilar things- wheat and year.

5.130 Correct option is (C).
The preposition with should not be used as the special increment is for that month only (it cannot be for every month). There is no need for a preposition in (C).

5.131 Correct option is (C).
Replace extends with extended because the sentence concerns past.

5.132 Correct option is (D).
Replace is with are. When two nouns are joined by neither-nor, the verb agrees with the noun coming after nor.

5.133 Correct option is (B).
Relative pronoun who is not required because then another verb after ... islands will be required.

5.134 Correct option is (D).
Remove entire group of. Use of they, their indicates that the noun should be plural. Entire group makes the noun singular.

5.135 Correct option is (A).
Between (A) and (D), the former is preferable because all questions in (D) makes it unsuitable. Before attempting each next question, one cannot check all questions.

5.136 Correct option is (C).
(A) There is error in if you would have. It should be had you. (B) There are errors in both first and second clauses. (C) It is correct and the meaning is also clear. (D) The structure is correct but the use of despite disturbs the meaning of the sentence. Thus the answer is (C).
5.137 Correct option is (D).
(A) Them is wrong (error of pronoun). (B) What is wrong (error of conjunction). (C) Have is wrong (error of verb form). (D) It has no error and thus this is the answer.

5.138 Correct option is (D).
(A) Whom is wrong (error of pronoun). (B) They of known is wrong (error of preposition). (C) Could not disregarded is wrong (error of verb form). (D) No error.

5.139 Correct option is (A).
(A) No error. (B) Were is wrong (error of verb). (C) Real is wrong (error of adverb). (D) There is error in the first clause.

5.140 Correct option is (B).
(A) The first clause is wrong. (B) No error. (C) When is wrong (than should be used). (D) Than is wrong (when should be used).

5.141 Correct option is (A).
have done
The present perfect tense is used to denote an action beginning at some time in the past and continuing up to the present moment as the words ate still doing in the sentence reveal.

5.142 Correct option is (C).
have been
The present perfect tense is used to express past actions whose time is not given and not definite.

5.143 Correct option is (C).
had started
The past perfect tense helps in telling us which action happened earlier than the other when both the actions referred to happen in the past. The simple past is used in one clause and the past perfect in the other.

5.144 Correct option is (D).
or by taking up other

5.145 Correct option is (D).
Or is a Co-ordinating Conjunction that joins together two statements or clauses of equal rank or importance.

5.146 Correct option is (D).
it's
A collective none takes a singular verb when the collection is thought of as one whole; a plural verb when the individuals of which it is composed are thought of, as, The Committee has issued its report. The Committee are divided on one minor point.

5.147 Correct option is (C).
but milder than
Than (her used as a preposition) shows the relation between this year and last year's attack. It is more appropriate than as which generally shows the relation between two similar things.

5.148 Correct option is (C).
The adverb of time, never and not the conjunction neither is to be used. This is also done to never have the construction in the same series.

5.149 Correct option is (A).
The subject usually comes before the verb in a sentence. In English, owing to the fewness of the inflections, the order of the words in a sentence is of the first importance.

5.150 Correct option is (D).
that have
When the subject of a verb is a relative pronoun, care should be taken to see that the verb agrees in number and person with the antecedent of the relative. In this case the antecedent is novels.

5.151 Correct option is (C).
The article is to be omitted.
The article is omitted before abstract nouns used in a general sense.
5.151 Correct option is (D).
Proud and insolvent.
When one noun follows another to describe it, the noun which follows is said to be in apposition to the noun which comes before it. Part (d) is changed to have the series in the same construction.

5.152 Correct option is (A).
will excuse my
The pronoun or noun governing a Gerund should be put in the Possessive case. The work leaving is a Gerund (i.e. Verbal Noun) Therefore it must be preceded by the possessive form.

5.153 Correct option is (C).
seldom or never
Seldom or never and seldom if ever are both correct but seldom or ever is incorrect.

5.154 Correct option is (C).
think
The word they should be omitted as the relative pronoun who already refers or relates (i.e. carries us back) to the noun before it i.e. it’s antecedent (wise people).

5.155 Correct option is (B).
a/definitely a
Only in the sense of merely is not to used as part and parcel (an idiomatic expression) means an essential part and the it referred to in the sentence is apparently important enough not to be missed.

5.156 Correct option is (C).
She is still in bed though I’ve tried to awaken her.
Still is placed after the verb be but before other verbs; see this sentence, She is still in bed and also the sentence, She still waits at the bus-stop. Despite (in spite of) is not the correct conjunction; though (or although) is to be used. With I have, awaken should be used, as the present perfect tense of the verb is used here.

5.157 Correct option is (A).
I have no objection to hearing your story again.
When a verb is placed immediately after a preposition as it is done here, the gerund form (ing) must be used.

5.158 Correct option is (D).
You should have told me about it earlier so that I could have talked to the relevant authorities and sorted out the issue. Verbs like advise, recommend, warn are directly followed by the person addressed (without to). Keeping the meaning of the sentence in view, earlier (at an earlier time) would be the correct word qualifying told. Again, I could would be the correct expression. The verb sort should be used in the past tense here.

5.159 Correct option is (B).
Replace they have with it has. For BCCI use of needs (singular) and they have (plural) in the same sentence is incompatible.

******
NUMERICAL ABILITY
CHAPTER 24
DATA INTERPRETATION

Common Data For Q. 1 to 5
In the table, number of students studying in different standards of different schools are given.

<table>
<thead>
<tr>
<th>Standards</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>54</td>
<td>48</td>
<td>58</td>
<td>50</td>
<td>38</td>
</tr>
<tr>
<td>B</td>
<td>50</td>
<td>60</td>
<td>58</td>
<td>45</td>
<td>45</td>
<td>46</td>
</tr>
<tr>
<td>C</td>
<td>40</td>
<td>48</td>
<td>58</td>
<td>46</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>D</td>
<td>45</td>
<td>55</td>
<td>46</td>
<td>40</td>
<td>52</td>
<td>50</td>
</tr>
<tr>
<td>E</td>
<td>48</td>
<td>55</td>
<td>44</td>
<td>55</td>
<td>52</td>
<td>48</td>
</tr>
<tr>
<td>F</td>
<td>52</td>
<td>52</td>
<td>54</td>
<td>42</td>
<td>60</td>
<td>54</td>
</tr>
</tbody>
</table>

24.1 What is the approximate average number of students studying in standard I from all schools together?
(A) 50 (B) 46 (C) 38 (D) 40

24.2 Number of students studying in standard IV from school E is what percent of those studying in standard IV from school D?
(A) 124% (B) 128% (C) 137.5% (D) 132.5%

24.3 Which School has the highest total number of students from all the given standards together?
(A) F (B) A (C) E (D) B

24.4 Which standard has the lowest total number of students from all the given schools together?
(A) VI (B) III (C) V (D) I

24.5 What is the respective ratio of students studying in standard III of schools A and B together to those studying in standard VI of schools C and D together?
(A) 43 : 47 (B) 87 : 81 (C) 53 : 52 (D) 25 : 27

Common Data For Q. 6 to 10
Marks obtained by six students in five different subjects in annual examination is given below.

<table>
<thead>
<tr>
<th>Subjects</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maths</td>
<td>96</td>
<td>85</td>
<td>90</td>
<td>82</td>
<td>78</td>
<td>62</td>
</tr>
<tr>
<td>Pay</td>
<td>55</td>
<td>60</td>
<td>72</td>
<td>69</td>
<td>70</td>
<td>54</td>
</tr>
<tr>
<td>Chem</td>
<td>42</td>
<td>51</td>
<td>63</td>
<td>57</td>
<td>66</td>
<td>45</td>
</tr>
<tr>
<td>Eng</td>
<td>105</td>
<td>90</td>
<td>75</td>
<td>78</td>
<td>120</td>
<td>76</td>
</tr>
<tr>
<td>Bio</td>
<td>40</td>
<td>36</td>
<td>44</td>
<td>35</td>
<td>48</td>
<td>34</td>
</tr>
</tbody>
</table>

24.6 Approximately what is the maximum difference between the percentage of total marks obtained by any two students?
(A) 24% (B) 28% (C) 22% (D) 26%

24.7 Marks obtained by C in Physics is approximately what percent of the average of marks obtained in English by all the students?
(A) 78% (B) 84% (C) 75% (D) 80%

24.8 How many students obtained more marks than average marks obtained in Physics by all the students?
(A) 4 (B) 3 (C) 2 (D) 5

24.9 Marks obtained by F in Physics and English together are approximately what percent of the total marks obtained by D in all subjects?
24.10 Who stood first in examination?
(A) B  (B) D  (C) A  (D) None of these

24.11 Aishwarya is a young working lady. Towards the end of the financial year 2009-10, she found her total annual income to be Rs. 337425. What percentage of her income is payable as income tax?
(A) 6.82%  (B) 8.10%  (C) 5.64%  (D) 7.38%

24.12 Mr. Vaibhav observed his tax deduction at source, as Rs. 317910. What was his total income (in Rs), if he neither has to pay any additional tax, nor is eligible for any refund?
(A) 1445522  (B) 1570718  (C) 1348835  (D) 1447169

Common Data For Q. 11 and 12
Income tax rates for financial year 2009-10 are given below.

<table>
<thead>
<tr>
<th>Individual and HUF below of 65 yr Income up to Rs. 160000</th>
<th>Women below age of 65 yr Income up to Rs. 190000</th>
<th>Tax rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs. 160001 to 300001</td>
<td>Rs. 190001 to 300000</td>
<td>10%</td>
</tr>
<tr>
<td>Rs. 300001 to 500000</td>
<td>Rs. 300001 to Rs. 500000</td>
<td>20%</td>
</tr>
<tr>
<td>Above Rs. 500001</td>
<td>Above Rs. 500001</td>
<td>30%</td>
</tr>
</tbody>
</table>

Total income tax payable is obtained by adding two additional surcharges on calculated income tax. Education Cess, an additional surcharge called educations cess is levied at the rate of 2% on the amount of income tax. Secondary and Higher Education Cess, an additional surcharge called secondary and higher education cess is levied at the rate of 1% on the amount of income tax.

24.13 For which of the following pair of years, the total production of the two commodities together is equal?
(A) 2007 and 2008  (B) 2003 and 2005  (C) 2002 and 2008  (D) None of these

24.14 What is the respective ratio between total production of commodities X and Y respectively for all the seven years together?
(A) 13 : 14  (B) 18 : 23  (C) 26 : 27  (D) None of these

24.15 During which year the percentage increase/decrease in production of commodity X from the previous year was the maximum?
(A) 2005  (B) 2007  (C) 2003  (D) 2008

24.16 Approximately, what was the average production (in lakh tonnes) of commodity Y?
(A) 216  (B) 175  (C) 225  (D) 195

24.17 What is the ratio between total production of the two commodities together for year 2002, 2003 and 2004 and the total production of the two commodities together for year 2006, 2007 and 2008, respectively?
(A) 1 : 23  (B) 2 : 3  (C) 2 : 1  (D) 3 : 2
CHAPTER 24 DATA INTERPRETATION

**Common Data For Q. 18 to 22**

Out of the two bar graphs provided below, one shows the amounts (in Rs. lakh) invested by a company in purchasing raw materials over the years and the other show the values (in Rs lakh) of finished goods sold by the company over the years.

Amount invested in raw materials (in Rs. lakh)

Value of sales of finished goods (in Rs. lakh)

24.18 The maximum difference between the amount invested in raw materials and value of sales of finished goods was during the years ?
(A) 2006  (B) 2008  
(C) 2005  (D) 2007

24.19 The value of sales of finished goods in 2009 was approximately what per cent of the sum of amounts invested in raw materials in the years 2007,2008 and 2009 ?
(A) 37%  (B) 49%  
(C) 33%  (D) 45%

24.20 What was the difference between the average amount invested in raw materials during the given period and the average value of sales of finished goods during this period ?
(A) Rs 68.5 lakh  (B) Rs 77.5 lakh  
(C) Rs 62.5 lakh  (D) Rs 71.5 lakh

24.21 In which year, the percentage change (compared to the previous year) in the investment on raw materials was same as that in the value of Sales of finished goods ?
(A) 2007  (B) 2009  
(C) 2006  (D) 2008

24.22 In which year, there has been a maximum percentage increase in the amount invested in raw materials as compared to the previous year ?
(A) 2007  (B) 2009  
(C) 2006  (D) 2008

**Common Data For Q. 23 to 27**

The following bar graph shows the Income and Expenditures (in million US $) of five companies in the year 2011. The percent profit or loss of a company is given by

\[
\text{Percentage Profit/Loss} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100\%
\]

Income and expenditure (in million US $) of five companies in the year 2011

24.23 The companies M and N together had a percentage of profit/loss of
(A) 10% loss  (B) 10% profit  
(C) 12% loss  (D) there was no loss or profit

24.24 In 2011, what was the approximate percentage of profit/loss of all the five companies taken together ?
(A) 6.5% profit  (B) 7% loss  
(C) 5% profit  (D) 4% loss

*Shipping Free*  
*Maximum Discount*
24.25 Which company earned the maximum percentage profit in the year 2011?
(A) N (B) Q (C) M (D) P

24.26 For company R, if the expenditure had increased by 20% in year 2011; from year 2010 and the company had earned profit of 10% in 2010, what was the company’s income in 2010 (in million US $)?
(A) 37.25 (B) 41.25 (C) 35.75 (D) 38.5

24.27 If the income of company Q in 2011 was 10% more than its income in 2010 and the its expenditure in 2010 (in million US $) was
(A) 30.30 (B) 34.34 (C) 28.28 (D) 32.32

Common Data For Q. 28 to 30
The following graph shows the revenue (in $ million) of three companies in their initial six years of operations, in an economy which is characterised by a persistent inflation.

24.28 In 2010, which could be a valid statement about the revenues (adjusted for inflation) of these three companies?
(A) Revenues of all three companies could be equal
(B) Total of yahoo and facebook which was definitely less than google.
(C) Revenue of yahoo was definitely less than facebook which was definitely less than google.
(D) None of the above

24.29 The difference in the average percentage increase in revenues, from 4th to 6th yr, of yahoo and facebook is
(A) 40% (B) 50% (C) 35% (D) 45%

24.30 What would have been facebook’s revenue (in $ million) in its sixth year of operation if the company had matched google’s percentage growth in revenues from the fifth to the sixth year? (Choose the option that is nearest to the answer.)
(A) 1700 (B) 2100 (C) 1600 (D) 1900

24.31 Number of students studying B.Com. in college C forms approximately what per cent of the total number of students studying B.Com. in all the colleges together?
(A) 18% (B) 22% (C) 14% (D) None of these

24.32 What is the respectively ratio of total number of students studying B.Sc., B.A. and B.Com. in all the colleges together?
(A) 67 : 71 : 75 (B) 71 : 65 : 74 (C) 71 : 67 : 75 (D) None of these

24.33 What is the average number of students studying B.Sc. in all the colleges together?
(A) 435 (B) 545 (C) 355 (D) None of these

Common Data For Q. 31 to 35
Consider the graph shown below.
24.34 Number of students studying B.A. in college B forms what per cent of total number of students studying all the disciplines together in the college?
(A) 27.27%  
(B) 29.84%  
(C) 26.86%  
(D) None of these

24.35 What is the respective ratio of total number of students studying B.Sc. in the colleges C and E together to those studying B.A. in the college together?
(A) 25 : 27  
(B) 29 : 26  
(C) 24 : 23  
(D) None of these

Common Data For Q. 36 to 40
The following line graph gives the percentage of the number of candidates who qualified an examination out of the total number of candidates who appeared for the examination over a period of seven years from 2004 to 2010.

24.36 The difference between the percentage of candidates qualified to appeared was maximum in which of the following pairs of years?
(A) 2007 and 2008  
(B) 2009 and 2010  
(C) 2004 and 2009  
(D) 2008 and 2009

24.37 In which pair of years was the number of candidates qualified, the same?
(A) 2005 and 2010  
(B) 2008 and 2009  
(C) 2005 and 2007  
(D) data inadequate

24.38 If the number of candidates qualified in 2008 was 21200, what was the number of candidates appeared in 2008?
(A) 28500  
(B) 25000  
(C) 32000  
(D) 26500

24.39 If the total number of candidate appeared in 2006 and 2007 together was 47400, then the total number of candidates qualified in these two years together was:
(A) 32100  
(B) 31500  
(C) 34700  
(D) data inadequate

24.40 The total number of candidates qualified in 2009 and 2010 together was 33500 and the number of candidates appeared in 2009 was 26500. What was the number of candidates appeared in 2010?
(A) 22000  
(B) 19000  
(C) 24500  
(D) 20500

Common Data For Q. 41-44
Consider the line graph given below which show the currency ratio from 17th December to 24th December 2010 and answer the questions that follow.

24.41 On 19th December how much Yen would be approximately Rs. 4000 amount be?
(A) 9985  
(B) 8600  
(C) 9300  
(D) 10100

24.42 If the Yen/Doller ratio follows the same trend from 24th December to 27th December as from 21st to 24th, then what will be the value of 50 Dollar on 27th December?
(A) 5400 Yen  
(B) 3000  
(C) Rs. 2000  
(D) 6000 Yen
24.43 A stereo set costs $400. A person has Rs. 18200, 225 Pounds and 35000 Yen with him. He would be able to buy the stereo set on 20th December using (assume that he can use only type of currency for the transaction).
(A) 225 Pound  
(B) 35000 Yen  
(C) Rs. 18200  
(D) Can't be determined

24.44 On 15th December the Rupee/Dollar ratio was 46.5, on that day, Rs. 5000 would fetch ________ Pounds.  
(A) 71.68  
(B) 74.15  
(C) 80.06  
(D) Can't be determined

24.47 Land allotted for green zone is greater than that for commercial purpose by  
(A) \( \frac{2}{3} \) acre  
(B) \( \frac{3}{4} \) acre  
(C) \( \frac{3}{2} \) acre  
(D) \( \frac{4}{3} \) acre

24.48 The total land allotted for residential and commercial purpose is  
(A) \( 4\frac{1}{2} \) acre  
(B) \( 2\frac{1}{2} \) acre  
(C) \( 2\frac{1}{4} \) acre  
(D) \( 3\frac{3}{4} \) acre

**Common Data For Q. 49 to 53**

Number of appeared candidates and passed candidates (in hundreds) in a test from seven different institutions

<table>
<thead>
<tr>
<th>Appeared Candidates</th>
<th>Passed Candidates</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>G</td>
</tr>
<tr>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

24.49 What is the difference between the number of candidates appeared from institutions B, C, D and F together and candidates passed from institutions A, E and G together ?  
(A) 900  
(B) 540  
(C) 100  
(D) 1000

24.50 What is the average number of candidates passed from all the institutions together ?  
(A) 490  
(B) 675  
(C) 700  
(D) 350

24.51 Number of candidates passed from institutions C and E together is approximately, what per cent of the total number of candidates from institutions A and G together ?  
(A) 62%  
(B) 54%  
(C) 72%  
(D) 67%
24.52 From which institution, the difference between the appeared candidates and passed candidates is maximum
(A) G  
(B) F  
(C) B  
(D) D

24.53 What is the respective ratio between the number of candidates who have failed from institution B and the number of candidates who have appeared from institution F ?
(A) 2 : 3  
(B) 1 : 3  
(C) 2 : 5  
(D) 4 : 3

Common Data For Q. 54 to 55
The following pie chart shows the percentage distribution of runs scored by a batsman in a test innings.

24.54 If the batsman has scored a total of 306 runs, how many 4s and 6s did he hit ?
(A) 32 and 2, respectively  
(B) 33 and 1, respectively  
(C) 33 and 2, respectively  
(D) 31 and 3, respectively

24.55 If 5 of the dot balls had been hit for 4s and if two of the shots for which the batsman scored 3 runs each had fetched him one run instead. What would have been the central angle of the sector corresponding to the percentage of runs scored in four ?
(A) 163°  
(B) 167°  
(C) 160°  
(D) 165°

Common Data For Q. 56 to 60
Number of employees working in various departments of an organization and the ratio of men to women in the same

Total Number of Employees = 4600
Ratio of men to women is given below.

<table>
<thead>
<tr>
<th>Departments</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Accounts</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Production</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>IT</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Marketing</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Merchandising</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

24.56 What is the number of women in the accounts departments ?
(A) 102  
(B) 92  
(C) 86  
(D) 80

24.57 What is the total number of employees working in the IT department and HR department together ?
(A) 1742  
(B) 1766  
(C) 1628  
(D) None of these

24.58 What is the ratio of the total number of men to the total number of women working in all the departments together ?
(A) 41 : 27  
(B) 27 : 19  
(C) 63 : 41  
(D) 53 : 47
The number of women in the merchandising department forms what percent of the total number of employees in the organization?

(A) 6%  (B) 12%
(C) 3%  (D) 1%

What is the ratio of the number of men in the production department to the number of men in the marketing department?

(A) 9 : 11  (B) 11 : 9
(C) 7 : 3  (D) 13 : 7

The number of students, who get jobs in finance is less than the students getting marketing jobs, in the 5 yr by

(A) 650  (B) 548
(C) 826  (D) 750

What is the ratio of the number of men in the production department to the number of men in the marketing department?

(A) 9 : 11  (B) 11 : 9
(C) 7 : 3  (D) 13 : 7

What is the percentage increase in the average salary of finance from 1992-96?

(A) 32%  (B) 80%
(C) 60%  (D) 96%

The average annual rate at which the initial salary offered in software increase is

(A) 33%  (B) 65%
(C) 21%  (D) 15.9%

What is the percentage increase in the average monthly salary offered to a marketing student over the given 5 yr?

(A) 117%  (B) 80%
(C) 98%  (D) 56%

In 1994, students seeking jobs in finance earned more than those opting for software (per annum) by

(A) Rs. 33.8 lakh  (B) Rs. 38.8 lakh
(C) Rs. 43 lakh  (D) Rs. 28.4 lakh

The first table gives the percentage of students in MBA class, who sought employment in the areas of finance, marketing and software. The second table gives the average starting salaries of the students per month (in Rs. thousand) in these areas. The third table gives the number of students who passed out in each year.

### Percentage of students

<table>
<thead>
<tr>
<th>Years</th>
<th>Finance</th>
<th>Marketing</th>
<th>Software</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>22</td>
<td>36</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>1993</td>
<td>17</td>
<td>48</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>1994</td>
<td>23</td>
<td>43</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>1995</td>
<td>19</td>
<td>37</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>1996</td>
<td>32</td>
<td>32</td>
<td>20</td>
<td>16</td>
</tr>
</tbody>
</table>

### Average of starting salary (in Rs. thousand)

<table>
<thead>
<tr>
<th>Years</th>
<th>Finance</th>
<th>Marketing</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>5450</td>
<td>5170</td>
<td>5290</td>
</tr>
<tr>
<td>1993</td>
<td>6380</td>
<td>6390</td>
<td>6440</td>
</tr>
<tr>
<td>1994</td>
<td>7550</td>
<td>7630</td>
<td>7050</td>
</tr>
<tr>
<td>1995</td>
<td>8920</td>
<td>8960</td>
<td>8160</td>
</tr>
<tr>
<td>1996</td>
<td>9810</td>
<td>10220</td>
<td>8640</td>
</tr>
</tbody>
</table>

In 1994, students seeking jobs in finance earned more than those opting for software (per annum) by

(A) Rs. 33.8 lakh  (B) Rs. 38.8 lakh
(C) Rs. 43 lakh  (D) Rs. 28.4 lakh

Common Data For Q. 61 to 65

Consider the bar graph and the pie charts below that shows the Government revenue and capital expenditure.
Government expenditure

\[ \text{Government expenditure} = \text{Borrowing} + \text{Government revenue} \]

Revenue expenditure + Capital expenditure

\[ \text{Revenue expenditure} + \text{Capital expenditure} = \text{Government expenditure} \]

24.66 In 1993, individual income tax collection was Rs. 18 billion. The Government borrowings (in Rs. billion) is

(A) 17  
(B) 27  
(C) 13  
(D) 23

24.67 Between 1991 and 1993 borrowing declined by Rs. 10 billion. The average annual increase in revenues (in Rs. billion) is

(A) 13  
(B) 6.5  
(C) 23  
(D) 11.5

24.68 Government borrowings in 1992 and 1994 were equal. What is the increase in Government revenue during this period?

(A) Rs. 8 billion  
(B) Rs. 11 billion  
(C) Rs. 6 billion  
(D) Rs. 10 billion

24.69 Borrowings and individual income tax collections in 1993 are equal to those in 1990, respectively. If the revenue in 1993 is 10% higher as compared to that in 1990, what percentage of the Government revenue in 1990 comes from individual income tax collections?

(A) 23%  
(B) 25%  
(C) 22%  
(D) 24%

Common Data For Q. 70 to 74

Power plant P produces certain amount of electricity, which it distributes equally to substations Q and R. They further distribute the obtained electricity equally to the different ministations A, B, C, D, E, F, G, H, and I. It is assumed that after the substations, the wire loses 10% of the original electricity it is carrying for every kilometer, i.e. if 10 amp is sent through a wire, after 1 km it will have 9 amp and after 2 km it will have 8 amp and so on.

Further it is known that every minestation retains 50% of the electricity that it receives (after the losses) and passes on the remainder 50% of the electricity that it receives to the stations down the line.

Power distribution from a power plant

24.70 If minestation I is receiving 10 amp, then how much is minestation A receiving?

(A) 8.2 amp  
(B) 10.5 amp  
(C) 7.5 amp  
(D) None of these

24.71 Approximately how much should P produce, so that C can get 10 amp of current?

(A) 300 amp  
(B) 360 amp  
(C) 230 amp  
(D) 330 amp

24.72 If minestation H is receiving 34 amp, how much is G receiving?

(A) 26.66 amp  
(B) 24 amp  
(C) 80 amp  
(D) None of these

24.73 If F is receiving 9 amp, how much is G receiving?

(A) 45 amp  
(B) 25 amp  
(C) 40 amp  
(D) 20 amp

24.74 What percentage of the current produced by P reaches F?

(A) 23%  
(B) 25%  
(C) 22%  
(D) 24%

*Shipping Free*  
*Maximum Discount*
24.75 What is the difference between the number of members reading English as well as Marathi newspaper only and the number of members reading English as well as Hindi newspaper only?
(A) 200 (B) 100 (C) 300 (D) None of these

24.76 How many members read atleast two newspaper?
(A) 800 (B) 500 (C) 600 (D) None of these

24.77 The number of members reading Hindi newspaper is
(A) 980 (B) 1020 (C) 750 (D) 1400

24.78 How many members read only one newspaper?
(A) 1600 (B) 1540 (C) 1560 (D) 1650

24.79 The number of members reading atleast three newspaper is
(A) 460 (B) 750 (C) 200 (D) 550

**Common Data For Q. 75 to 79**
The officer’s colony of Badaun has 2800 members out of which 650 members read only English newspaper. 500 members read only Hindi newspaper and 450 members read only Marathi newspaper. The number of members reading all the three newspapers is 200. 400 members read Hindi as well as Marathi newspaper only and 300 members read English as well as Marathi newspaper only and 300 members read English and as well as Hindi newspaper only.

24.80 What is the total number of students enrolled in B.Tech. (mechanical)?
(A) 1530 (B) 1728 (C) 1062 (D) 1584

24.81 Number of girls enrolled in B.Tech. (electronics) forms approximately, what per cent of total number of students in the college?
(A) 13% (B) 22% (C) 7% (D) 15%

24.82 What is the total number of girls enrolled in B.Tech. (nano technology)?
(A) 306 (B) 365 (C) 144 (D) 522

24.83 Number of boys enrolled in B.Tech. (aerospace) forms, what per cent of the total number of girls enrolled in B.Tech. (computer science)?
(A) 200% (B) 225% (C) 187.5% (D) 212.5%

24.84 What is the total number of boys enrolled in B.Tech. (civil)?
(A) 432 (B) 756 (C) 240 (D) 630

**Common Data For Q. 80 to 84**
There are 7200 students in an engineering college. The ratio of boys to girls is 7 : 5, respectively. All the students are enrolled in six different specialization viz. B. Tech. (electronics), B.Tech. (computer science), B.Tech. (mechanical), B.Tech. (aerospace), B.Tech. (nano technology), B.Tech (civil). 22% of the total students are in B.Tech. (nano technology). 16% of the girls are in B.Tech. (computer science). 18% of boys are in B.Tech. (mechanical). Girls in B.Tech. (civil) are 30% of the girls in B.Tech. (computer science). 15% of boys are in B.Tech. (electronics). Boys in B.Tech. (computer science) are 50% of the girls in the same. 15% of girls are in B.Tech. (aerospace). The ratio of boys to girls in B.Tech. (civil) is 3 : 1 respectively. 24% of the total numbers of students are in B.Tech. (electronics). The ratio of boys to girls in B.Tech. (aerospace) is 12 : 5, respectively.
24.1 Correct answer is (B).
Required average number of students studying in standard I:
\[
\frac{(42 + 50 + 40 + 45 + 48 + 52)}{6} = \frac{277}{6} = 46.16 \approx 46
\]

24.2 Correct answer is (C).
Number of students studying in standard IV from school E = 55
Number of students studying in standard IV from school D = 40
Required percentage = \( \frac{55}{40} \times 100 = 137.5\% \)

24.3 Correct answer is (A).
Total number of students of school A = 42 + 54 + 48 + 58 + 50 + 38 = 290
Total number of students of school B = 50 + 60 + 58 + 45 + 45 + 46 = 304
Total number of students of school C = 40 + 48 + 58 + 46 + 42 + 54 = 288
Total number of students of school D = 45 + 55 + 46 + 40 + 52 + 50 = 288
Total number of students of school E = 48 + 55 + 44 + 55 + 52 + 48 = 302
Total number of students of school F = 52 + 52 + 54 + 42 + 60 + 54 = 314
Thus, school F has the highest total number of students.

24.4 Correct answer is (D).
Total number of students in standard I = 42 + 50 + 40 + 45 + 48 + 52 = 277
Total number of students in standard II = 54 + 60 + 48 + 55 + 55 + 52 = 324
Total number of students in standard III = 48 + 58 + 58 + 46 + 44 + 54 = 308
Total number of students in standard IV = 58 + 45 + 46 + 40 + 55 + 42 = 286
Total number of students in standard V = 50 + 45 + 42 + 52 + 52 + 60 = 301
Total number of students in standard VI = 38 + 46 + 54 + 50 + 48 + 54 = 290
Thus, standard I has the least number of students.

24.5 Correct answer is (C).
Number of students studying in standard III of school A and B together = (48 + 58) = 106
Number of students studying in standard VI of school C and D together = (54 + 50) = 104
Required ratio = 106 : 104 = 53 : 52

24.6 Correct answer is (A).
Total maximum marks for all the subjects together = 100 + 75 + 75 + 150 + 50 = 450

<table>
<thead>
<tr>
<th>Students</th>
<th>Total marks</th>
<th>Percentage of total marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>338</td>
<td>( \frac{338}{450} \times 100 = 75.11% )</td>
</tr>
<tr>
<td>B</td>
<td>322</td>
<td>( \frac{322}{450} \times 100 = 71.55% )</td>
</tr>
<tr>
<td>C</td>
<td>344</td>
<td>( \frac{344}{450} \times 100 = 76.44% )</td>
</tr>
<tr>
<td>D</td>
<td>321</td>
<td>( \frac{321}{450} \times 100 = 71.33% )</td>
</tr>
<tr>
<td>E</td>
<td>382</td>
<td>( \frac{382}{450} \times 100 = 84.88% )</td>
</tr>
<tr>
<td>F</td>
<td>271</td>
<td>( \frac{271}{450} \times 100 = 60.22% )</td>
</tr>
</tbody>
</table>
24.1 Maximum percentage marks = 84.88%
Minimum percentage marks = 60.22%
So, required difference = \((84.88 - 60.22)\% = 24.66\%\)

ALTERNATIVE METHOD:
Here, for finding the answer, there is no need to calculate percentage marks of each student. Take the maximum difference of marks of any two students, then find the required percentage.

Maximum difference = 382 - 271 = 111
So, required percentage difference = \(\frac{111}{450} \times 100\% = 24.66\% \approx 24\%\)

24.7 Correct answer is (D).

Average of marks obtained in English by all the students
\[ \frac{105 + 90 + 75 + 78 + 120 + 76}{6} = 90.66 \approx 90 \]
So, required percentage = \(\frac{72}{90} \times 100\% = 80\%\)

24.8 Correct answer is (B).

Average of marks obtained in Physics by all the students
\[ \frac{55 + 60 + 72 + 69 + 70 + 54}{6} = 63.33 \]
Thus, three students i.e., C, D, and E obtained the marks more than the average.

24.9 Correct answer is (A).

Marks obtained by F in Physics and English together = 54 + 76 = 130
So, required percentage = \(\frac{130}{321} \times 100\% = 40.5 \approx 40\%\)

24.10 Correct answer is (D).

Since, E got the highest marks in the class, thus, E is first in the class.

24.11 Correct answer is (C).

Total text to be paid = \((300000 - 190000)\) at the rate of 10%
= 110000 at the rate of 10% = 11000
(337425-300000) at the rate of 20%
= 37425 at the rate of 20% = 7485

Tax = 11000 + 7485 = 18485
Education cess = 3% of 18485 = 554.55
Hence, required percentage = \(\frac{19039.55 \times 100}{337425} = 5.64\%\)

24.12 Correct answer is (C).
Checking from options, it can be seen that if his income is Rs. 1348835, the paid is Rs. 317910.

24.13 Correct answer is (D).

Total production of two commodities
for the year 2002 = 20 + 30 = 50
for the year 2003 = 125 + 150 = 275
for the year 2004 = 175 + 175 = 350
for the year 2005 = 150 + 200 = 350
for the year 2006 = 225 + 250 = 475
for the year 2007 = 200 + 225 = 425
for the year 2008 = 250 + 200 = 450
Thus, required year are 2004 and 2005.

24.14 Correct answer is (D).

Total production of commodity X
= 20 + 125 + 175 + 150 + 225 + 200 + 250 = 1145
Total production of commodity Y
= 30 + 150 + 175 + 200 + 250 + 225 + 200 = 1230
Required ratio = 1145:1230 = 229:246

24.15 Correct answer is (C).

Percentage increase/decrease in production of commodity X from the previous year
In the year 2003 \(= \frac{125 - 20}{20} \times 100\% = 525\%
In the year 2004 \(= \frac{175 - 125}{125} \times 100\% = 40\%
In the year 2005 \(= \frac{175 - 150}{175} \times 100\% = 14.28\%
In the year 2006 \(= \frac{225 - 150}{150} \times 100\% = 50\%
In the year 2007 \(= \frac{225 - 200}{225} \times 100\% = 11.11\%
In the year 2008 \(= \frac{250 - 200}{200} \times 100\% = 25\%

24.16 Correct answer is (D).
Thus, percentage increase is maximum for the year 2003

24.16 Correct answer is (B).
Total production of commodity $Y$

\[ = 30 + 150 + 175 + 200 + 250 + 225 + 200 = 1230 \]

Required average $= \frac{1230}{7}$

$\approx 175$ lakh tonnes

24.17 Correct answer is (A).
Total production of the two commodities together for the years 2002, 2003 and 2004

\[ = (20 + 30) + (125 + 150) + (175 + 175) = 675 \]

Total production of the two commodities together for the year 2006, 2007 and 2008

\[ = (225 + 250) + (200 + 225) + (250 + 200) = 1350 \]

Required ratio $= 675 : 1350$

$= 1 : 2$

24.18 Correct answer is (D).
The differences between the amount invested in raw material and the value sales of finished goods for 2005 $= Rs. (200 - 120)$ lakh $= Rs. 80$ lakh
for 2006 $= Rs. (300 - 225)$ lakh $= Rs. 75$ lakh
for 2007 $= Rs. (500 - 375)$ lakh $= Rs. 125$ lakh
for 2008 $= Rs. (400 - 330)$ lakh $= Rs. 70$ lakh
for 2009 $= Rs. (600 - 525)$ lakh $= Rs. 75$ lakh
for 2010 $= Rs. (460 - 420)$ lakh $= Rs. 40$ lakh
Clearly, maximum difference was during the year 2007.

24.19 Correct answer is (B).
Value of sales of finished goods in the year 2009

$= Rs. 600$ lakh

Amount invested in raw materials in the years 2007, 2008 and 2009

\[ = 375 + 330 + 525 \]

$= Rs. 1230$

Required percentage $= \frac{600}{1230} \times 100$

$= 48.78% \approx 49%$

24.20 Correct answer is (B).
Required difference $= \frac{1}{6} \times (200 + 300 + 500 + 400 + 600 + 460) - \frac{1}{6} \times (120 + 225 + 375 + 330 + 525 + 420)$

$= Rs. \left[ \frac{2460}{6} - \frac{1995}{6} \right] \text{lakh}$

$= Rs. (410 - 332.5) \text{lakh}$

$= Rs. 77.5 \text{lakh}$

24.21 Correct answer is (A).
The percentage change in the amount invested in raw materials and in the value of sales of finished goods for different years are as follow:

Percentage change in amount invested in raw materials.

for 2006 $= \frac{(225 - 120)}{120} \times 100 = 87.5%$

for 2007 $= \frac{(375 - 225)}{225} \times 100 = 66.67%$

for 2008 $= \frac{(330 - 375)}{375} \times 100 = -12%$

for 2009 $= \frac{(525 - 330)}{330} \times 100 = 59.09%$

for 2010 $= \frac{(420 - 525)}{525} \times 100 = -20%$

Percentage change in value of sales of finished goods

for 2006 $= \frac{(330 - 200)}{200} \times 100 = 50%$

for 2007 $= \frac{(500 - 300)}{300} \times 100 = 66.67%$

for 2008 $= \frac{(400 - 500)}{500} \times 100 = -20%$

for 2009 $= \frac{(600 - 400)}{400} \times 100 = 50%$

for 2010 $= \frac{(460 - 600)}{600} \times 100 = -23.33%$

Thus, the percentage change was same during the year 2007.

24.22 Correct answer is (C).
From the above solution, we can say that the maximum percentage increase is in 2006.
24.23 Correct answer is (D).
Total income of companies M and N together
\[ \text{Total income} = (35 + 50) \text{ US million} \]
\[ = 85 \text{ US million} \]
Total expenditure of companies M and N together.
\[ \text{Total expenditure} = (45 + 40) \text{ US million} \]
\[ = 85 \text{ US million} \]
Thus, there was neither loss nor profit for companies M and N together.

24.24 Correct answer is (C).
Total income of all five companies
\[ \text{Total income} = (35 + 50 + 40 + 40 + 50) \text{ US million} \]
\[ = 215 \text{ US million} \]
Total expenditure of all five companies
\[ \text{Total expenditure} = (45 + 40 + 45 + 30 + 45) \text{ US million} \]
\[ = 205 \text{ US million} \]
Profit percentage
\[ = \left( \frac{215 - 205}{205} \right) \times 100\% \]
\[ = 4.88 \approx 5\% \]

24.25 Correct answer is (B).
The percentage profit/loss in the year 2011 for various companies are as follows for M and P, there is a loss
for \[ N = \left( \frac{50 - 40}{40} \right) \times 100\% = 25\% \]
i.e., Profit = 25\%
for \[ Q = \left( \frac{40 - 30}{30} \right) \times 100\% = 33.33\% \]
i.e., Profit = 33.33\%
for \[ R = \left( \frac{50 - 45}{45} \right) \times 100\% = 11.11\% \]
i.e., Profit = 11.11\%
Clearly, the company Q earned the maximum profit in 2011.

24.26 Correct answer is (B).
Let the expenditure of company R in 2010 be \[ X \text{ US million} \]
then, expenditure of company R in 2011
\[ = \left( \frac{120}{100} \times X \right) \text{ US million} \]
\[ \frac{120X}{100} = 45 \]
\[ X = 37.5 \]
i.e., expenditure of company R in 2010
\[ \text{Expenditure of company R in 2010} = 37.5 \text{ US million} \]

24.27 Correct answer is (A).
Let the income of company Q in 2010 = \[ X \text{ US million} \]
then, income of company Q in 2010
\[ = \left( \frac{110}{100} \times X \right) \text{ US million} \]
\[ \frac{110X}{100} = 40 \]
\[ X = \frac{400}{11} \]
i.e., income of company Q in 2010 = \( \frac{400}{11} \) US million

24.28 Correct answer is (D).
No data has been given the question as to which year amongst the given years in the graph is 2010. So, its answer can’t be given and hence last option is correct.
24.29 Correct answer is (D).
Revenue of yahoo in 6th year = 1200
Revenue of yahoo in 4th year = 250
So, percentage increase = \(\frac{950}{250} \times 100 = 380\%\)
Average percentage increase = \(\frac{380}{2} = 190\%\)
Revenue of facebook in 6th year = 2000
Revenue of facebook in 4th year = 350
So, percentage increase = \(\frac{1650}{350} \times 100 = 471.43\%\)
Average percentage increase = \(\frac{235.72}{2} = 117.86\%\)
Required difference = 235.72% - 190% = 45.72% ≈ 45%

24.30 Correct answer is (C).
Percentage increase in google's growth between 5th and 6th year
\(\frac{3250 - 1500}{1500} \times 100 = 116.67\%\)
So, required value of facebook revenue after 6th year
= 750 \times (100 + 116.67)%
= 750 \times 216.67%
= 1625.025
≈ 1600

24.31 Correct answer is (A).
Number of students studying B.Com. in college C = 325
Total number of students studying B.Com. in all the colleges together
= (425 + 475 + 325 + 400 + 225) = 1850
Required percentage = \(\frac{325}{1850} \times 100 = 17.5\%\)

24.32 Correct answer is (B).
Total number of students studying
in B.Sc. = 350 + 325 + 300 + 375 + 425 = 1775
in B.A. = 225 + 300 + 325 + 450 + 325 = 1625
in B.Com = 425 + 475 + 325 + 400 + 225 = 1850
Therefore, required ratio = 1775 : 1625 : 1850
= 71 : 65 : 74

24.33 Correct answer is (C).
Average number of students studying in B.Sc. in all the colleges together
Total number of students in B.Sc.
= \(\frac{1775}{5}\) = 355

24.34 Correct answer is (A).
Number of students studying B.A. in college B = 300
Number of students studying all the disciplines together in college
= B = 300 + 325 + 475 = 1100
Required percentage = \(\frac{300}{1100} \times 100 = 27.27\%\)

24.35 Correct answer is (B).
Total number of students studying B.Sc. in the college C and E together
= 300 + 425 = 725
Total number of students studying B.A. in the college C and E together
= 325 + 325 = 650
Required ratio = 725 : 650 = 29 : 26

24.36 Correct answer is (C).
From the given line graph, it is clear that the difference between the percentage of candidates qualified to appeared was maximum for the years 2004 and 2009 as 2004 has the minimum percentage while 2009 has the maximum percentage.

24.37 Correct answer is (D).
We can't determine the actual number of qualified candidates as we don't know the number of appeared students.

24.38 Correct answer is (D).
Let number of candidates appeared in 2008 be x.
Then, 80% of x = 21200
x = 21200 \times \frac{100}{80} = 26500
24.39 Correct answer is (D).
Data is inadequate to answer this question as we don’t know the number of candidates appeared in 2006 and in 2007, separately.

24.40 Correct answer is (D).
Number of candidates appeared in 2009 = 26500
Therefore, number of candidates qualified in 2009 = 80% of 26500 = 21200
Number of candidates qualified in 2010 = 33500 – 21200 = 12300
Now, let the number of candidates appeared in 2010 be x.
Then, 60% of x = 12300
x = \frac{12300}{60} \times 100 = 20500

24.41 Correct answer is (C).
On 19th December,
\text{Rupee} \over \text{Dollar} = 46
\text{Dollar} = \frac{4000}{46} = \frac{2000}{23}
and \text{Yen} \over \text{Dollar} = 106.75
\text{Yen} = 106.75 \times \frac{2000}{23} = 9282 \approx 9300

24.42 Correct answer is (A).
Following the same trend from 24th December to 27th December as from 21st December to 24th December,
\frac{\text{Yen}}{\text{Dollar}} = 108
\text{Yen} = 50 \times 108 = 5400

24.43 Correct answer is (C).
On 20th December,
\text{Rupee} \over \text{Dollar} = 45.5
\text{Dollar} = \frac{18200}{45.5} = $400
Thus, the person can purchase the stereo set using Rs. 18200.

24.44 Correct answer is (D).
It cannot be determined as we do not know the ratio of dollar to pound on 15th December.

24.45 Correct answer is (A).
Required ratio = \frac{\text{Angle of area allotted for resident}}{\text{Angle of area allotted for road}} = \frac{144^\circ}{36^\circ} = 4:1

24.46 Correct answer is (C).
Angle of area allotted for water body and green zone together = 18^\circ + 108^\circ = 126^\circ
Required percentage = \frac{126}{360} \times 100\% = 35\%

24.47 Correct answer is (B).
Land allotted to green zone = \frac{108^\circ}{360^\circ} \times 5 \text{ acre} = 1.5 \text{ acre}
Land allotted to commercial area = \frac{54^\circ}{360^\circ} \times 5 = 0.75 \text{ acre}
Required value = (1.5 - 0.75) \text{ acre} = 0.75 \text{ acre} = \frac{3}{4} \text{ acre}

24.48 Correct answer is (D).
Land allotted for residential purpose = \frac{144^\circ}{360^\circ} \times 5 = 2 \text{ acre}
Land allotted for commercial purpose = \frac{54^\circ}{360^\circ} \times 5 = 0.75 = \frac{3}{4} \text{ acre}
Total required land = 2 + \frac{3}{4} = 2\frac{3}{4} \text{ acre}

24.49 Correct answer is (D).
Number of candidates appeared from institutions B, C, D and F together = 1400 + 700 + 1200 + 600 = 3900
Candidates passed from institutions A, E and G together = 1200 + 1200 + 500 = 2900
Sample Chapter of Communication System (Vol-9, GATE Study Package)

24.50 Correct answer is (C).
Average number of candidates passed from all the institute together
\[= \frac{1200 + 1000 + 400 + 400 + 1200 + 200 + 50}{7}\]
\[= \frac{4900}{7} = 700\]

24.51 Correct answer is (D).
Number of candidates passed from institutions C and E institutes together
\[= 400 + 1200 = 1600\]
Number of candidates appeared from institutions A and G together
\[= 1300 + 1100 = 2400\]
Therefore, required percentage
\[= \frac{1600}{2400} \times 100\% \approx 67\%\]

24.52 Correct answer is (D).
Difference between appeared and passed candidates from
- institution A = 1300 – 1200 = 100
- institution B = 1400 – 1000 = 400
- institution C = 700 – 400 = 300
- institution D = 1200 – 400 = 800
- institution E = 1500 – 1200 = 300
- institution F = 600 – 200 = 400
- institution G = 1100 – 500 = 600
Thus, difference is maximum for institution D.

24.53 Correct answer is (A).
Number of candidates who have failed from institution B
- Number of appeared candidates from institution B
- Number of passed candidates from institution B
\[= 1400 – 1000 = 400\]
and number of candidates appeared from institution F = 600
Required ratio = 400 : 600 = 2 : 3

24.54 Correct answer is (C).
Total runs scored by the batsman = 306
Total runs scored by 4’s = 43.14% of 306 = 132
= 33 fours \((33 \times 4 = 132)\)
Total runs scored by 6’s = 3.92% of 306 = 12
= 2 sixes \((2 \times 6 = 12)\)

24.55 Correct answer is (C).
Considering the changes mentioned in the question,
Total runs = 306 + 3 \times 4 + 2 \times 3
= 306 + 12 + 6 = 324
Total runs second in 4’s = 132 + 12 = 144
Required angle = \[\frac{144}{324} \times 360^\circ = 160^\circ\]

24.56 Correct answer is (B).
Total number of employees in accounts department
\[= 8\% \text{ of } 4600 = 368\]
Number of women = \[\frac{368}{3 + 1} \times 1 = 92\]

24.57 Correct answer is (D).
Total number of employees in IT and HR departments
\[\text{Total number of men in all the departments} = \left(\frac{26}{400} + \frac{11}{100}\right) \times 4600 = 1702\]

24.58 Correct answer is (D).
Total number of men in all the departments
\[\text{Total number of employees in the organization} =\]
\[
\left[\left(\frac{11}{2} \times 1\right)+\left(\frac{8}{4} \times 3\right)+\left(\frac{15}{5} \times 3\right)+\left(\frac{26}{4} \times 1\right)\right]
+
\left(\frac{22}{2} \times 1\right)+\left(\frac{18}{6} \times 5\right)\right] \% \text{ of 4600}
= (5.5 + 6 + 9 + 6.5 + 11 + 15) \% \text{ of 4600}
= 47\% \text{ of 4600}
\]
Hence, required ratio = 53 : 47

24.59 Correct answer is (C).
Number of women is merchandising department
\[\text{Total number of employees in the organization} =\]
\[\frac{1}{6} \text{ of } 18\% \text{ of 4600} \]
Total number of employees in the organization = 4600
Then, required percentage
\[= \frac{\frac{1}{2} \times 18 \% \ of \ 4600}{4600} \times 100 = 3\%\]

24.60 Correct answer is (A).
Number of men in the production department
\[= \frac{3}{5} \ of \ 15 \% \ of \ 4600\]
Number of men in marketing department
\[= \frac{1}{2} \ of \ 22 \% \ of \ 4600\]
Then, required ratio
\[= \frac{\frac{3}{5} \ of \ 15 \% \ of \ 4600}{\frac{1}{2} \ of \ 22 \% \ of \ 4600}\]
\[= \frac{3 \times 15 \times \frac{1}{2} \times 22}{4600 \times 100} = 9.11\]

24.61 Correct answer is (D).

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of students employed</th>
<th>Number of students employed from finance</th>
<th>Number of students employed from marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>800</td>
<td>0.22 \times 800 = 176</td>
<td>0.36 \times 800 = 288</td>
</tr>
<tr>
<td>1993</td>
<td>650</td>
<td>0.17 \times 650 = 110.5</td>
<td>0.48 \times 650 = 312</td>
</tr>
<tr>
<td>1994</td>
<td>1100</td>
<td>0.23 \times 1100 = 253</td>
<td>0.43 \times 1100 = 473</td>
</tr>
<tr>
<td>1995</td>
<td>1200</td>
<td>0.19 \times 1200 = 228</td>
<td>0.37 \times 1200 = 444</td>
</tr>
<tr>
<td>1996</td>
<td>1000</td>
<td>0.32 \times 1000 = 320</td>
<td>0.32 \times 1000 = 320</td>
</tr>
<tr>
<td>Total</td>
<td>1087.50</td>
<td></td>
<td>1837</td>
</tr>
</tbody>
</table>

Required difference
\[= 1837 - 1087.5 = 749.5 \approx 750\]  

24.62 Correct answer is (B).
Average salary of Finance in 1992
\[= \text{Rs.} \ 5450 \ \text{thousand}\]
Average salary of Finance in 1996
\[= \text{Rs.} \ 9810 \ \text{thousand}\]
Required percentage increase
\[= \frac{9810 - 5450}{5450} \times 100 = 80\%\]

24.63 Correct answer is (D).
Salary offered in software
in 1992 = Rs. 5290 thousand
in 1996 = Rs. 8640 thousand
Percentage increase
\[= \frac{8640 - 5290}{5290} \times 100 = 63.32\%\]

Thus, required average annual increase rate
\[= \frac{1}{4} \times 63.32 = 15.83\%\]
\[\approx 15.9\%\]

24.64 Correct answer is (C).
Average monthly salary to a marketing student
in 1992 = Rs. 5170 thousand
in 1996 = Rs. 10220 thousand
Required percentage increase
\[= \frac{10220 - 5170}{5170} \times 100 = 98\%\]

24.65 Correct answer is (A).
In 1994, students seeking jobs in finance earned
23\% \ of \ 1100 \times 7550 = \text{Rs.} 1910150
Students seeking jobs in software earned
21\% \ of \ 1100 \times 7050 = \text{Rs.} 1628550
\[\text{Difference in the amount earned} = 1910150 - 1628550 = \text{Rs.} 281600 = \text{Rs.} 2.81 \ \text{lakh per month}\]
\[= \text{Rs.} 2.81 \times 12 \ \text{lakh per annum} = \text{Rs.} 33.8 \ \text{lakh per annum}\]

24.66 Correct answer is (D).
Income tax collection = 20\% \ of \ revenue = 18
Revenue = 18 \frac{8}{0.2} = Rs. 90 billion
Expenditure = 55 + 58 = Rs. 113 billion
Borrowing = Expenditure – Revenue
= 113 – 90 = Rs. 23 billion

24.67 Correct answer is (B).
Let revenue in 1991 and 1993 be \( r_1 \) and \( r_2 \), respectively and borrowing in these years be \( B \) and \( B -10 \), respectively.
In year 1991, \( r_1 = 110 – B \)
In year 1993, \( r_2 = 113 – (B -10) \)
Increase in revenue, \( r_2 - r_1 = 13 \)
Average increase in revenue = \( \frac{13}{2} \) (for the period from 1991-93)
= Rs. 6.5 billion

24.68 Correct answer is (A).
Since, borrowing are equal, increase in Government revenue would be equal to increase in Government expenditure
(Government expenditure = Borrowing + Government revenue)
Increase in government revenue
= Expenditure in 1994 - Expenditure in 1992
= (60 + 60) - (58 + 54) = Rs. 8 billion

24.69 Correct answer is (C).
Let \( r \) be the revenue in 1990, then revenue in 1993 = 1.1r
Expenditure= Borrowing + R revenue
In year 1993, 58 + 55 = b + 1.1r
In year 1990, 55 + 50 = b + r
0.1r = 113 – 105 = 8 billion
\( r \) = Rs. 80 billion
Revenue in 1993 = 1.1 \times 80 = Rs. 88 billion
Income tax in 1990 = Income tax in 1993
= 0.2 \times 88 = Rs. 17.6 billion
Percentage income tax in revenues in 1990
= \frac{17.6}{80} \times 100\% = 22\%
24.76 Correct answer is (D).
From the above venn diagram,
Number of members reading at least two newspapers
\[= 300 + 300 + 400 + 200 = 1200\]

24.77 Correct answer is (D).
From the above Venn diagram,
Number of members reading Hindi newspaper
\[= 500 + 300 + 200 + 400 = 1400\]

24.78 Correct answer is (A).
From the above venn diagram, the number of members reading only one newspaper
\[= 650 + 500 + 450 = 1600\]

24.79 Correct answer is (C).
From the above venn diagram, the number of members reading at least three newspapers = 200.

24.80 Correct answer is (C).
From the table, it is clear that total number of students enrolled in B.Tech. (mechanical).
\[= 756 + 306 = 1062\]

24.81 Correct answer is (D).
Number of girls enrolled in B.Tech. (electronics) = 1098
Required percentage \[= \frac{1098}{2200} \times 100 = 15.25 \approx 15\%\]

24.82 Correct answer is (D).
Number of girls enrolled in B.Tech. (nano technology) = 522

24.83 Correct answer is (B).
Number of boys enrolled in B.Tech (aerospace) = 1080
Number of girls enrolled in B.Tech (computer science) = 480
Required percentage \[= \frac{1080}{480} \times 100\% = 225\%\]

24.84 Correct answer is (A).
Total number of boys enrolled in B.Tech. (civil)
\[= 432\]
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