# CAT 1996

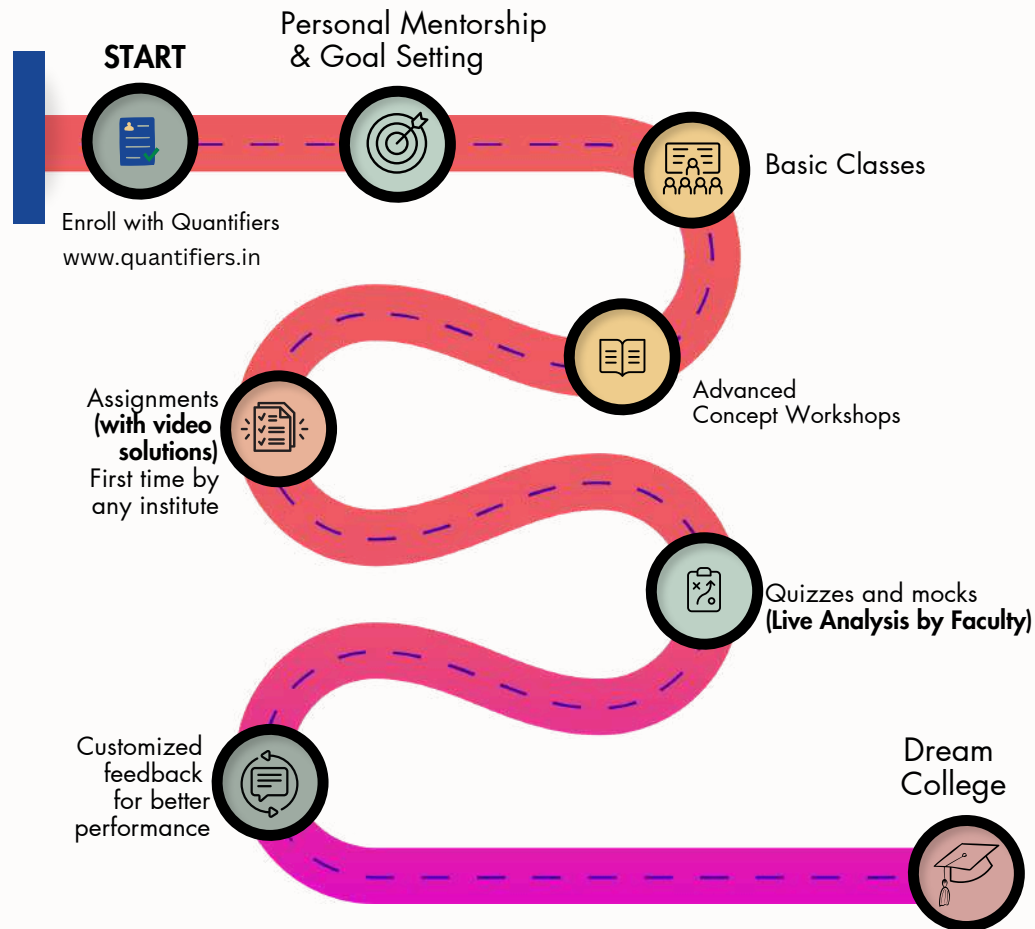Click here to download FREE CAT Material Used by 99%ilers

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**CAT 1996 (Memory Based Paper)**

**Section I VARC**

**Direction for questions 1 to 10:** In each of the following questions, four sentences are given between the sentences numbered 1 and 6. You are required to arrange the four sentences so that all six together make a logical paragraph.

1.
1. It doesn't take a highly esteemed medical expert to conclude that women handle pain better than men.
A. First the men would give birth, and then take six months to recover.
B. As for labour pains, the human species would become extinct if men had to give birth.
C. They do, however, make life hell for everyone else with their non-stop complaining about how bad they feel.
D. The men in my life, including my husband and my father, would not take a Tylenol for pain even if their lives depends on it.
6. And by the time they finish sharing their excruciating experience with their buddies, all reproduction would come to a halt.
a. ABDC          b. DCBA          c. CDBA          d. BACD

2.
1. A few years ago, hostility towards Japanese-Americans was so strong that I thought they were going to reopen the detention camps here in Kolkata.
A. Today Asians are a success story.
B. I cannot help making a comparison to the anti-Jewish sentiment in Nazi Germany when Jewish people were successful in business.
C. But do people applaud President Clinton for improving foreign trade with Asia?
D. Now, talk about the 'Arkansas-Asia Connection' is broadening that hatred to include all Asian-Americans.
6. No, blinded by jealousy, they complain that it is the Asian-Americans who are reaping the wealth.
a. DBAC          b. ABDC          c. DABC          d. ACBD

3.
1. Michael Jackson, clearly no admirer of long engagements, got married abruptly for the second time in three years.
A. The latest wedding took place in a secret midnight ceremony in Sydney, Australia.
B. It is also the second marriage for the new missus, about whom little is known.
C. The wedding was attended by the groom's entourage and staff, according to Jackson's publicist.
D. The bride, 37-year-old Debbie Rowe, who is carrying Jackson's baby, wore white.
6. All that is known is that she is a nurse for Jackson's dermatologist.

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a. ACDB          b. BDCA          c. DABC          d. CDBA

4.

1. Liz Taylor isn't just unlucky in love.
A. She, and husband Larry Fortensky, will have to pay the tab — $4,32,600 in court costs.
B. The duo claimed that a 1993 story about a property dispute damaged their reputations.
C. Taylor has just filed a defamation suit against the National Enquirer.
D. She is unlucky in law too.
6. Alas, all levels of the California court system disagreed.
a. CDAB          b. DCAB          c. DABC          d. CDBA

5.

1. Hiss was serving as Head of the Endowment on August 3, 1948, when Whittaker Chambers reluctantly appeared before the House Un-American Activities Committee.
A. Chambers, a portly rumpled man with a melodramatic style, had been a Communist courier but had broken with the party in 1938.
B. When Nixon arranged a meeting of the two men in New York, Chambers repeated his charges and Hiss his denials.
C. Summoned as a witness, Hiss denied that he had ever been a Communist or had known chambers.
D. He told the Committee that among the members of a secret Communist cell in Washington during the 1930s was Hiss.
6. Then, bizarrely, Hiss asked Chambers to open his mouth.
a. CBAD          b. ADBC          c. ADCB          d. ACDB

6.

1. Since its birth, rock has produced a long string of guitar heroes.
A. It is a list that would begin with Chuck Berry and continue with Hendrix, Page and  Clapton.
B. These are musicians celebrated for their sheer instrumental talent, and their flair for expansive, showy and sometimes self-indulgent solos.
C. It would also include players of more recent vintage, like Van-Halen and Living Colour's Vemon Reid.
D. But with the advent of alternative rock and grunge, guitar heroism became uncool.
6. Guitarists like Peter Buck and Kurt Cobain shy away from exhibitionism.
a. ACBD          b. ABCD          c. BCAD          d. BADC

7.

1. For many scientists, oceans are the cradle of life.
A. But all over the world, chemical products and nuclear waste continue to be dumped into them.
B. Coral reefs, which are known to be the most beautiful places of the submarine world, are fast disappearing.
C. The result is that many species of fish die because of this pollution.
D. Of course man is the root cause behind these problems.
6. Man has long since ruined the places he visits — continents and oceans alike.

a. ACBD       b. BACD       c. ABDC       d. BCAD

8.
1. Am I one of the people who are worried that Bill Clinton's second term might be destroyed by the constitutional crisis?
A. On the other hands, ordinary citizens have put the campaign behind them.
B. In other words, what worries me is that Bill Clinton could exhibit a version of what George Bush used to refer to as Big Mo.
C. That is, he might have so much campaign momentum that he may not be able to stop campaigning.
D. Well, it's true that I've been wondering whether a President could be impeached for refusing to stop talking about the bridge we need to build to the 21$^{st}$ century.
6. They now prefer to watch their favourite soaps and ads on TV rather than senators.
a. DBCA       b. ABDC       c. BACD       d. CBDA

9.
1. So how big is the potential market?
A. But they end up spending thousands more each year on hardware overhaul and software upgradation.
B. Analysts say the new machines will appeal primarily to corporate users.
C. An individual buyer can pick up a desktop computer for less than $2,000 in America.
D. For them, the NCs best-drawing card is its promise of much lower maintenance costs.
6. NCs, which automatically load the latest version of whatever software they need could put an end to all that.
a. BCAD       b. DABC       c. BDCA       d. DCAB

10.
1. Historically, stained glass was almost entirely reserved for ecclesiastical spaces.
A. By all counts, he has accomplished that mission with unmistakable style.
B. "It is my mission to bring it kicking and screaming out of that milieu," says Clarke.
C. The first was the jewel-like windows he designed for a Cistercian Church in Switzerland.
D. Two recent projects show his genius in the separate worlds of the sacred and the mundane.
6. The second was a spectacular, huge skylight in a shopping complex in Brazil.
a. CBAD       b. BADC       c. ABDC       d. DBAC

**Direction for questions 11 to 15:** Find the odd word out from each of the following sets of four word.

11.
A. Impetuosity       b. Equanimity       c. Zealousness       d. Effervescence

12.
A. Drip       b. Intrusion       c. Percolation       d. Effluence

13.
A. Duplicity          b. Guilelessness          c. Artfulness          d. Shrewdness

14.
A. Taxi          b. Cruiser          c. Amble          d. Cab

15.
A. Hiatus          b. Break          c. Pause          d. End

**Direction for questions 16 to 23:** In each of the following questions a pair of capitalised words is followed by four pair of words. You are required to mark as the answer the pair of words which have a relationship between them most similar to the relationship between the capitalised pair.

16.
Liquid: Gaseousness
a. Serum: Fume
b. Humid: Arid
c. Thaw: Distil
d. Smoke: Cloud

17.
Fission: Fusion
a. Implosion: Explosion
b. Separation: Combination
c. Intrusion: Extrusion
d. Enemy: Friend

18.
Doubt: Faith
a. Atheist: Religion
b. Sceptic: Pious
c. Iconoclast: Idol
d. Apostate: State

19.
Brick: Building
a. Word: Dictionary
b. Alphabet: Letter
c. Platoon: Soldier
d. Idiom: Language

20.
Dulcet: Raucous
a. Sweet: Song
b. Crazy: insane
c. Palliative: Exacerbating
d. Theory: Practical

21.
Action: Reaction
a. Introvert: Extrovert
b. Assail: Defend
c. Diseased: Treatment
d. Death: Rebirth

22.
Malapropism: Words
a. Anachronism: Time
b. Ellipsis: Sentence
c. Jinjanthropism: Apes
d. Catechism: Religion

23.
Prior: Posterior
a. In: Out
b. Top: Bottom
c. Head: Tail
d. Front: Rear

**Direction for questions 24 to 29:** In each of the following questions, a part of a sentence is left blank. Choose from among the four options given below each question, the one which would best fill the blanks.

24.
When we call others dogmatic, what we really object to is ___.
a.   Their giving the dog a bad name
b.   Their holding dogmas that are different from our own
c.   The extremism that goes along with it
d.   The subversion of whatever they actually believe in concomitantly

25.
I am an entertainer ___, I have to keep smiling because in my heart laughter and sorrow have an affinity.
a.   Even if I have tears in my eyes
b.   Even though I am depressed inside

c.   While entertaining people

d.   In the entertainment business

26.

The stock markets ___. The state they are in right now speaks volumes about this fact.

a. Is the barometer of public confidence

b. are the best indicators of public sentiment

c. are used to trade in expensive shares

d. are not used to taking stock of all markets

27.

Political power is just as permanent as today's newspaper. Ten years down the line, ___ the mostpowerful man in any state today.

a. Who cares

b. Nobody will remember what was written in today's newspaper or

c. Few will know, or care about

d. When a lot of water will have passed under the bridge, who will care

28.

___, the more they remain the same.

a.   People all over the world change

b.   The more people change

c.   More they are different

d.   The less people change

29.

Although, it has been more than 50 years since Satyajit Ray made PatherPanchali, ___ refuse to go away from the mind.

a. The haunting images

b. its haunting images

c. haunted images

d. the haunt of its images.

**Direction for questions 30 to 35:** In each of the following questions, a part of the paragraph or sentences has been underlined. From the choices given to you, you are required to choose the one which would best replace the underlined part.

30.

The Romanians may be restive under Soviet direction — but they are tied to Moscow by ideological and military links.

a. They are tied to Moscow by ideological and military links

b. They are preparing for a great revolution

c. Secretly they rather enjoy the prestige of being protected by the mighty Soviets

d. There is nothing they can do about it

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31.
In a penetrating study, CBS-TV focuses on these people without hope, whose bodies are cared for by welfare aid, but whose spirit is often neglected by a disinterested society.

a. Whose bodies are cared for by welfare aid
b. Who does not have enough to eat
c. Whose hopelessness may be alleviated
d. Who may be physically satiated

32.
Contemplating whether to exist with an insatiable romantic temperament, he was the author and largely the subject of a number of memorable novels.
a. Contemplating whether to exist
b. Combining realistic details
c. Miscegenating a brilliant mind
d. Aware that he had been born

33. How many times have I asked myself: when is the world going to start to make sense? There is a monster out there, and it is rushing towards me over the uneven ground of consciousness.
a. There is a monster out there
b. It is as if the world is on my shoulders
c. The answer is out there somewhere
d. There is a sea of sensibility in me

34. In Martin Amis' new novel, the narrator is trapped — and hurtling towards a terrible secret, its resolution and the dreadful revelations it brings, ally to give an excruciating vision of guilt.
a. Ally to give an excruciating vision of guilt
b. To us give a vivid picture of guilt
c. Is a painful picture of a guilt-ridden world
d. Does not really solve all the questions in the narrator's mind

35. Victory is everything in the Indian universe and Tendulkar will be expected to translate his genius to that effect. To contemplate any other option is to contemplate the risk of failure.
a. To contemplate any other option is to contemplate the risk of failure.
b. Failure is not an action that can be contemplated.
c. Any other action has the potential of failure.
d. Failure is not an option.

Direction for questions 36 to 44: Given below are six statements followed by sets of three. You are to mark the option in which the statements are most logically related.

36.
1. Some pins are made of tin          2. All tin is made of copper

3. All copper is used for pins
4. Some tin is copper
5. Some pins are used for tin
6. Some copper is used for tin
a. 123          b. 356          c. 341          d. 125

37.
1. An ostrich lays eggs
2. All birds lay eggs
3. Some birds can fly
4. An ostrich cannot fly
5. An ostrich is a bird
6. An ostrich cannot swim
a. 251          b. 125          c. 453          d. 532

38.
1. Some paper is wood
2. All wood is good
3. All that is good is wood
4. All wood is paper
5. All paper is good
6. Some paper is good
a. 254          b. 246          c. 612          d. 621

39.
1. All bricks are tricks
2. Some tricks are shrieks
3. Some that are shrieks are bricks
4. Some tricks are not bricks
5. All tricks are shrieks
6. No tricks are shrieks
a. 513          b. 234          c. 123          d. 543

40.
1. Some sand is band
2. All sandal is band
3. All band is sandal
4. No sand is sandal
5. No band is sand
6. Some band is sandal
a. 231          b. 165          c. 453          d. 354

41.
1. No wife is a life
2. All life is strife
3. Some wife is strife
4. All that is wife is life
5. All wife is strife
6. No wife is strife
a. 256          b. 632          c. 126          d. 245

42.
1. Some crows are flies
2. Some flies are mosquitoes
3. All mosquitoes are flies
4. Some owls are flies
5. All owls are mosquitoes
6. Some mosquitoes are not owl
a. 123          b. 356          c. 145          d. 542

43.
1. Six is five
2. Five is not four
3. Some five is ten
4. Some six is twelve
5. Some twelve is five
6. Some ten is four
a. 145          b. 123          c. 156          d. 543

44.
1. Poor girls want to marry rich boys    2. Rich girls want to marry rich boys
3. Poor girls want to marry rich girls    4. Rich boys want to marry rich girl
5. Poor girls want to marry rich girls    6. Rich boys want to marry poor girls
a. 145        b. 123        c. 234        d. 456

**Direction for questions 45 to 50:** Arrange the four sentences in their proper order so that they make a logically coherent paragraph.

45.
A. Still, Sophie might need an open-heart surgery later in life and now be more prone to respiratory infections.
B. But with the news that his infant daughter Sophie has a hole in her heart, he appears quite vulnerable.
C. While the condition sounds bad, it is not life threatening, and frequently corrects itself.
D. Sylvester Stallone has made millions and built a thriving career out of looking invincible.
a. DCAB        b. DBAC        c. DBCA        d. DCBA

46.
A. However, the severed head could not grow back if fire could be applied instantly to the amputated part.
B. To get rid of this monstrosity was truly a Herculean task, for as soon as one head was cut off, two new ones replaced it.
C. Hercules accomplished this labour with the aid of an assistant who cauterized the necks as fast ashercules cut off the heads!
D. One of the twelve labours of Hercules was the killing of hydra, a water monster with nine heads.
a. DCBA        b. ABCD        c. DBAC        d. BDCA

47.
A. That Hollywood is a man's world is certainly true, but it is not the whole truth.
B. Even Renaissance film actress, Jodie Foster, who hosts this compendium of movie history, confesses surprise at this.
C. She says that she had no idea that women were so active in the industry even in those days.
D. During the silent era, for example, female scriptwriters outnumbered males 10 to 1.
a. ADBC        b. ABDC        c. DCAB        d. ABCD

48.
A. Its business decisions are made on the timely and accurate flow of information.
B. It has 1,700 employees in 13 branch and representative offices across the Asia-Pacific region.
C. For employees to maintain a competitive edge in a fast-moving field, they must have quick access toJP Morgan's proprietary trade related data.

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D. JP Morgan's is one of the largest banking institutions in the US and a premier international trading firm

a. DBAC        b. DCBA        c. CDAB        d. DCAB

49.
A. The SaheliProgramme, run by the US Cross-Cultural Solutions, is offering a three week tour of India that involves a lot more than frenzied sightseeing.
B. Participants interested in women's issues will learn about arranged marriages, dowry and infanticide.
C. Holiday packages include all sorts of topics, but female infanticide must be the first for tourism.
D. Interspersed with these talks and meetings are visits to cities like New Delhi and Agra, home to The Taj Mahal.

a. ACBD        b. CDBA        c. ADBC        d. CABD

50.
A. Something magical is happening to our planet.
B. Some are calling it a paradigm shift.
C. It's getting smaller.
D. Others call it business transformation.

a. ABDC        b. ACDB        c. ABCD        d. ACBD

**Section II VARC**

**Directions for questions 1 to 50:** Read each of the following passages carefully and answer the questions that follow.

I want to stress this personal helplessness we are all stricken with in the face of a system that has passed beyond our knowledge and control. To bring it nearer home, I propose that we switch off from the big things like empires and their wars to more familiar little things. Take pins for example! I do not know why it is that I so seldom use a pin when my wife cannot get on without boxes of them at hand; but it is so; and I will therefore take pins as being for some reason especially important to women. There was a time when pin makers would buy the material; shape it; make the head and the point; ornament it; and take it to the market, and sell it and the making required skill in several operations. They not only knew how the thing was done from beginning to end, but could do it all by themselves. But they could not afford to sell youa paper of pins for the farthing. Pins cost so much that a woman's dress allowance was calling pin money.

By the end of the 18th century Adam Smith boasted that it took 18 men to make a pin, each man doing a little bit of the job and passing the pin on to the next, and none of them being able to make a whole pin or to buy the materials or to sell it when it was made. The most you could say for them was that at least they had some idea of how it was made, though they could not make it. Now as this meant that they were clearly less capable and knowledgeable men than the old pin-makers, you may ask why Adam Smith boasted of it as a triumph of civilization when its effect had so clearly a degrading effect. The reason was that by setting each man to do just one little bit of the work and nothing but that, over and over again, he became very quick at it. The men, it is said, could turn out nearly 5000 pins a day each; and thus pins became plentiful and cheap. The country was supposed to be richer because it had more pins, though it had turned capable men into mere machines doing their work without intelligence and being fed by the spare food of the capitalist just as an engine is fed with coals and oil. That was why the poet Goldsmith, who was a farsighted economist as well as a poet, complained that 'wealth accumulates, and men decay'.

Nowadays Adam Smith's 18 men are as extinct as the diplodocus. The 18 flesh-and-blood men have been replaced by machines of steel which spout out pins by the hundred million. Even sticking them into pink papers is done by machinery. The result is that with the exception of a few people who design the machines, nobody knows how to make a pin or how a pin is made: that is to say, the modern worker in pin manufacture need not be one-tenth so intelligent, skillful and accomplished as the old pin maker; and the only compensation we have for this deterioration is that pins are so cheap that a single pin has no expressible value at all. Even with a big profit stuck on to the cost-price you can buy dozens for a farthing; and pins are so

recklessly thrown away and wasted that verses have to be written to persuade children (without success) that it is a sin to steal, if even it's a pin.

Many serious thinkers, like John Ruskin and William Morris, have been greatly troubled by this, just as Goldsmith was, and have asked whether we really believe that it is an advance in wealth to lose our skill anddegrade our workers for the sake of being able to waste pins by the ton. We shall see later on, when we cometo consider the Distribution of Leisure, that the cure for this is not to go back to the old free for higher work thanpin-making or the like. But in the mean-time the fact remains that the workers are now not able to makeanything themselves even in little bits. They are ignorant and helpless, and cannot lift their finger to begin their day's work until it has all been arranged for them by their employer's who themselves do not understand themthey buy, and simply pay other people to set them going by carrying out the machine maker's directions. The same is true for clothes. Earlier the whole work of making clothes, from the shearing of the sheep to theturning out of the finished and washed garment ready to put on, had to be done in the country by the men andwomen of the household, especially the women; so that to this day an unmarried woman is called a spinster. Nowadays nothing is left of all this but the sheep shearing; and even that, like the milking of cows, is beingdoneby machinery, as the sewing is. Give a woman a sheep today and ask her to produce a woollen dress foryou; and not only will she be quite unable to do it, but you are likely to find that she is not even aware of anyconnection between sheep and clothes. When she gets her clothes, which she does by buying them at theshop, she knows that there is a difference between wool and cotton and silk, between flannel and merino, perhaps even between stockinet and other wefts; but as to how they are made, or what they are made of, orhow they came to be in the shop ready for her to buy, she knows hardly anything. And the shop assistant from whom she buys is no wiser. The people engaged in the making of them know even less; for many of them aretoo poor to have much choice of materials when they buy their own clothes.

Thus, the capitalist system has produced an almost universal ignorance of how things are made and done, whilst at the same time it has caused them to be made and done on a gigantic scale. We have to buy booksand encyclopaedias to find out what it is we are doing all day; and as the books are written by people who arenot doing it, and who get their information from other books, what they tell us is twenty to fifty years out of dateknowledge and almost impractical today. And of course, most of us are too tired of our work when we comehome to want to read about it; what we need is cinema to take our minds off it and feel our imagination. It is a funny place, this word of capitalism, with its astonishing spread of education and enlightenment. Therestand the thousands of property owners and the millions of wage workers, none of them able to make anything, none of them knowing what to do until somebody tells them, none of them having the least notion of how it ismade that they find people paying them money, and things in the shops to buy with it. And when they travelthey are surprised to find that savages and Esquimaux and villagers who have to make everything for themselvesare more intelligent

and resourceful! The wonder would be if they were anything else. We should die of idiocy through disuse of our mental faculties if we did not fill our heads with romantic nonsense out of illustratednewspapers and novels and plays and films. Such stuff keeps us alive, but it falsifies everything for us soabsurdly that it leaves us more or less dangerous lunatics in the real world.  Excuse my going on like this; but as I am a writer of books and plays myself, I know the folly and peril of it better than you do. And when I see that this moment of our utmost ignorance and helplessness, delusion and folly, has been stumbled on by the blind forces of capitalism as the moment for giving votes to everybody, so that the few wise women are hopelessly overruled by the thousands whose political minds, as far as they can be said to have any political minds at all, have been formed in the cinema, I realise that I had better stop writing plays for a while to discuss political and social realities in this book with those who are intelligent enough to listen to me.

1. A suitable title to the passage would be
a. You Can't Hear a Pin-drop Nowadays.
b. Capitalism and Labour Disintegration: Pinning the Blame.
c. The Saga of the Non-Safety Pins.
d. Reaching the Pinnacle of Capitalistic Success.

2. Why do you think that the author gives the example of Adam Smith?
a. Because he thinks that Adam Smith was a boaster without any facts to back his utterance.
b. Because he wants to give us an example of something undesirable that Adam Smith was proud of.
c. Because he is proud to be a believer in a tenet of production that even a great man like Adam Smith boasted about.
d. Because he feels that Adam Smith was right when he said that it took 18 men to make a pin.

3. Which of the following is true as far as pins are concerned?
a. The cost of pins is more nowadays to produce.
b. Earlier, workmen made pins with a lot of love and care.
c. Pinball machines are the standard pin producing gadgets nowadays.
d. It took much longer to make a pin earlier.

4. The reason that children have to be taught that stealing a pin is wrong is that
a. they have an amazing proclivity to steal them right from childhood.
b. pins are so common and cheap that taking one would not even be considered stealing by them.
c. stealing a pin would lead to stealing bigger and bigger things in the future.
d. stealing an insignificant thing like a pin smacks of kleptomania.

5. It may be inferred from the passage that the author
a. is a supporter of the craftsmanship over bulk mechanised production.
b. is a supporter of assembly line production over socialistic systems of the same.
c. is a defender of the faith in capitalistic production.
d. None of the above

6. Which of the following is not against the modern capitalistic system of mass production?
a. John Ruskin          b. Goldsmith          c. Adam Smith          d. William Morris

7. Goldsmith's dictum, "wealth accumulates, and men decay," in the context of the passage, probably means
a. the wealthier people get, they become more and more corrupt.
b. the richer people get, they forget the nuances of individual ability.
c. people may have a lot of money, but they have to die and decay someday.
d. the more a company gets wealthy the less they take care of people.

8. When the author says that a woman now is likely to know about any connection between sheep and clothes, he is probably being
a. vindictive.   b. chauvinistic.          c. satirical.     d. demeaning.

9. Which of the following can be a suitable first line to introduce the hypothetical next paragraph at the end of the passage?
a. The distribution of leisure is not a term that can be explained in a few words.
b. If people wear clothes they hardly seem to think about the method of production.
c. Machines are the gods of our age and there seems to be no atheists.
d. None of the above.

Now let us turn back to inquire whether sending our capital abroad, and consenting to be taxed to pay emigrationfares to get rid of the women and men who are left without employment in consequence, is all that capitalismcan do when our employers, who act for our capitalists in industrial affairs, and are more or less capitaliststhemselves in the earlier stages of capitalistic development, find that they can sell no more of their goods at aprofit, or indeed at all, in their own country. Clearly, they cannot send abroad the capital they have already invested, because it has all been eaten up by theworkers, leaving in its place factories and railways and mines and the like; and these cannot be packed into aship's hold and sent to Africa. It is only the freshly saved capital that can be sent out of the country. This, as wehave seen, does go abroad in heaps of finished products. But the British land held by him on long lease, must,when once he has sold all the goods at home that his British customers can afford to buy, either shut up hisworks until the customers have worn out their stock of what they have bought, which would bankrupt him (forthe landlord will not wait), or else sell his superfluous goods somewhere else; that is, he must send themabroad. Now it is not easy to send them to civilized countries,

because they practise Protection, which meansthat they impose heavy taxes (customs duties) on foreign goods. Uncivilized countries, without Protection, andinhabited by natives to whom gaudy calicoes and cheap showy brassware are dazzling and delightful novelties, are the best places to make for at first.

But trade requires a settled government to put down the habit of plundering strangers. This is not a habit ofsimple tribes, who are often friendly and honest. It is what civilized men do where there is no law to restrain them. Until quite recent times it was extremely dangerous to be wrecked on our own coasts, as wrecking, which meant plundering wrecked ships and refraining from any officious efforts to save the lives of their crews, was a well-established business in many places on our shores. The Chinese still remember some astonishingoutbursts of looting perpetrated by English ladies of high position, at moments when law was suspended andpriceless works of art were to be had for the grabbing. When trading with aborigines begins with the visit of asingle ship, the cannons and cutlasses carried may be quite sufficient to overawe thenatives if they aretroublesome. The real difficulty begins when so many ships come that a little trading station of white mengrows up and attracts the white ne'er-do-wells and violent roughs who are always being squeezed out ofcivilization by the pressure of law and order.

It is these riff-raff who turn the place into a sort of hell in whichsooner or later missionaries are murdered and traders plundered. Their home governments are appealed to puta stop to this. A gunboat is sent out and inquiry made. The report after the inquiry is that there is nothing to bedone but set up a civilized government, with a post office, police, troops and the navy in the offing. In short, theplace is added to some civilized Empire. And the civilized taxpayer pays the bill without getting a farthing of the profits. Ofcourse the business does not stop there. The riff-raff who have created the emergency move out just beyond the boundary of the annexed territory, and are as great a nuisance as ever to the traders when they haveexhausted the purchasing power of the included natives and push on after fresh customers. Again they call ontheir home government to civilize a further area; and so bit by bit the civilized Empire grows at the expense ofthe home taxpayers, without any intention or approval on their part, until at last although all their real patriotismis centred on their own people and confined to their own country, their own rulers, and their own religious faith;they find that the centre of their beloved realm has shifted to the other hemisphere. That is how we in the British Islands have found our centre moved from London to the Suez Canal, and are now in the position that out ofevery hundred of our fellow-subjects, in whose defence we are expected to shed the last drop of our blood, only11 are whites or even Christians. In our bewilderment some of us declare that the Empire is a burden and ablunder, whilst others glory in it as a triumph. You and I need not argue with them just now, our point for the moment being that, whether blunder or glory, the British Empire was quite unintentional. What should havebeen undertaken only as a most carefully considered political development has been a series of

commercialadventures thrust on us by capitalists forced by their own system to cater to foreign customers before their owncountry's needs were one-tenth satisfied.

10. It may be inferred that the passage was written
a. when Britain was still a colonial power.
b. when the author was in a bad mood.
c. when the author was working in the foreign service of Britain.
d. when the author's country was overrun by the British.

11. According to the author, the habit of plundering the strangers
a. is usually not found in simple tribes but civilized people.
b. is usually found in the barbaric tribes of the uncivilized nations.
c. is a habit limited only to English ladies of high position.
d. is a usual habit with all white-skinned people.

12. Which of the following does not come under the aegis of capital already invested?
a. Construction of factories
b. Development of a mine
c. Trade of finished products
d. All of the above

13. Which of the following may be called the main complaint of the author?
a. The race of people he belongs to are looters and plunderers.
b. The capitalists are taking over the entire world.
c. It is a way of life for English ladies to loot and plunder.
d. The English taxpayer has to pay for the upkeep of territories he did not want.

14. Why do the capitalistic traders prefer the uncivilized countries to the civilized ones?
a. Because they find it easier to rule them.
b. Because civilized countries would make them pay protection duties.
c. Because civilized countries would make their own goods.
d. Because uncivilized countries like the cheap and gaudy goods of bad quality all capitalists produce.

15. The word 'officious', in the context of the passage, means
a. self-important.     b. official.     c. rude.     d. oafish.

16. According to the author, the main reason why capitalist go abroad to sell their goods is
a. that they want to civilize the under developed countries of the world by giving them their goods.
b. that they have to have new places to sell their surplus goods some where in new markets.

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c. that they actually want to rule new lands and selling goods is an excuse.
d. None of the above

That the doctrines connected with the name of Mr. Darwin are altering our principles has become a sort ofcommonplace thing to say. And moral principles are said to share in this general transformation. Now, to passby other subjects, I do not see why Darwinism need change our ultimate moral ideas. It was not to modify ourconception of the end, either for the community, or the individual, unless we have been holding views, whichlong before Darwin were out of date. As to the principles of ethics I perceive, in short, no sign of revolution. Darwinism has indeed helped many to truer conception of the end, but I cannot admit that it has eitheroriginated or modified that conception. ]And yet in ethics Darwinism after all perhaps be revolutionary, it may lead not to another view about the end, butto a different way of regarding the relatively importance of the means. For in the ordinary moral creed thosemeans seem estimated on no rational principle. Our creed appears rather to be an irrational mixture of jarringelements. We have the moral code of Christianity, accepted in part; rejected practically by all save a fewfanatics. But we do not realise how in its very principle the Christian ideals is false. And when we reject thiscode for another and in part a sounder morality, we are in the same condition of blindness and of practicalconfusion. It is here that Darwinism, with all the tendencies we may group under that name, seems destined tointervene. It will make itself felt, I believe, more and more effectually. It may force on us in some points acorrection of our moral views, and a return to a non-Christian and perhaps a Hellenic ideal. I propose to illustratehere these general statements by some remarks on punishment.

Darwinism, I have said, has not even modified our ideas of the Chief Good. We may take that as — the welfareof the community realised in its members. There is, of course, a question as to meaning to be given to welfare. We may identify that with mere pleasure, or gain with mere system, or may rather view both as inseparableaspects of perfection and individuality. And the extent and nature of the community would once more be asubject for some discussion. But we are forced to enter on these controversies here. We may leave welfareundefined, and for present purpose need not distinguish the community from the state. The welfare of thiswhole exists, of course, nowhere outside the individuals, and the individuals again have rights and duties onlyas members in the whole. This is the revived Hellenism — or we may call it in the organic view of things —urged by German Idealism early in the present century.

17. What is most probably the author's opinion of the existing moral principles of the people?
a. He thinks they have to be revamped in the light of Darwinism.
b. He thinks that they are okay as they are and do not need any major change.
c. He thinks that it may be a good idea to have a modicum of the immortal Darwinism in us.
d. Cannot be determined from the passage.

18. According to the author, the doctrines of Mr. Darwin
a. have changed our physical and moral principles.
b. have to be re-evaluated to correct the faults endemic in them.
c. do not have to change our moral ideas.
d. are actually new versions of old moral rules.

19. What, according to the passage, is the Chief Good?
a. Being good and kind to all fellow human beings.
b. The greatest good of the greatest number.
c. The welfare of the community realised in its members.
d. Cannot be determined from the passage.

20. It is implied in the passage that
a. a Hellenic ideal is not a proper substitute of the Christian ideal.
b. what mankind needs is a Hellenic ideal rather than a Christian one.
c. Darwinism is more Christian than Hellenic.
d. fanatics do not understand what Darwinism really is.

21. According to the author, the moral code of Christianity
a. is not followed by most people.
b. is in danger due to opposition of Darwinism.
c. is followed by a vast majority of people.
d. is totally ignored by all true Christians.

Governments looking for easy popularity have frequently been tempted into announcing giveaways of all sorts; free electricity, virtually free water, subsidised food, cloth at half price, and so on. The subsidy culture has gone to extremes. The richest farmers in the country get subsidised fertiliser. University education, typically accessed by the wealthier sections, is charged at a fraction of cost. Postal services are subsidised, and so are railway services. Bus fares cannot be raised to economical levels because there will be violent protests, so bus travel is subsidised too. In the past, price control on a variety of items, from steel to cement, meant that industrial consumers of these items got them at less than actual cost, while the losses of the public sector companies that produced them were borne by the taxpayer! A study, done a few years ago, came to the conclusion that subsidies in the Indian economy total as much as 14.5 per cent of gross domestic product. At today's level, that would work out to about Rs. 1,50,000 crores. And who pays the bill? The theory — and the political fiction on the basis of which it is sold to unsuspecting voters — is that subsidies go to the poor, and are paid for by the rich. The fact is that most subsidies go to the 'rich' (defined in the Indian context as those who are above the poverty line), and much of the tab goes indirectly to the poor. Because the hefty subsidy bill results in fiscal deficits, which in turn push up rates of inflation — which,

as everyone knows, hits the poor the hardest of all. Indeed, that is why taxmen call inflation the most regressive form of taxation.

The entire subsidy system is built on the thesis that people cannot help themselves, therefore governmentsmust do so. That people cannot afford to pay for a variety of goods and services, and therefore the governmentmust step in. This thesis has been applied not just in the poor countries but in the rich ones as well; hence thebirth of the welfare state in the West, and an almost Utopian social security system; free medical care, food aid, old age security, et al. But with the passage of time, most of the wealthy nations have discovered that theireconomies cannot sustain this social safety net, which infact reduces the desire among people to pay theirown way, and takes away some of the incentive to work. In short, the bill was unaffordable, and their societieswere simply not willing to pay. To the regret of many, but because of the laws of economics are harsh, mostWestern societies have been busy pruning the welfare bill.

In India, the lessons of this experience — over several decades, and in many countries — do not seem to havebeen learnt. Or, they are simply ignored in the pursuit of immediate votes. People who are promised cheap foodor clothing do not in most cases look beyond the gift horses — to the question of who picks up the tab. Theuproar over higher petrol, diesel and cooking gas prices ignored this basic question: if the user of cooking gasdoes not want to pay for its cost, who should pay? Diesel in the country is subsidised, and if the trucker or owner of a diesel generator does not want to pay for its full cost, who does he or she think should pay the balance of the cost? It is a simple question, nevertheless it remains unasked.
The Deve Gowda government has shown some courage in biting the bullet when it comes to the price ofpetroleum products. But it has been bitten by a much bigger subsidy bug. It wants to offer food at half its costto everyone below the poverty line, supposedly estimated at some 380 million people. What will be the cost?

And, of course, who will pick up the tab? The Andhra Pradesh Government has been bankrupted by selling riceat Rs. 2 per kg. Should the Central Government be bankrupted too, before facing up to the question of what isaffordable and what is not? Already, India is perenially short of power because the subsidy on electricity hasbankrupted most electricity boards, and made private investment wary unless it gets all manner of stateguarantees. Delhi's subsidised bus fares have bankrupted the Delhi Transport Corporation., whose buses have slowly disappeared from the capital's streets. It is easy to be soft and sentimental, by looking at programmesthat will be popular. After all, who doesn't like a free lunch? But the evidence is surely mounting that the lunchisn't free at all. Somebody is paying the bill. And if you want to know who, take a look at the country's pooreconomic performance over the years.

22. Which of the following should not be subsidised now, according to the passage?
a. University education

b. Postal services
c. Steel
d. All of the above

23. The statement that subsidies are paid for by the rich and go to the poor is
a. fiction.
b. fact.
c. fact, according to the author.
d. fiction, according to the author.

24. Why do you think that the author calls the Western social security system Utopian?
a. The countries' belief in the efficacy of the system was bound to turn out to be false.
b. The system followed by these countries is the best available in the present context.
c. Every thing under this system was supposed to be free but people were charging money for them.
d. The theory of system followed by these countries was devised by Dr. Utopia.

25. It can be inferred from the passage that the author
a. believes that people can help themselves and do not need the government.
b. believes that the theory of helping with subsidy is destructive.
c. believes in democracy and free speech.
d. is not a successful politician.

26. Which of the following is not a victim of extreme subsidies?
a. The poor                                    b. The Delhi Transport Corporation
c. The Andhra Pradesh Government        d. None of these

27. What, according to the author, is a saving grace of the Deve Gowda government?
a. It has realised that it has to raise the price of petroleum products.
b. It has avoided been bitten by a bigger subsidy bug.
c. Both (a) and (b).
d. Neither (a) and (b).

28. A suitable title to the passage would be
a. There's No Such Thing as a Free Lunch.                    b. The Economic Overview.
c. Deve Gowda's Government and its Follies.                  d. It Takes Two to Tango.

29. Which of the following is not true, in the context of the passage?
a. Where subsidies are concerned, the poor ultimately pay the tab.
b. Inflation is caused by too much subsidies.
c. Experts call subsidies the most regressive form of taxation.

d. Fiscal deficits are caused due to heavy subsidy bills.

The membrane-bound nucleus is the most prominent feature of the eukaryotic cell. Schleiden and Schwann, when setting forth the cell doctrine in the 1830s, considered that it had a central role in growth and development. Their belief has been fully supported even though they had only vague notions as to what that role might be, andhow the role was to be expressed in some cellular action. The membrane less nuclear area of the prokaryotic cell, with its tangle of fine threads, is now known to play a similar role. Some cells, like the sieve tubes of vascular plants and the red blood cells of mammals, do not possess nucleiduring the greater part of their existence, although they had nuclei when in a less differentiated state. Suchcells can no longer divide and their life span is limited. Other cells are regularly multinucleate. Some, like thecells of striated muscles or the latex vessels of higher plants, become so through cell fusion. Some, like theunicellular protozoan paramecium, are normally binucleate, one of the nuclei serving as a source of hereditaryinformation for the next generation, the other governing the day-to-day metabolic activities of the cell. Still otherorganisms, such as some fungi, are multinucleate because cross walls, dividing the mycelium into specificcells, are absent or irregularly present. The uninucleate situation, however, is typical for the vast minority ofcells, and it would appear that this is the most efficient and most economical manner of partitioning living substance into manageable units. This point of view is given credence not only by the prevalence of uninucleatecells, but because for each kind of cell there is a ratio maintained between the volume of the nucleus and thatof the cytoplasm. If we think of the nucleus as the control centre of the cell, this would suggest that for a givenkind of cell performing a given kind of work, one nucleus can 'take care of' a specific volume of cytoplasm andkeep it in functioning order. In terms of material and energy, this must mean providing the kind of information needed to keep flow of materials and energy moving at the correct rate and in the proper channels. With themultitude of enzymes in the cell, materials and energy can of course be channelled in a multitude of ways; it isthe function of some information molecules to make channels of use more preferred than others at any giventime. How this regulatory control is exercised is not entirely clear.

The nucleus is generally a rounded body. In plant cells, however, where the centre of the cell is often occupiedby a large vacuole, the nucleus may be pushed against the cell wall, causing it to assume a lens shape. Insome white blood cells, such as polymorphonucleated leukocytes, and in cells of the spinning gland of someinsects and spiders, the nucleus is very much lobed. The reason for this is not clear, but it may relate to the factthat for a given volume of nucleus, a lobate form provides a much greater surface area for nuclear-cytoplasmic exchanges, possibly affecting both the rate and the number of metabolic reactions. The nucleus, whatever itsshape, is segregated from the cytoplasm by a double membrane, the nuclear envelope, with the two membranesseparated from each other by a perinuclear space of varying width. The envelope is absent only during the timeof cell division, and then just for a brief period. The outer membrane is often continuous with the membranes ofthe endoplasmic reticulum, a

possible retention of an earlier relationship, since the envelope, at least in part, isformed at the end cell division by coalescing fragments of the endoplasmic reticulum. The cytoplasmic side ofthe nucleus is frequently coated with ribosomes, another fact that stresses the similarity and relation of thenuclear envelope to the endoplasmic reticulum. The inner membrane seems to posses a crystalline layerwhere it abuts the nucleoplasm, but its function remains to be determined.

Everything that passes between the cytoplasm and the nucleus in the eukaryotic cell must transverse thenuclear envelope. This includes some fairly large molecules as well as bodies such as ribosomes, whichmeasure about 25 mm in diameter. Some passageway is, therefore, obviously necessary since there is noindication of dissolution of the nuclear envelope in order to make such movement possible. The nuclear poresappear to be reasonable candidates for such passageways. In plant cells these are irregularly, rather sparselydistributed over the surface of the nucleus, but in the amphibian oocyte, for example, the pores are numerous, regularly arranged, and octagonal and are formed by the fusion of the outer and inner membrane.

30. Which of the following kinds of cells never have a nuclei?
a. Sieve Tubes                                  b. Red blood cells of mammals
c. Prokaryotic cells                            d. None of these

31. According to the first paragraph, the contention of Schleiden and Schwann that the nucleus is the mostimportant part of the cell has
a. been proved to be true.
b. has been true so far but false in the case of the prokaryotic cell.
c. is only partially true.
d. has been proved to be completely false.

32. It may be inferred from the passage that the vast majority of cells are
a. multinucleate.        b. binucleate.  c. uninucleate.          d. anunucleate.

33. What is definitely a function of the nuclei of the normally binucleate cell?
a. To arrange for the growth and nourishment of the cell.
b. To hold hereditary information for the next generation.
c. To make up the basic physical structure of the organism.
d. To fight the various foreign diseases attacking the body.

34. The function of the crystalline layer of the inner membrane of the nucleus is
a. generation of nourishment of the cell.
b. holding together the disparate structures of the endoplasmic reticulum.
c. helping in transversal of the nuclear envelope.

d. Cannot be determined from the passage

35. Why, according to the passage, is the polymorphonucleated leukocyte probably lobed?
a. Because it is quite convoluted in its functions.
b. Because it is the red blood cell which is the most important cell in the body.
c. Because it provides a greater area for metabolism reactions.
d. Because it provides greater strength to the spider web due to greater area.

36. Why, according to the passage, are fungi multinucleate?
a. Because they need more food to survive.
b. Because they frequently lack walls dividing the mycelium.
c. Because the mycelium is areawise much bigger than other cells.
d. Cannot be determined from the passage

The second plan to have to examine is that of giving to each person what she deserves. Many people, especiallythose who are comfortably off, think this is what happens at present: that the industrious and sober and thriftyare never in want, and that poverty is due to idleness, improvidence, drinking, betting, dishonesty, and badcharacter generally. They can point to the fact that a labour whose character is bad finds it more difficult to getemployment than one whose character is good; that a farmer or country gentleman who gambles and betsheavily, and mortgages his land to live wastefully and extravagantly, is soon reduced to poverty; and that a manof business who is lazy and does not attend to it becomes bankrupt. But this proves nothing that you cannoteat your cake and have it too; it does not prove that your share of the cake was a fair one. It shows that certainvices make us rich. People who are hard, grasping, selfish, cruel, and always ready to take advantage of theirneighbours, become very rich if they are clever enough not to overreach themselves. On the other hand, peoplewho are generous, public spirited, friendly, and not always thinking of the main chance, stay poor when they are born poor unless they have extraordinary talents. Also, as things are today, some are born poor and othersare born with silver spoons in their mouths: that is to say, they are divided into rich and poor before they are oldenough to have any character at all. The notion that our present system distributes wealth according to merit, even roughly, may be dismissed at once as ridiculous. Everyone can see that it generally has the contraryeffect; it makes a few idle people very rich, and a great many hardworking people very poor.

On this, intelligent Lady, your first thought may be that if wealth is not distributed according to merit, it ought tobe; and that we should at once set to work to alter our laws so that in future the good people shall be rich inproportion to their goodness and the bad people poor in proportion to their badness. There are several objectionsto this; but the very first one settles the question for good and all. It is, that the proposal is impossible andimpractical. How are you going to measure anyone's merit in money? Choose any pair of human beings youlike, male or female, and see whether you can decide how much each of them should have on her

or his merits. If you live in the country, take the village blacksmith and the village clergyman, or the village washerwoman andthe village schoolmistress, to begin with. At present, the clergyman often gets less pay than the blacksmith; itis only in some villages he gets more. But never mind what they get at present: you are trying whether you canset up a new order of things in which each will get what hedeserves. You need not fix a sum of money for them: all you have to do is to settle the proportion between them. Is the blacksmith to have as much as the clergyman? Or twice as much as the clergyman? Or half as much as the clergyman? Or how much more or less? It is nouse saying that one ought to have more the other less; you must be prepared to say exactly how much moreor less in calculable proportion.

Well, think it out. The clergyman has had a college education; but that is not any merit on his part: he owns into his father; so, you cannot allow him anything for that. But through it he is able to read the New Testament inGreek; so that he can do something the blacksmith cannot do. On the other hand, the blacksmith can make ahorse-shoe, which the parson cannot. How many verses of the Greek Testament are worth one horse-shoe? You have only to ask the silly question to see that nobody can answer it. Since measuring their merits is no use, why not try to measure their faults? Suppose the blacksmith swears agood deal, and gets drunk occasionally! Everybody in the village knows this; but the parson has to keep hisfaults to himself. His wife knows them; but she will not tell you what they are if she knows that you intend to cutoff some of his pay for them. You know that as he is only a mortal human being, he must have some faults; butyou cannot find them out. However, suppose he has some faults he is a snob; that he cares more for sport and fashionable society than for religion! Does that make him as bad as the blacksmith, or twice as bad, or twiceand quarter as bad, or only half as bad? In other words, if the blacksmith is to have a shilling, is the parson tohave six pence, or five pence and one-third, or two shillings? Clearly these are fools' questions: the momentthey bring us down from moral generalities to business particulars it becomes plain to every sensible personthat no relation can be established between human qualities, good or bad, and sums of money, large or small.

It may seem scandalous that a prize-fighter, for hitting another prize-fighter so hard at Wembley that he felldown and could not rise within ten seconds, received the same sum that was paid to the Archbishop of Canterbury for acting as Primate of the Church of England for nine months; but none of those who cry outagainst the scandal can express any better in money the difference between the two. Not one of the personswho think that the prize-fighter should get less than the archbishop can say how much less. What the prizefighter got for his six- or seven-months' boxing would pay a judge's salary for two years; and we all agree thatnothing could be more ridiculous, and that any system of distributing wealth which leads to such absurditiesmust be wrong. But to suppose that it could be changed by any possible calculation that an ounce ofarchbishopof three ounces of judge is worth a pound of prize-fighter would be sillier still. You can find out how manycandles are worth a pound of butter in the market on any particular day; but when you try to estimate the worthof human souls the utmost you

can say is that they are all of equal value before the throne of God. And that willnot help you in the least to settle how much money they should have. You must simply give it up, and admitthat distributing money according to merit is beyond mortal measurement and judgement.

37. Which of the following is not a vice attributed to the poor by the rich?
a. Idleness    b. Drug addition    c. Gambling    d. Alcoholism

38. What, according to the author, do the generous and public spirited people need to become rich?
a. A criminal mind          b. To be born with silver spoons
c. extraordinary talents        d. Strength of character

39. In the passage, which kind of people are not mentioned as likely to get rich quickly?
a. Selfish people          b. Grasping people
c. Hard people           d. Ambitious people

40. What, according to the author, is the main problem in distributing wealth according to the goodness orbadness of human beings?
a. Because the bad people will as always, cheat the good people of their fair share of the money.
b. Because there are too many people in the world and it will take a long time to categorise them into
good or bad.
c. Because there are no standards by which to judge good or bad in relation to money.
d. None of the above

41. Which of the following about the author's thinking may be inferred from the passage?
a. The poor should work hard to become rich.
b. The present system of distribution of wealth is biased in favour of the rich.
c. The honest men should resort to trickery if they want to become rich.
d. The present system of government should give way to a more progressive one.

42. This passage most probably is a part of
a. a newspaper article.
b. an anthropological document.
c. a letter to someone.
d. an ecclesiastical liturgy.

43. The word 'improvidence' in the context of the passage, means
a. extravagance.    b. lasciviousness.    c. corruption.   d. indelicacy.

44. The author gives the example of the Archbishop of Canterbury and the prize-fighter to
a. prove that there cannot be any division of wealth based on moral standards.
b. prove that in this day and age might always scores over religion and love.
c. prove the existence of a non-discriminating god.
d. prove that a pound of butter is worth more than any amount of candles any day.

The conventional wisdom says that this is an issue-less election. There is no central personality of whomvoters have to express approval or dislike; no central matter of concern that makes this a one-issue referendumlike so many elections in the past; no central party around which everything else revolves — the Congress hasbeen displaced from its customary pole position, and no one else has been able to take its place. Indeed, giventhat all-seeing video cameras of the Election Commission, and the detailed pictures they are putting together on campaign expenditure, there isn't even much electioning: no slogans on the walls, noloudspeakers blaringforth at all hours of the day and night, no cavalcades of cars heralding the arrival of a candidate at the localbazaar. Forget it being an issue-less election, is this an election at all? Perhaps the 'fun' of an election lies in its featuring someone whom you can love or hate. But Narasimha Raohas managed to reduce even a general election, involving nearly 600 million voters, to the boring non-event thatis the trademark of his election rallies, and indeed of everything else that he does. After all, the Nehru-Gandhi clan has disappeared from the political map, and the majority of voters will not even be able to name P.V. Narasimha Rao as India's Prime Minister. There could be as many as a dozen prime ministerial candidates ranging from Jyoti Basu to Ramakrishna Hegde, and from Chandra Shekar to (believe it or not) K.R. Narayanan. The sole personality who stands out, therefore, is none of the players, but the umpire: T.N. Seshan.

As for the parties, they are like the blind men of Hindustan, trying in vain to gauge the contours of the animalthey have to confront. But it doesn't look as if it will be the mandir-masjid, nor will it be Hindutva or economicnationalism. The Congress will like it to be stability, but what does that mean for the majority? Economic reformis a non-issue for most people with inflation down to barely 4 per cent, prices are not top of the mind either. Ina strange twist, after the hawala scandal, corruption has been pushed off the map too. But ponder for a moment, isn't this state of affairs astonishing, given the context? Consider that so manyministers have had to resign over the hawala issue; that a governor who was a cabinet minister has also had toquit, in the wake of judicial displeasure; that the prime minister himself is under investigation for his involvementin not one scandal but two; that the main prime ministerial candidate from the opposition has had to bow outbecause he too has been changed in the hawala case; and that the head of the 'third force' has his own little (ornot so little) fodder scandal to face. Why then is corruption not an issue — not as a matter of competitivepolitics, but as an issue on which the contenders for power feel that they have to offer the prospect of genuinechange? If all this does not make the parties (almost all of whom have broken the law, in not submitting

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theiraudited accounts every year to the income tax authorities) realise that the country both needs — and is readyfor-change in the Supreme Court; the assertiveness of the Election Commission, giving new life to a model code of conduct that has been ignored for a quarter country; the independence that has been thrust upon theCentral Bureau of Investigation; and the fresh zeal on the part of tax collectors out to nab corporate no-gooders.

Think also that at no other point since the Emergency of 1975-77 have so many people in power been houndedby the system for their misdeeds. Is this just a case of a few individuals outside the political system doing the job, or is the country heading for anew era? The seventies saw the collapse of the national consensus that marked the Nehruvian era, andideology took over in the Indira Gandhi years. That too was buried by Rajiv Gandhi and his technocratic friends. And now, we have these issue-less elections. One possibility is that the country is heading for a period ofconstitutionalism as the other arms of the state reclaim some of the powers they lost, or yielded, to the politicalestablishment. Economic reform free one part of Indian society from the clutches of the political class. Now, this could spread to other parts of the system. Against such a dramatic backdrop, it should be obvious thatpeople (voters) are looking for accountability, for ways in which to make a corrupted system work again. Andthe astonishing thing is that no party has sought to ride this particular wave; instead, all are on the defensive, desperately evading the real issues. No wonder this is an 'issue-less' election.

45. Why does the author probably say that the sole personality who stands out in the elections is T.N. Seshan?
a. Because all the other candidates are very boring.
b. Because all the other candidates do not have his charisma.
c. Because the shadow of his strictures are looming large over the elections.
d. None of the above

46. A suitable title to the passage would be
a. Elections: A Oreview.
b. The Country's Issue-less Elections.
c. T.N. Seshan — the Real Hero.
d. Love or Hate Them, But Vote for Them.

47. Which of the following are not under scrutiny for alleged corruption, according to the passage?
a. The opposition prime ministerial candidate
b. P.V. Narasimha Rao
c. The leader of the 'third force'
d. Ramakrishna Hegde

48. Why does the author say that almost all parties have broken the law?
a. Because they all indulge in corrupt electoral process.
b. Because they all have more income than recorded sources.
c. Because they are all indicted on various charges.
d. Because they have failed to submit audited accounts to tax authorities.

49. According to the passage, which of the following has not been responsible for the winds of change blowing throughout the country?
a. Greater awareness on the part of the general public.
b. Enforcement of a model code of conduct by the Election Commission.
c. Greater independence to the Central Bureau of Investigation.
d. Fresh zeal on the part of tax collectors.

50. According to the passage, which of the following is not mentioned as even having the potential to be anissue in the current elections?
a. The mandir-masjid issue
b. The empowerment of women
c. Economic nationalism
d. Hindutva

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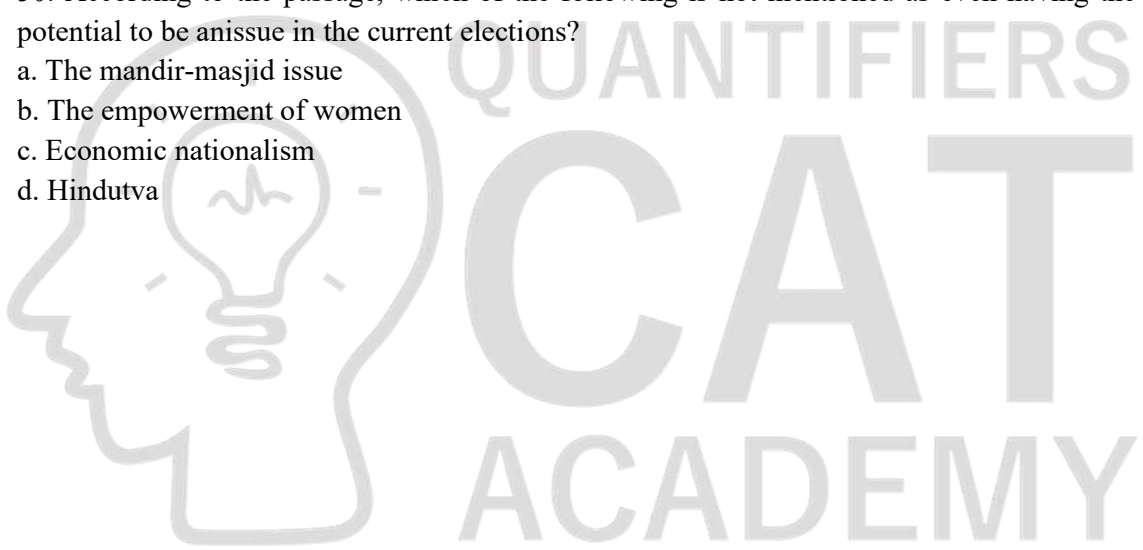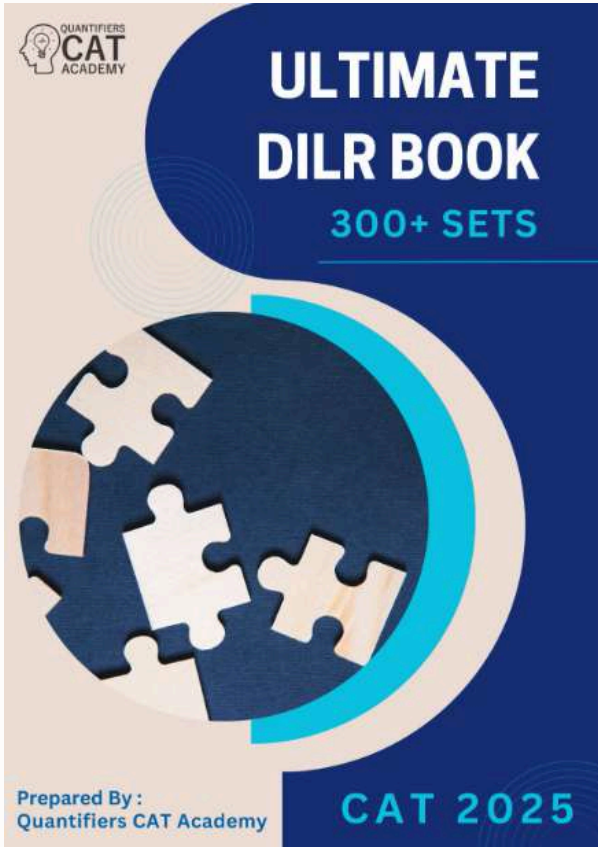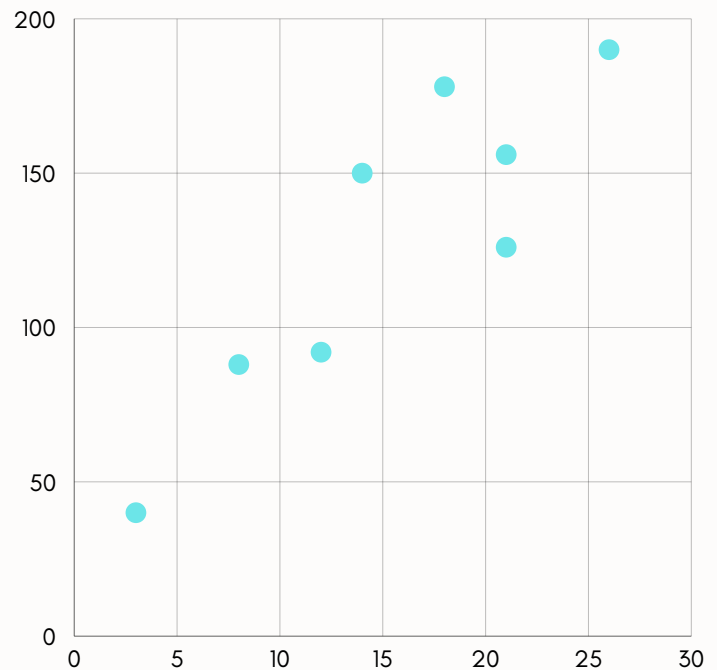
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**Section IV DILR**

**Direction for questions 1 to 5:** Answer the questions based on the following information.

1. The average revenue collected in the given 7 years is approximately
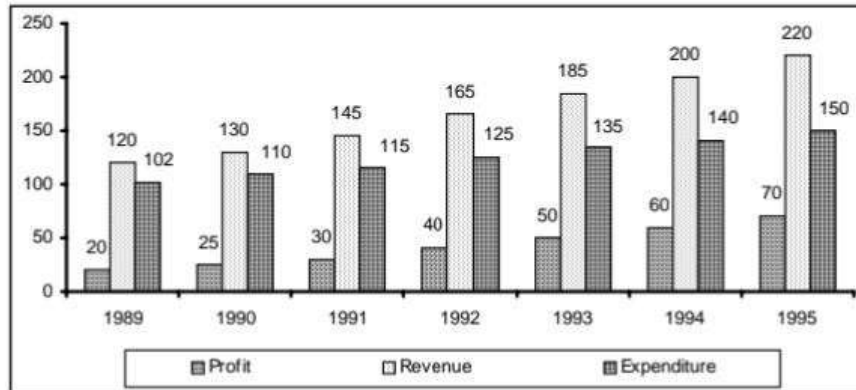


a. Rs. 164 lakh          b. Rs. 168 lakh          c. Rs. 171 lakh          d. Rs. 175 lakh

2. The expenditure for the 7 years together forms what per cent of the revenues during the same period?
a. 75%                    b. 67%                    c. 62%                    d. 83%

3. Which year showed the greatest percentage increase in profit as compared to the previous year?
a. 1993          b. 1994          c. 1990          d. 1992

4. In which year was the growth in expenditure maximum as compared to the previous year?
a. 1993          b. 1995          c. 1991  d. 1992

5. If the profit in 1996 shows the annual rate of growth as it had shown in 1995 over the previous year, thenwhat approximately will be the profit in 1996?
a. Rs. 72 lakh
b. Rs. 82 lakh
c. Rs. 93 lakh
d. Rs. 78 lakh

**Direction for questions 6 to 10:** Answer the questions based on the following information, which gives data about certain coffee producers in India.

| | Production ('000 tonnes) | Capacity utilisation (%) | Sales ('000 tonnes) | Total sales value (Rs. in crores) |
|---|---|---|---|---|
| Brooke Bond | 2.97 | 76.50 | 2.55 | 31.15 |
| Nestle | 2.48 | 71.20 | 2.03 | 26.75 |
| Lipton | 1.64 | 64.80 | 1.26 | 15.25 |
| MAC | 1.54 | 59.35 | 1.47 | 17.45 |
| Total (including others) | 11.60 | 61.30 | 10.67 | 132.80 |

6. What is the maximum production capacity (in '000 tonnes) of Lipton for coffee?
a. 2.53          b. 2.85          c. 2.24                    d. 2.07

7. Which company out of the four companies mentioned above has the maximum unutilized capacity (in '000 tonnes)?
a. Lipton        b. Nestle        c. Brooke Bond        d. MAC

8. What is the approximate total production capacity (in '000 tonnes) for coffee in India?
a. 18            b. 20            c. 18.7                    d. Data insufficient

9. The highest price for coffee per kilogram is for
a. Nestle        b. MAC           c. Lipton                  d. Data insufficient

10. What percent of the total market share (by sales value) is controlled by 'others'?
a. 60%           b. 32%           c. 67%                      d. insufficient data

**Direction for questions 11 to 15:** Answer the questions based on the following information. Mulayam Software Co., before selling a package to its clients, follows the given schedule.

The number of people employed in each month is:

| Month | Stage | Cost (Rs. '000 per man /month) |
|---|---|---|
| 1-2 | Specification | 40 |
| 3-4 | Design | 20 |
| 5-8 | Coding | 10 |
| 9-10 | Testing | 15 |
| 11-15 | Maintenance | 10 |

| Month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of people employed | 2 | 3 | 4 | 3 | 4 | 5 | 5 | 4 | 4 | 1 | 3 | 3 | 1 | 1 | 1 |

11. Due to overrun in 'design', the design stage took 3 months, i.e. months 3, 4 and 5. The number of people working on design in the fifth month was 5. Calculate the percentage change in the cost incurred in the fifth month. (Due to improvement in 'coding' technique, this stage was completed in months 6-8 only.)
a. 225%          b. 150%          c. 275%          d. 240%

12. With reference to the above question, what is the cost incurred in the new 'coding' stage? (Under the
new technique, 4 people work in the sixth month and 5 in the eighth.)
a.      Rs. 1,40,000    b. Rs. 1,50,000          c. Rs. 1,60,000          d. Rs. 1,70,000

13. What is the difference in cost between the old and the new techniques?
a. Rs. 30,000  b. Rs. 60,000          c. Rs. 70,000   d. Rs. 40,000

14. Under the new technique, which stage of software development is most expensive for Mulayam SoftwareCo.?
a. Testing     b. Specification          c. Coding         d. Design

15. Which five consecutive months have the lowest average cost per man-month under the new technique?
a. 1-5  b. 9-13          c. 11-15          d. None of these

**Direction for questions 16 to 20:** Answer the questions based on the following information. The amount of money invested (rupees in crores) in the core infrastructure areas of two districts, Chittoor andKhammam of Andhra Pradesh, is as follows.

| Chittor district | | | Khammam district | | |
|---|---|---|---|---|---|
| Core area | 1995 | 1996 | Core area | 1995 | 1996 |
| Electricity | 815.2 | 1054.2 | Electricity | 2065.8 | 2365.1 |
| Chemical | 389.5 | 476.7 | Chemical | 745.3 | 986.4 |
| Thermal | 632.4 | 565.9 | Thermal | 1232.7 | 1026.3 |
| Solar | 468.1 | 589.6 | Solar | 1363.5 | 1792.1 |
| Nuclear | 617.9 | 803.1 | Nuclear | 1674.3 | 2182.1 |
| Total | 2923.1 | 3489.5 | Total | 7081.6 | 8352.0 |

16. By what per cent was the total investment in the two districts more in 1996 as compared to 1995?

a. 14%        b. 21%        c. 24%        d. 18%

17. The investment in electricity and thermal energy in 1995 in these two districts formed what per cent of the total investment made in that year?

a. 41%        b. 47%        c. 52%        d. 55%

18. In Khammam district, the investment in which area in 1996 showed the highest percentage increase over the investment in that area in 1995?

a. Electricity  b. Chemical    c. Solar        d. Nuclear

19. Approximately how many times was the total investment in Chittoor to the total investment in Khammam?

a. 2.8        b. 2        c. 2.4        d. 1.7

20. If the total investment in Khammam shows the same rate of increase in 1997, as it had shown from 1995to 1996, what approximately would be the total investment in Khammam in 1997?

a. Rs. 9,850 crore      b. Rs. 10,020 crore      c. Rs. 9,170 crore d. Rs. 8,540 crore

**Direction for questions 21 to 25:** Answer the questions based on the following graph.
Employees in thousands of Sales – Cost = Profit
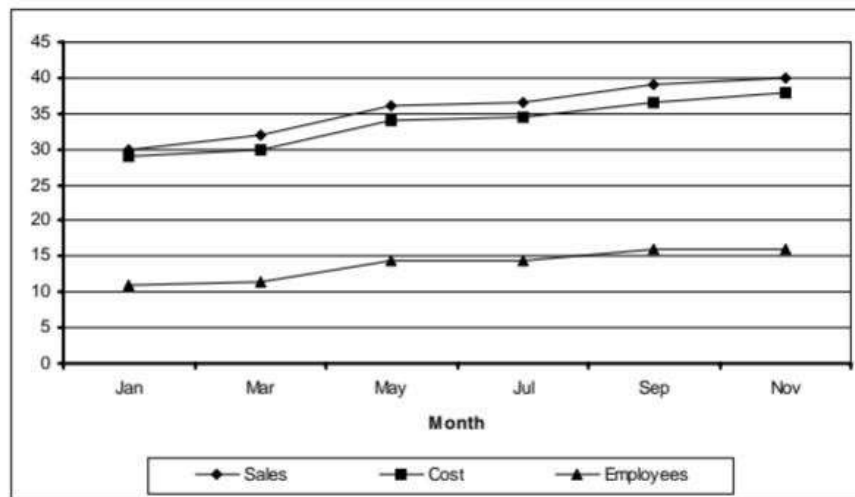


21. Which month records the highest profit?

a. September  b. Julyc. March        d. May

22. In which month is the total increase in the cost highest as compared to two months ago?

a. March b. September. c. July d. May

23. In which month is the percentage increase in sales two months before, the highest?
a. March b. September c. July d. May

24. Which month has the highest profit per employee?
a. September b. July c. January d. March

25. Assuming that no employees left the job, how many more people did the company take on in the given period?
a. 4,600 b. 5,000 c. 5,800 d. 6,400

**Direction for questions 26 to 30:** Answer the questions based on the following information. 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, (rupees in thousands) in these areas. The third table gives the number of students who passed out in each year.

**First table**

|      | Finance | Marketing | Software | Others |
|------|---------|-----------|----------|--------|
| 1992 | 22      | 36        | 19       | 23     |
| 1993 | 17      | 48        | 23       | 12     |
| 1994 | 23      | 43        | 21       | 13     |
| 1995 | 19      | 37        | 16       | 28     |
| 1996 | 32      | 32        | 20       | 16     |

**Second table**

|      | Finance | Marketing | Software |
|------|---------|-----------|----------|
| 1992 | 5450    | 5170      | 5290     |
| 1993 | 6380    | 6390      | 6440     |
| 1994 | 7550    | 7630      | 7050     |
| 1995 | 8920    | 8960      | 7760     |
| 1996 | 9810    | 10220     | 8640     |

**Third table**
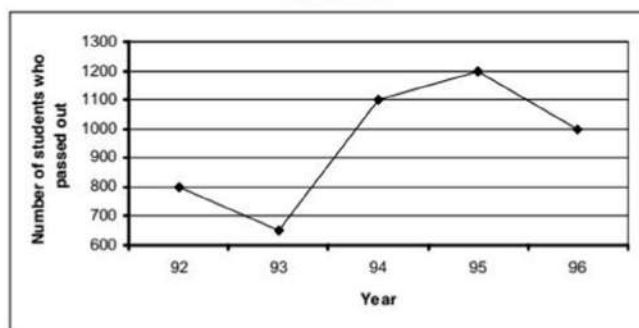


26. The number of students who get jobs in finance is less than the students getting marketing jobs, in the 5 years, by
a. 826 b. 650 c. 750 d. 548

27. What is the percentage increase in the average salary of finance from 1992 to 1996?
a. 60% b. 32% c. 96% d. 80%

40

28. The average annual rate at which the initial salary offered in software increases is
a. 21%          b. 33%          c. 15.9%          d. 65%

29. What is the average monthly salary offered to a management graduate in 1993?
a. Rs. 6,403          b. Rs. 6,330          c. Rs. 6,333     d. Cannot be determined

30. In 1994, students seeking jobs in finance earned ___ more than those opting for software (per annum).
a. Rs. 43 lakh          b. Rs. 33.8 lakh          c. Rs. 28.4 lakh          d. Rs. 38.8 lakh

**Direction for questions 31 to 40:** Each question is followed by two statements, I and II. Mark the answer as
a. if the question cannot be answered even with the help of both the statements taken together.
b. if the question can be answered by any one of the two statements.
c. if each statement alone is sufficient to answer the question, but not the other one (e.g. statement I alone is required to answer the question, but not statement II and vice versa).
d. if both statements I and II together are needed to answer the question.

31. A tractor travelled a distance 5 m. What is the radius of the rear wheel?
I. The front wheel rotates 'N' times more than the rear wheel over this distance.
II. The circumference of the rear wheel is 't' times that of the front wheel.

32. What is the ratio of the two liquids A and B in the mixture finally, if these two liquids kept in three vesselsare mixed together? (The containers are of equal volume.)
I. The ratio of liquid A to liquid B in the first and second vessel is 3 : 5, 2 : 3 respectively.
II. The ratio of liquid A to liquid B in vessel 3 is 4 : 3.

33. If a, b and c are integers, is $(a - b + c) > (a + b - c)$?
I. b is negative.
II. c is positive.

34. If $\alpha$ and $\beta$ are the roots of the equation ($ax^2$
 + bx + c = 0), then what is the value of $(\alpha^2 + \beta^2)$?
I. $(\alpha + \beta) = -(b/a)$
II. $2\alpha \beta = c/a$

35. What is the cost price of the article?
I. After selling the article, a loss of 25% on cost price is incurred.
II. The selling price is three-fourths of the cost price.

36. What is the selling price of the article?

I. The profit on sales is 20%.
II. The profit on each unit is 25% and the cost price is Rs. 250.

37. How many different triangles can be formed?
I. There are 16 coplanar, straight lines.
II. No two lines are parallel.

38. What is the total worth of Lakhiram's assets?
I. A compound interest at 10% on his assets, followed by a tax of 4% on the interest, fetches himRs. 1,500 this year.
II. The interest is compounded once every four months.

39. How old is Sachin in 1997?
I. Sachin is 11 years younger than Anil whose age will be a prime number in 1998.
II. Anil's age was a prime number in 1996.

40. What is the number of type-2 widgets produced, if the total number of widgets produced is 20,000?
I. If the production of type-1 widgets increases by 10% and that of type-2 decreases by 6%, the total production remains the same.
II. The ratio in which type-1 and type-2 widgets are produced is 2 : 1.
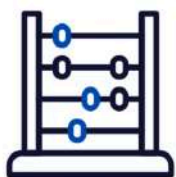
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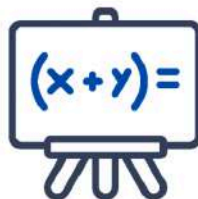
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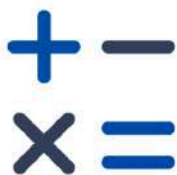
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**Section III QUANT**

**Direction for questions 1 to 5:** Answer the questions based on the following information. The data given in the table shows the investment details in country 'Fortune Land' of companies A, B, C, D, E and F. Figures in the table are in US dollars in billions.

1. What is the percentage increase in investment of B, C, D and E from year 1 to year 3?
a. 121%    b. 321%    c. 221%    d. 300%

|        | A    | B    | C    | D    | E    | F    |
|--------|------|------|------|------|------|------|
| Year 1 | 2.5  | 4.6  | 5.8  | 3.11 | 10.6 | 7.8  |
| Year 2 | 6.7  | 7.5  | 12.5 | 5.6  | 17.4 | 25.3 |
| Year 3 | 11.5 | 18.7 | 21.2 | 7.7  | 29.8 | 60.1 |

2. What is the ratio of investments of E to F for the years 1 to 3?
a. 31: 19    b. 19: 31    c. 20: 29    d. 41: 53

3. What is D's contribution as a percentage of total investments in year 2?
a. 8.2%    b. 4.5%    c. 7.4%    d. 9.2%

4. For which company is investment not increased from year 1 to year 3?
a. C    b. D    c. F    d. None of these

5. What is the percentage difference in investments of companies A, B, C and companies D, E, F inyear 2?
a. 75%    b. 81%    c. 67.5%    d. 42.3%

6. If a number 774958A96B is to be divisible by 8 and 9, the respective values of A and B will be
a. 7 and 8    b. 8 and 0    c. 5 and 8    d. None of these

7. Which of the following values of x do not satisfy the inequality $(x^2 - 3x + 2 > 0)$ at all?
a. $1 \leq x \leq 2$    b. $-1 \geq x \geq -2$    c. $0 \leq x \leq 2$    d. $0 \geq x \geq -2$

**Direction for questions 8 and 9:** Answer the questions based on the following information. In a locality, there are five small cities: A, B, C, D and E. The distances of these cities from each other are as follows.
AB = 2 km AC = 2km AD > 2 km AE > 3 km BC = 2 km
BD = 4 km BE = 3 km CD = 2 km CE = 3 km DE > 3 km

8. If a ration shop is to be set up within 2 km of each city, how many ration shops will be required?

a. 2          b. 3          c. 4          d. 5

9. If a ration shop is to be set up within 3 km of each city, how many ration shops will be required?

a. 1          b. 2          c. 3          d. 4

10. A cube of side 12 cm is painted red on all the faces and then cut into smaller cubes, each of side 3 cm. What is the total number of smaller cubes having none of their faces painte

a. 16          b. 8          c. 12          d. 24

11. If ABCD is a square and BCE is an equilateral triangle, what is the measure of $\angle$DEC?
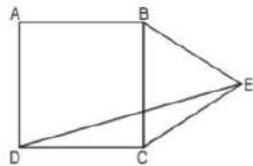


a. 15°          b. 30°          c. 20°          d. 45°

12. Instead of a meter scale, a cloth merchant uses a 120 cm scale while buying, but uses an 80 cm scale while selling the same cloth. If he offers a discount of 20% on cash payment, what is his overall profit percentage?

a. 20%          b. 25%          c. 40%          d. 15%

13. From a circular sheet of paper with a radius 20 cm, four circles of radius 5 cm each are cut out. What isthe ratio of the uncut to the cut portion?

a. 1: 3          b. 4: 1          c. 3: 1          d. 4: 3

14. A wooden box (open at the top) of thickness 0.5 cm, length 21 cm, width 11 cm and height 6 cm are painted on the inside. The expenses of painting are Rs. 70. What is the rate of painting per square centimetres?

a. Re 0.7          b. Re 0.5          c. Re 0.1          d. Re 0.2

**Direction for questions 15 and 16:** Answer the questions based on the following information. A, S, M and D are functions of x and y, and they are defined as follows.

A(x, y) = x + y

S(x, y) = x – y

M(x, y) = xy

$D(x, y) = \dfrac{x}{y}, y \neq 0$

15. What is the value of M (M (A (M (x, y), S (y, x)), x), A (y, x)) for x = 2, y = 3?
a. 60          b. 140          c. 25          d. 70

16. What is the value of S [M (D (A (a, b), 2), D (A (a, b), 2)), M (D (S (a, b), 2), D (S (a, b), 2))]?
a. $a^2 + b^2$       b. ab          c. $a^2 - b^2$       d. $\dfrac{a}{b}$

17. The cost of diamond varies directly as the square of its weight. Once, this diamond broke into four pieces with weights in the ratio 1: 2: 3: 4. When the pieces were sold, the merchant got Rs. 70,000 less. Find the original price of the diamond.
a. Rs. 1.4 lakh                    b. Rs. 2 lakhs
c. Rs. 1 lakh                      d. Rs. 2.1 lakh

18. If n is any odd number greater than 1, then n ($n^2 - 1$) is
a. divisible by 96 always          b. divisible by 48 always
c. divisible by 24 always          d. None of these

19. The figure shows a circle of diameter AB and radius 6.5 cm. If chord CA is 5 cm long, find the area of ΔABC.
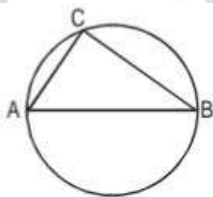


 a. 60 sq. cm
 b. 30 sq. cm
 c. 40 sq. cm
 d. 52 sq. cm

**Direction for questions 20 and 21:** Answer the questions based on the following information. A watch dealer incurs an expense of Rs. 150 for producing every watch. He also incurs an additional expenditure of Rs. 30,000, which is independent of the number of watches produced. If he is able to sell a watch during the season, he sells it for Rs. 250. If he fails to do so, he has to sell each watch for Rs. 100.

20. If he is able to sell only 1,200 out of 1,500 watches he has made in the season, then he has made a profit of
a. Rs. 90,000          b. Rs. 75,000          c. Rs. 45,000          d. Rs. 60,000

21. If he produces 1,500 watches, what is the number of watches that he must sell during the season in order to break-even, given that he is able to sell all the watches produced?

a. 500          b. 700          c. 800          d. 1,000

22. Once I had been to the post office to buy five-rupee, two-rupee and one-rupee stamps. I paid the clerkRs. 20, and since he had no change, he gave me three more one-rupee stamps. If the number of stamps of each type that I had ordered initially was more than one, what was the total number of stamps that I bought?

a. 10          b. 9          c. 12          d. 8

23. In ΔABC, ∠B is a right angle, AC = 6 cm, and D is the mid-point of AC. The length of BD is
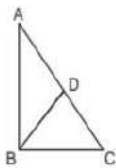


a. 4 cm          b. √6 cm          c. 3 cm          d. 3.5 cm

**Direction for questions 24 and 25:** Answer the questions based on the following information. A salesman enters the quantity sold and the price into the computer. Both the numbers are two-digit numbers. But, by mistake, both the numbers were entered with their digits interchanged. The total sales value remainedthe same, i.e. Rs. 1,148, but the inventory reduced by 54.

24. What is the actual price per piece?

a. Rs. 82          b. Rs. 41          c. Rs. 6          d. Rs. 28

25. What is the actual quantity sold?

a. 28          b. 14          c. 82          d. 41

26. In a locality, two-thirds of the people have cable TV, one-fifth have VCR, and one-tenth have both. What is the fraction of people having either cable -TV or VCR?

a. 19/30          b. 2/3          c.17/30          d. 23/30

27.

Find the value of $\dfrac{1}{1+\dfrac{1}{3-\dfrac{4}{2+\dfrac{1}{3-\dfrac{1}{2}}}}} + \dfrac{3}{4}{3-\dfrac{\frac{3}{4}}{3+\dfrac{1}{2-\dfrac{1}{2}}}}$

a. 13/7          b. 15/7          c. 11/21          d. 17/28

28. Given the quadratic equation $x^2 – (A – 3)x – (A – 2)$, for what value of A will the sum of the squares of the roots be zero?
a. –2          b. 3          c. 6          d. None of these

29. The figure shows the rectangle ABCD with a semicircle and a circle inscribed inside in it as shown.
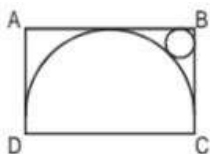


What is the ratio of the area of the circle to that of the semicircle?
a. $(\sqrt{2} – 1)^2$: 1          b. $2(\sqrt{2} – 1)^2$ : 1          c. $(\sqrt{2} – 1)^2$ : 2          d. None of these

30. I bought 5 pens, 7 pencils and 4 erasers. Rajan bought 6 pens, 8 erasers and 14 pencils for an amount which was half more what I had paid. What per cent of the total amount paid by me was paid for the pens?
a. 37.5%          b. 62.5%          c. 50%          d. None of these

31. In a mile race, Akshay can be given a start of 128 m by Bhairav. If Bhairav can give Chinmay a start of 4 m in a 100 m dash, then who out of Akshay and Chinmay will win a race of one and half miles, and what will be the final lead given by the winner to the loser? (One mile is 1,600 m.)
a. Akshay, 1/12mile          b. Chinmay, 1/32mile
c. Akshay, 1/24mile          d. Chinmay, 1/16mile

32. Two liquids A and B are in the ratio 5:1 in container 1 and 1:3 in container 2. In what ratio should thecontents of the two containers be mixed so as to obtain a mixture of A and B in the ratio 1:1?
a. 2: 3          b. 4: 3          c. 3: 2          d. 3: 4

33. A man travels three-fifths of a distance AB at a speed 3a, and the remaining at a speed 2b. If he goes from B to A and returns at a speed 5c in the same time, then
a.$\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$
b. $a + b = c$
c. $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$
d. None of these

34. A man travels from A to B at a speed x km/hr. He then rests at B for x hours. He then travels from B to C at a speed 2x km/hr and rests for 2x hours. He moves further to D at a speed twice as that between B and C. He thus reaches D in 16 hr. If distances A-B, B-C and C-D are all equal to 12 km, the time for which he rested at B could be
a. 3 hr          b. 6 hr          c. 2 hr          d. 4 hr

35. Out of two-thirds of the total number of basketball matches, a team has won 17 matches and lost 3 ofthem. What is the maximum number of matches that the team can lose and still win more than three fourths of the total number of matches, if it is true that no match can end in a tie?
a. 4.          b. 6          c. 5          d. 3

36. The price of a Maruti car rises by 30% while the sales of the car come down by 20%. What is the percentage change in the total revenue?
a. –4%          b. –2%          c. +4%          d. +2%

37. The points of intersection of three lines $2X + 3Y – 5 = 0$, $5X – 7Y + 2 = 0$ and $9X – 5Y – 4 = 0$
a. form a triangle
b. are on lines perpendicular to each other
c. are on lines parallel to each other
d. are coincident

38. A man has 9 friends: 4 boys and 5 girls. In how many ways can he invite them, if there have to be exactly3 girls in the invitees?
a. 320          b. 160          c. 80          d. 200

39. In a watch, the minute hand crosses the hour hand for the third time exactly after every 3 hr 18 min and15 s of watch time. What is the time gained or lost by this watch in one day?
a. 14 min 10 s lost          b. 13 min 50 s lost
c. 13 min 20 s gained.          d. 14 min 40 s gained

40. I sold two watches for Rs. 300 each, one at the loss of 10% and the other at the profit of 10%. What is the percentage of loss (–) or profit (+) that resulted from the transaction?
a. (+)10          b. (–)1          c. (+)1          d. (–)10

**Directions for questions from 41 to 45:** Answer the questions based on the following information.
A series $S_1$ of five positive integers is such that the third term is half the first term and the fifth term is 20 more than the first term. In series $S_2$, the nth term defined as the difference between

the (n+1) term and thenth term of series $S_1$, is an arithmetic progression with a common difference of 30.

41. First term of $S_1$ is
a. 80　　　　b. 90　　　　c. 100　　　　d. 120

42. Second term of $S_2$ is
a. 50　　　　b. 60　　　　c. 70　　　　d. None of these

43. What is the difference between second and fourth terms of $S_1$?
a. 10　　　　b. 20　　　　c. 30　d. 60

44. What is the average value of the terms of series $S_1$?
a. 60　　　　b. 7.　　　　c. 80　　　d. Average is not an integer

45. What is the sum of series $S_2$?
a. 10　　　　b. 20　　　　c. 30　　　　d. 40
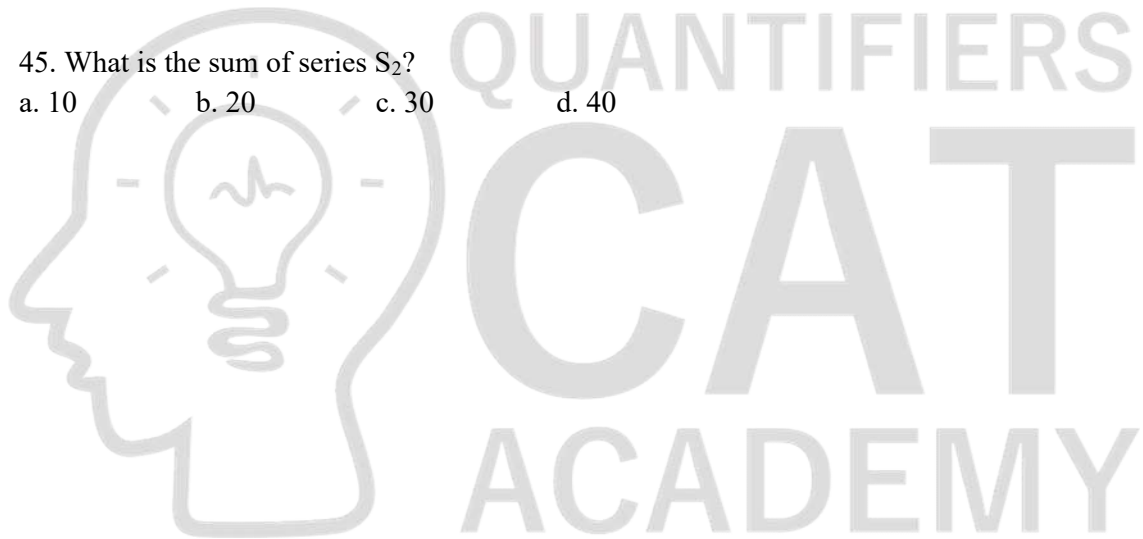
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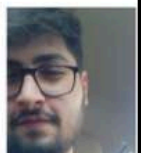
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**SOLUTIONS**

1. Correct Answer: a
Starts with telling how women handle pain better thanmen. Given example of child birth in A followed byconsequences in B, D states that men in authors' life donot take painkillers, C tells about their complaining.

2. Correct Answer: a
D States the position now, as opposed to a 'few yearsago' mentioned in 1. B makes a comparison with a similarsituation which A continues with. C asks a question that is answered by 6.

3. Correct Answer: a
A talks about where the wedding took place, C stateswho all attended marriage, D tells us about the bride andB states that little is known about her, a fact that is continued in 6.

4. Correct Answer: b
D states that in addition to being unlucky in love, LizTaylor is unlucky in law too. C states the reason for thatobservation, A states the consequences of C and Bstates what the lawsuit was about.

5. Correct Answer: c
A tells us who Chambers was, D states why he had appeared before the Committee, C states Hiss' reactionto charges against him. B states that Nixon arranged ameeting between the two, and 6 continues with what had happened at the meeting.

6. Correct Answer: a
A gives some names of the guitar heroes, C adds to thelist, B states why these musicians were popular and Dstates why their popularity came down.

7. Correct Answer: a
A states that though oceans are the cradles of life, wasteis dumped into them, C talks about the results of thesame, B continues with it and D concludes that man has caused these problems.

8. Correct Answer: a
D tries to answer the question raised in 1, B simplifiesthe statement made in D, C further simplifies it and A talksabout the position of ordinary citizens regarding the issue, which is continued in 6.

9. Correct Answer: c

B answers the question raised in 1, D gives a reason forthe stand taken by the analysts regarding the newmachine, C highlights that a desktop computer can comejust for $2,000 in America, and A states a disadvantage of these computers.

10. Correct Answer: b
B states Clarke's determination to make stained glassmore popular, A states his success in the mission, D talksabout his two projects and C elaborates on the firstproject while 6 talks about the second.

11. Correct Answer: b
All others have a quality of excitement in them.

12. Correct Answer: b
All others refer to a flow of a liquid.

13. Correct Answer: b
All others refer to deception in some form.

14. Correct Answer: c
All others are modes of transport.

15. Correct Answer: d
All others refer to a break in a continuous action.

16. Correct Answer: a
The first pair shows two states of matter and the secondpair gives examples of those states.

17. Correct Answer: b
The first word of each pair refers to breaking up ofsomething and the second pair refers to joining of something.

18. Correct Answer: a
Both are pairs of antonyms.

19. Correct Answer: a
Bricks put together make a building, just as words put together make a dictionary.

20. Correct Answer: c
Both are pairs of antonyms.

21. Correct Answer: b

In both the pairs, the first is interrupted or followed bythe second.

22. Correct Answer: a
Using words in a wrong place is malapropism and placingsomething in a wrong period of time is anachronism.

23. Correct Answer: d
Anterior means front and posterior means rear.

24. Correct Answer: b
This is the only phrase that fits here.

25. Correct Answer: a
'Even if I have tears in me' goes perfectly with 'I have to keep smiling'.

26. Correct Answer: b
Stock markets indicate public sentiment, not just confidence.

27. Correct Answer: c
'Few will know about' is the most concise way to express the meaning.

28. Correct Answer: b
It is a well-known saying in English.

29. Correct Answer: b
Its haunting images refers to the haunting images of the movie.

30. Correct Answer: a
No other choice states why they are tied to Moscow.

31. Correct Answer: a
The sentence refers to the people who are 'physicallylooked after' by the welfare aid. No other choice statesthe involvement of welfare aid.

32. Correct Answer: b
The best possible and logical answer is (b) combining realistic details.

33. Correct Answer: c
The given phrase obviously refers to the answer to thequestion that is bothering the author.

34. Correct Answer: a

The original phrase is best suited here.

35. Correct Answer: c
The sentence means that any other action will most probably lead to failure.

36. Correct Answer: c
If all copper is used for pins and some tin is also copper, then it follows that some pins are made of tin.

37. Correct Answer: a
If all birds lay eggs and ostrich is a bird, it follows that ostrich also lays eggs.

38. Correct Answer: b
If all wood is good and all wood is paper, it follows thatsome paper is also good.

39. Correct Answer: a
If all bricks are tricks and all tricks are shrieks, then some shrieks should be bricks.

40. Correct Answer: a
If all sandal is band and all band is sand, it follows that some sand is band.

41. Correct Answer: d
All life is strife and all that is wife is life; therefore, all wife is also strife.

42. Correct Answer: d
All owls are mosquitoes but some owls are flies, therefore, some flies are also mosquitoes.

43. Correct Answer: a
Six is five but some six is twelve, therefore some twelve is also five.

44. Correct Answer: a
Although this doesn't seem convincing, but if we look atit from purely logical point of view, then if poor girls wantto marry rich boys, and rich boys want to marry rich girls, then logically poor girls want to marry rich girls.

45. Correct Answer: c
D introduces Sylvestor Stallone as being a successfulman, B states the condition of his daughter as a contrastto his career, C states that the condition might correctitself and A states that in spite of the possible cure, how the girl might suffer.

46. Correct Answer: c

D introduces one of the twelve labours of Hercules, Bstates the problem involved in the task, A states how theproblem could be tackled and C states how Herculesfinally accomplished the task.

47. Correct Answer: a
A makes a statement that is proved by an example in D.B shows the reaction of Jodie Foster to the given factand C continues with it.

48. Correct Answer: a
D introduces JP Morgan as one of the largest bankinginstitutes, B states some facts to corroborate it, A tells usabout how it makes its business decisions and C statesthe importance of JP Morgan's proprietary related data.

49. Correct Answer: a
A states an offer being made by the Saheliprogramme, Cstates that it will include all sorts of topics, B furtherstates what the participants will learn, and D states thatthe tour would also include some sightseeing.

50. Correct Answer: d
A states that something magical is happening to our planet, C states what it is, B states what it is being called bysome people and D states what others are calling it.

**SECTION-2 VARC**

1. Correct Answer: b
The passage is about how capitalism has led to disintegration of labour.

2. Correct Answer: b
The author feels that Adam Smith boasted about something that was actually undesirable.

3. Correct Answer: d
It takes much less time to make pins by machines today.

4. Correct Answer: b
Pins are so cheap that a child stealing it would not evenfeel that he is actually stealing something.

5. Correct Answer: a
The author is clearly against machines taking the place of men.

6. Correct Answer: c
Adam Smith was a supporter of mass production.

7. Correct Answer: b
The statement means that as people get richer, they lose out on individual abilities.

8. Correct Answer: c
He is attacking this fact by making fun of it.

9. Correct Answer: d
None of the given statements continue with what theauthor has said in the last paragraph.

10. Correct Answer: a
The passage refers to the British Government as the'Empire', and talks about the way it takes over foreign territories.

11. Correct Answer: a
The author says that simple tribes are often friendly and honest.

12. Correct Answer: c
Trade of finished products falls under the capital freshly saved.

13. Correct Answer: d

He says that the civilized empire grows at the expenseof the home tax payers, without any intention or approval on their parts.

14. Correct Answer: b

Civilized countries practise protection, which means thereis an imposition of heavy taxes on imported goods.

15. Correct Answer: a

'Officious' means 'self-important'.

16. Correct Answer: c

Though they seem to come with the intention of trade, soon gun boats follow and a government is set up by the capitalists in the new land.

17. Correct Answer: b

He perceives no sign of a revolution in ethical matters.

18. Correct Answer: c

The author finds no reason why the doctrines of Darwin should change our moral ideas.

19. Correct Answer: c

The Chief Good refers to the welfare of the community realized in its members.

20. Correct Answer: b

He advocates a return to a non-Christian and perhaps a Hellenic ideal.

21. Correct Answer: a

The moral code of Christianity has been rejected by all except fanatics.

22. Correct Answer: d

The passage is obviously against all the subsidies.

23. Correct Answer: d

The author believes that actually the poor pays for the subsidies and most subsidies go to the rich.

24. Correct Answer: a

Utopia is an imaginary perfect world.

25. Correct Answer: b

The author believes that subsidies do more harm than good.

26. Correct Answer: d
All are victims of subsidies.

27. Correct Answer: a
Deve Gowda's government has shown some courage when it came to petroleum prices.

28. Correct Answer: a
The passage is about the fact that ultimately subsidies are not really beneficial.

29. Correct Answer: c
Experts call inflation and not subsides the most regressive form of taxation. Refer paragraph second line 6.

30. Correct Answer: d
They had nuclei in a less differentiated state.

31. Correct Answer: a
The contention has been proved to be true.

32. Correct Answer: c
There is prevalence of uninucleate cells.

33. Correct Answer: b
Nuclei of a binucleate cell serve as a source of hereditary information.

34. Correct Answer: d
The function of the crystalline layer has not been mentioned in the passage.

35. Correct Answer: c
A lobate form provides a much greater surface area for nuclear cytoplasmic exchanges.

36. Correct Answer: b
Fungi are multinucleate because the cross walls are either absent or irregularly present.

37. Correct Answer: b
Drug addiction has not been mentioned as a reason for poverty.

38. Correct Answer: c
Such people need extraordinary talent to become rich.

39. Correct Answer: d

Ambitious people have not been mentioned as the ones likely to get rich quickly.

40. Correct Answer: c
The author says that there is no way by which to judge the goodness or badness of a person.

41. Correct Answer: b
He rejects the notion that the wealth is distributed according to merit and feels that it is biased in favour of the rich.

42. Correct Answer: c
The author refers to someone as ' intelligent lady' implying that he is probably writing to someone.

43. Correct Answer: a
'Improvidence' means spending too much of money.

44. Correct Answer: b
The example proves that might scores over love and religion.

45. Correct Answer: c
He has been referred to as the umpire, and the passage also mentions the assertiveness being shown by the Election Commission regarding code of conduct during the elections.

46. Correct Answer: b
The passage is about an issue-less election, as highlighted even by the last sentence of the passage.

47. Correct Answer: d
Ramakrishna Hegde's involvement in any alleged corruption case has not been mentioned in the passage.

48. Correct Answer: d
All the parties have failed to submit audited returns every year.

49. Correct Answer: a
The greater awareness among the public has not been credited with the changes coming in the system.

50. Correct Answer: b
The empowerment of women has not been mentionedas a possible issue of the elections.

**SECTION-3 QUANT**

1. Correct Answer: c
Amount invested on B, C, D and E in year 1
= 4.6 + 5.8 + 3.11 + 10.6 = 24.11
Amount invested on B, C, D and E in year 3
= 18.7 + 21.2 + 7.7 + 29.8 = 77.4
∴ Percentage increase
$= \frac{77.4 - 24.11}{24.11} \times 100 = 221\%$

2. Correct Answer: b
Company E's investment for years 1 to 3
= 10.6 + 17.4 + 29.8 = 57.8
Company F's investment for years 1 to 3
= 7.8 + 25.3 + 60.1 = 93.2
∴ Ratio = 57: 93 = 19: 31

3. Correct Answer: c
Total investment in year 2
= 6.7 + 7.5 + 12.5 + 5.6 + 17.4 + 25.3 = 75
D's contribution in year 2 = 5.6
∴ Percentage contribution = 5.6 /75 =7.4%

4. Correct Answer: d
As we can see from the table, none of the
investments increase from year 1 to 3.
Hence, none of these

5. Correct Answer: b
In year 2,
A + B + C = 6.7 + 7.5 + 12.5 = 26.7
D + E + F = 5.6 + 17.4 + 25.3 = 48.3
Percentage difference = $\frac{48.3 - 26.7}{26.7}$ = 80.8% = 81%

6. Correct Answer: b
For the number to be divisible by 9, the sum of the digitsshould be a multiple of 9.
We find that the sum of all the digits (excluding A and B)
= (7 + 7 + 4 + 9 + 5 + 8 + 9 + 6) = 55. The next higher
multiple of 9 is 63 or 72.

Hence, the sum of A and B should either be 8 or 17. We find that (a) and (c) cannot be the answer.

For a number to be divisible by 8, the number formed by its last three digits should be divisible by 8. The last three digits are 96B. The multiples of 8 beginning with 96 are 960 and 968. Hence, B can either be 0 or 8. Both of which satisfy our requirement of the number being divisible by 9 as well. Therefore, A and B could either be 0 and 8 or 8 and 0 respectively.
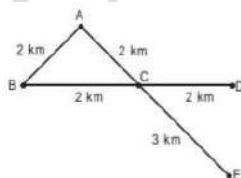
7. Correct Answer: a

If we simplify the expression $x2 - 3x + 2 > 0$, we get $(x - 1)(x - 2) > 0$. For this product to be greater than zero, either both the factors should be greater than zero or both of them should be less than zero. Therefore,

$(x - 1) > 0$ and $(x - 2) > 0$ or $(x - 1) < 0$ and $(x - 2) < 0$.

Hence, $x > 1$ and $x > 2$ or $x < 1$ and $x < 2$. If we were to

club the ranges, we would get either $x > 2$ or $x < 1$. So

for any value of x equal to or between 1 and 2, the

above equation does not follow.

For questions 8 and 9:

8. Correct Answer: a



If there is a shop at C, all A, B, C and D are within 2 km range. Another shop is needed for E. Hence, 2 shops are required.

9. Correct Answer: a

If there is a shop at C; all A, B, D and E are within 3 km range. Hence, 1 shop is required.

10. Correct Answer: b

Since each side of the smaller cube is 3 cm, it can be figured out that each face of the original cube is divided into 4 parts, or in other words, the original cube is divided into 64 smaller cubes. For a smaller cube to have none of its sides painted, it should not be a part of the face of the original cube (i.e. none of its faces should be exposed).
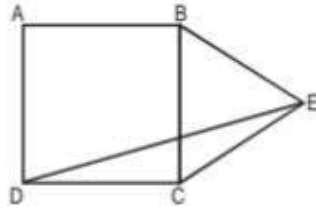
We can find at the centre of the original cube there are

$(2 \times 2 \times 2) = 8$ such cubes



Hint: Students, please note that the answer can only be a cube of some integer. The only cube among the answer choices is $(2)^3 = 8$.

11. Correct Answer: a



Since ΔBCE is an equilateral triangle, CE = BC = BE.
And since ABCD is a square, BC = CD. Hence, CD = CE.
So, in ΔCDE, we have CD = CE. Hence, ∠EDC = ∠CED.
Now ∠BCE = 60° (since equilateral triangle) and
∠BCD = 90° (since square).
Hence, ∠DCE = ∠DCB + ∠BCE = (60 + 90) = 150°.
So, in ΔDCE, ∠EDC + ∠CED = 30° (since three angles of
a triangle add up to 180°). Hence, we have ∠DEC
= ∠EDC = 15°.


12. Correct Answer: a
Let the price per meter of cloth be Re 1. The shopkeeperbuys 120 cm, but pays for only 100 cm. In other words,
he buys 120 cm for Rs. 100. So his CP = 100/120
= Re 0.833 per metre. Now he sells 80 cm, but
charges for 100 cm. In other words, he sells 80 cm for
Rs. 100. On this he offers a 20% discount on cash
payment. So, he charges Rs. 80 for 80 cm cloth. In
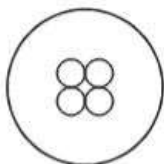other words, his SP
= 80/80
= Re 1 per metre. So, his percentage profit in
the overall transaction $= \frac{1-0.833}{0.833}$
= 20%.


13. Correct Answer: c
Area of the original paper = π(20)²



= 400π cm². The totalcut portion area = 4(π)(5)²
= 100π cm². Therefore, areaof the uncut (shaded) portion = (400 – 100) = 300π cm²

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.
Hence, the required ratio = 300$\pi$: 100$\pi$ = 3: 1.

14. Correct Answer: c
As it can be seen from the diagram, because of the
thickness of the wall, the dimensions of the inside of thebox is as follows: length = (21 – 0.5
– 0.5) = 20 cm, width= (11 – 0.5 – 0.5) = 10 cm and height = (6 – 0.5) = 5.5 cm.



When seen from top

When seen from front
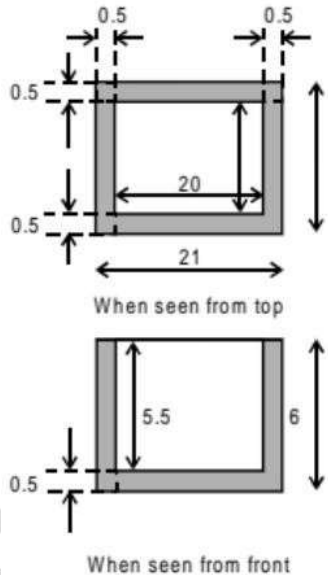
Total number of faces to be painted = 4 walls + one base(as it is open from the top).
The dimensions of two of the walls = (10 × 5.5), that of
the remaining two walls = (20 × 5.5) and that of the base= (20 × 10).
So, the total area to be painted = 2 × (10 × 5.5) + 2 × (20
× 5.5) + (20 × 10) = 530 cm².
Since the total expense of painting this area is Rs. 70,
the rate of painting = 70/530= 0.13 = Re 0.1 per sq.cm.
(approximately).

15. Correct Answer: d
M(M(A(M(x, y), S(y, x)), x), A(y, x)) = M(M(A(M(2, 3),
S(3, 2)), 2), A(3, 2)) = M(M(A((2x3), (3 - 2)), 2), A(3, 2))
= M(M(A(6, 1), 2), A(3, 2)) = M(M((6 + 1), 2), (3 + 2))
= M(M(7, 2), 5) = M((7 × 2), 5) = M(14, 5) = (14 × 5) = 70.

16. Correct Answer: b
 S[M(D(A(a,b),2),D(A(a,b),2)),M(D(S(a,b),2), D(S(a,b),2))]
= S[M(D((a + b),2),D((a + b),2)),M(D((a – b),2),
D((a – b),2))] =

$S[M\{(a+b)/2,(a+b)/2\},M\{(a-b)/2,(a-b)/2\}]$
$S[\{(a+b)/2\}^2,\{(a-b)/2\}^2] = \{(a+b)/2\}^2 - \{(a-b)/2\}^2$
$4ab/4 = ab$

17. Correct Answer: c
Let the original weight of the diamond be 10x. Hence, itsoriginal price will be $k(100x^2)$ . . . where k is a constant.
The weights of the pieces after breaking are x, 2x, 3x
and 4x. Therefore, their prices will be $kx2$, $4kx^2$, $9kx^2$
 and$16kx^2$. So the total price of the pieces = $(1 + 4 + 9 + 16)kx^2 = 30kx^2$. Hence, the difference in the price of the originaldiamond and its pieces = $100kx^2 - 30kx^2$
 = $70kx^2$
 = 70000.
Hence, $kx^2$
 = 1000 and the original price = $100kx^2$
= $100 \times 1000 = 100000$ = Rs. 1 lakh.

18. Correct Answer: c
$n(n^2-1) = (n-1)n(n+1)$. If you observe, this is theproduct of three consecutive integers with middle onebeing an odd integer. Since there are two consecutiveeven numbers, one of them will be a multiple of 4 and theother one will be multiple of 2. Hence, the product will bea multiple of 8. Also, since they are three consecutiveintegers, one of them will definitely be a multiple of 3.
Hence, this product will always be divisible by
$(3 \times 8) = 24$.
Hint: Students, please note if a number is divisible by 96,it will also be divisible by 48 and 24. Similarly, if a numberis divisible by 48, it is will always divisible by 24. Sincethere cannot be more than one right answers, we cansafely eliminate options (a) and (b).

19. Correct Answer: b
The radius of the circle is 6.5 cm. Therefore, its diameter= 13 cm and AB = 13 cm. Since the diameter of a circlesubtends 90° at the circumference, ∠ACB = 90°. So∆ACB is a right-angled triangle with AC = 5, AB = 13.
Therefore, CB should be equal to 12 cm (as 5-12-13
form a Pythagorean triplet).
Hence, the area of the triangle = ½ × AC × CB = ½ × 5
× 12 = 30 sq.cm

20. Correct Answer: b
Total expense incurred in making 1,500 120. b Total expense incurred in making 1,500 watches

= (1500 x 150) + 30000 = Rs. 2,55,000.
Total revenue obtained by selling 1,200 of them during
the season = (1200 × 250) = Rs. 3,00,000. The remaining300 of them has to be sold by him during off season. Thetotal revenue obtained by doing that = (300 × 100)= Rs. 30,000. Hence, total revenue obtained= (300000 + 30000) = Rs. 3,30,000. Hence, total profit= (330000 – 255000) = Rs. 75,000.

21. Correct Answer: b
From the previous solution, we can see that the totalexpense incurred by him in manufacturing 1,500 watches= Rs.2,55,000. In order to break-even, he has to make aminimum revenue in order to recover his expenditure. Hegets Rs. 250 per watch sold and Rs. 100 on every watchnot sold. Let him sell x watches to break-even. So ourequation will be $250x + 100(1500 – x) = 255000$. Solvingthis, we get $x = 700$ watches.

22. Correct Answer: a
Since I paid Rs. 20 and because of lack of change, theclerk gave me Rs. 3 worth of stamps, it can be concludedthat the total value of the stamp that I wanted to buy isRs. 17. Since I ordered initially a minimum of 2 stamps ofeach denominations, if I buy exactly 2 stamps each, mytotal value is $2(5 + 2 + 1)$ = Rs. 16. The only way in whichI make it Rs. 17 is buying one more stamp of Re 1. Hence, the total number of stamps that I ordered= $(2 + 2 + 3) = 7$. In addition, the clerk gave me 3 more.
Hence, the total number of stamps that I bought = $(7 + 3) = 10$ (viz. 2 five-rupee, 2 two-rupee and 6 one-rupee stamps).

23. Correct Answer: c
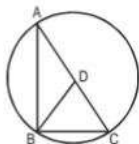


In a right-angled triangle, the length median to the hypotenuse is half the length of the hypotenuse. Hence, BD = ½AC = 3 cm. This relationship can be verified by knowing that the diameter of a circle subtends a right angle at the circumference e.g. in the above figure D is the center of the circle with AC as diameter. Hence, ∠ABC should be 90°. So, BD should be the median to the hypotenuse. Thus, we can see that BD = AD = CD = Radius of this circle. Hence, BD = ½ diameter = ½ AC = ½hypotenuse.

**For questions 24 and 25:**
Hint: Students, please note that this sum could be
intelligently solved by looking at both the questions
together and also the answer choices. We know that the inventory has reduced by 54 units. This means two things: (i) actual quantity sold was less than the figure that was entered the

computer (i.e. after interchanging digits), so the unit's place digit of the actual quantity soldshould be less than its ten's place digit; and (ii) thedifference between the actual quantity sold and the onethat was entered in the computer is 54.

From question 25, we can figure out that the only answer choice thatsupports both these conditions are (a), as (82 – 28 = 54).

So, the actual quantity sold = 28. Now since the total sales is Rs.1,148, actual price per piece = 1148/28

= Rs.41. Hence, the answer to question 24 is (b).

24. Correct Answer: b

25. Correct Answer: a

26. Correct Answer: b

We are supposed to find out what fraction of the population has exactly one among the two (since eithercable TV or VCR indicates they do not have both). Now ⅔ of the people have cable TV, of whom ⅒of peoplealso have VCR. Hence, fraction of population having only cable TV $= \left(\frac{2}{3} - \frac{1}{10}\right) = \frac{17}{30}$. Also, ⅕ of the peoplehave VCR, of whom ⅒of people also have cable TV. Hence, fraction of people having only VCR $= \left(\frac{1}{5} - \frac{1}{10}\right) = \frac{1}{10}$. The total fraction of the people who either have cable TV or VCR $= \left(\frac{17}{30} + \frac{1}{10}\right) = \frac{2}{3}$

27. Correct Answer: b

$$\cfrac{1}{1+\cfrac{1}{3-\cfrac{4}{2+\cfrac{1}{3-\frac{1}{2}}}}} + \cfrac{3}{3-\cfrac{4}{3+\cfrac{1}{2-\frac{1}{2}}}}$$

$$= \cfrac{1}{1+\cfrac{1}{3-\cfrac{4}{2+\frac{2}{5}}}} + \cfrac{3}{3-\cfrac{4}{3+\frac{1}{\frac{3}{2}}}}$$

$$= \cfrac{1}{1+\cfrac{1}{3-\cfrac{4}{\frac{12}{5}}}} + \cfrac{3}{3-\cfrac{4}{3+\frac{1}{\frac{3}{2}}}}$$

$$= \cfrac{1}{1+\cfrac{1}{3-\frac{5}{3}}} + \cfrac{3}{3-\cfrac{4}{3+\frac{2}{3}}} = \cfrac{1}{1+\cfrac{1}{\frac{4}{3}}} + \cfrac{3}{3-\cfrac{4}{\frac{11}{3}}}$$

$$= \cfrac{1}{1+\frac{3}{4}} + \cfrac{3}{3-\frac{12}{11}} = \cfrac{1}{1+\frac{3}{4}} + \cfrac{3}{3-\frac{12}{11}} = \cfrac{1}{\frac{7}{4}} + \cfrac{3}{\frac{21}{11}}$$

$$= \frac{4}{7} + \frac{11}{7} = \frac{15}{7}$$

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28. Correct Answer: d

If we write the given equation in the conventional form, i.e. $ax^2 + bx + c$, $a = 1$, $b = -(A - 3)$, i.e. $(3 - A)$ and $c = -(A - 2)$, i.e. $(2 - A)$. Let the roots of this equation be $\alpha$ and $\beta$. So the sum of the squares of the roots $= \alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$.

Now $(\alpha + \beta) = $ Sum of the roots $= \dfrac{-b}{a}$

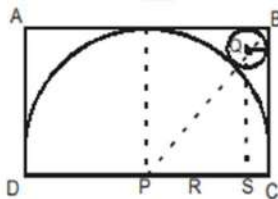$= \dfrac{(A - 3)}{1} = (A - 3)$

and $\alpha\beta = $ Product of the roots $= \dfrac{c}{a}$

$= \dfrac{(2 - A)}{1} = (2 - A)$. Hence, $\alpha^2 + \beta^2 = (A - 3)^2 - 2(2 - A)$

$= A^2 - 4A + 5 = 0$. None of the answer choices matches this.

29. Correct Answer: d



Let radius of the semicircle be R and radius of the circle be r.

Let P be the centre of semicircle and Q be the centre of the circle.

Draw QS parallel to BC.

Now, $\triangle PQS \sim \triangle PBC$

$\therefore \dfrac{PQ}{PB} = \dfrac{QS}{BC}$

$\Rightarrow \dfrac{R + r}{\sqrt{2}R} = \dfrac{R - r}{R}$

$\Rightarrow R + r = \sqrt{2}R - \sqrt{2}r$

$\Rightarrow r(1 + \sqrt{2}) = R(\sqrt{2} - 1)$

$\Rightarrow r = R\dfrac{(\sqrt{2} - 1)}{(\sqrt{2} + 1)} \times \dfrac{(\sqrt{2} - 1)}{(\sqrt{2} - 1)}$

$\Rightarrow r = R(\sqrt{2} - 1)^2$

Required Ratio $= \dfrac{\pi r^2}{\pi R^2} \times 2$

$= \dfrac{\pi R^2(\sqrt{2} - 1)^4 \times 2}{\pi R^2}$

$= 2(\sqrt{2} - 1)^4 : 1$

30. Correct Answer: b

Let us look at the two equations. Let (5 pens + 7 pencils + 4 erasers) cost Rs. x. Hence, (6 pens + 14 pencils + 8 erasers) will cost Rs. 1.5x. Had, in the second case, Rajan decided to buy 10 pens instead of 6, the quantity of each one of them would have doubled over the first case and hence it would have cost me Rs. 2x. So (10 pens + 14 pencils + 8 erasers) = Rs. 2x. Now subtracting the second equation from the third, we get 4 pens cost Rs. 0.5x. Since 4 pens cost Re 0.5x, 5 of them will cost Re 0.625x. This is the amount that I spent on pens. Hence, fraction of the total amount paid = 0.625 = 62.5%.
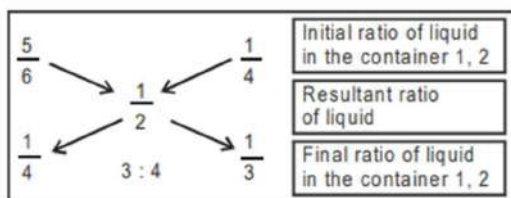
31. Correct Answer: d
In a mile race, Akshay can be given a start of 128 m by Bhairav. This means that Bhairav can afford to start after Akshay has travelled 128 m and still complete one mile with him. In other words, Bhairav can travel one mile, i.e. 1,600 m in the same time as Akshay can travel (1600 – 128) = 1,472 m. Hence, the ratio of the speeds of Bhairav and Akshay = Ratio of the distances travelled by them in the same time =1600/1472 = 25: 23. Bhairav can give Chinmay a start of 4 miles. This means that in the time Bhairav runs 100 m, Chinmay only runs 96 m. So the ratio of the speeds of Bhairav and Chinmay = 100/96 = 25: 24.
Hence, we have B: A = 25: 23 and B: C = 25: 24. So A: B: C = 23: 25: 24. This means that in the time Chinmay covers 24 m, Akshay only covers 23 m. In other words, Chinmay is faster than Akshay. So if they race for 1 (1/2) miles = 2,400 m, Chinmay will complete the race first and by this time Akshay would only complete 2,300 m. In other words, Chinmay would beat Akshay by 100 m = 1/16 mile.

32. Correct Answer: d
We can solve this by alligation. But while we alligate, we have to be careful that it has to be done with respect to any one of the two liquids, viz. either A or B. We can verify that in both cases, we get the same result. e.g. the proportion of A in the first vessel is 5/6 and that in the second vessel is ¼, and we finally require ½ parts of A. Similarly, the proportion of B in the first vessel is 1/6, that in the second vessel is ¾ and finally we want it to be ½.
With respect to liquid A



With respect to liquid B
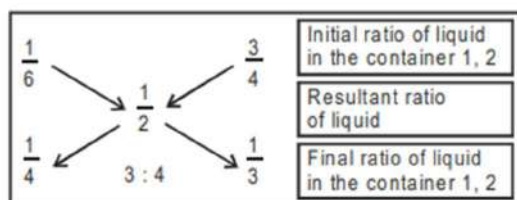
## 33. Correct Answer: c

Let the total distance be x. So the man travels a distance

$\frac{3x}{5}$ at a speed 3a. Therefore, total time taken to travel

this distance $= \frac{3x}{(15a)} = \frac{x}{(5a)}$

$\left[ time = \frac{distance}{speed} \right]$

He then travels a distance $\frac{2x}{5}$ at a speed 2b. Hence,

time taken to travel this distance $= \frac{2x}{(10b)} = \frac{x}{(5b)}$. So

total time taken in going from A to B $= \frac{x}{(5a)} + \frac{x}{(5b)}$. Now

he travels from B to A and comes back. So total distance travelled = 2x at an average speed 5c.

Hence, time taken to return $= \frac{2x}{(5c)}$.

Since the time taken in both the cases remains the same,

we can write $\frac{x}{5a} + \frac{x}{5b} = \frac{2x}{5c}$.

Therefore, $\frac{1}{a} + \frac{1}{b} = \frac{2}{c}$.

## 34. Correct Answer: a

Total time taken by the man to travel from A to D = 16 hr and total distance travelled = 36 km. The time that he would have taken had he not rested in between will be $(16 - x - 2x) = (16 - 3x)$. But this time should be equal to the addition of the times that he takes to travel individual segments. This is given as

$\therefore \frac{12}{x} + \frac{12}{2x} + \frac{12}{4x} = \frac{84}{4x} = \frac{21}{x}$. Therefore, $\frac{21}{x} = (16 - 3x)$.

So we get the equation $3x^2 - 16x + 21 = 0$. Solving

this equation, we get x = 3 or x = $\frac{7}{3}$. This should be

the time for which he rested at B.

## 35. Correct Answer: a

The team has played a total of (17 + 3) = 20 matches.

This constitutes $\frac{2}{3}$ of the matches. Hence, total number

of matches played = 30. To win $\frac{3}{4}$ of them, a team has to

win 22.5, i.e. at least win 23 of them. In other words, the team has to win a minimum of 6 matches (since it has already won 17) out of remaining 10. So it can lose a maximum of 4 of them.

**36. Correct Answer: c**

This can simply be solved by multiplying the two multiplication factors to get the effective multiplication factor. e.g. multiplication factor for 30% increase = 1.30. Multiplication factor for 20% decrease = 0.8. Hence, 1.30 × 0.8 = 1.04. This multiplication factor (i.e. 1.04) indicates that there is a 4% increase in total revenue. So the answer is +4.

**Alternative method:**

By using the formula $x + y + \dfrac{xy}{100}$

$\therefore$ x = +30%; y = − 20%

$\Rightarrow 30 + 60 + \dfrac{50(-20)}{100}$

$= 30 - 20 - 6 = +4\%$

**37. Correct Answer: d**

The three lines can be expressed as $Y = \dfrac{5}{3} - \dfrac{2X}{3}$,

$Y = \dfrac{5X}{7} + \dfrac{2}{7}$ and $Y = \dfrac{9X}{5} - \dfrac{4}{5}$. Therefore, the slopes of

the three lines are $\dfrac{-2}{3}, \dfrac{5}{7}$ and $\dfrac{9}{5}$ respectively and their

Y intercepts are $\dfrac{5}{3}, \dfrac{2}{7}$ and $\dfrac{4}{5}$ respectively. For any two

lines to be perpendicular to each other, the product of their slopes = −1. We find that the product of none of the slopes is −1. For any two be parallel, their slopes should be the same. This is again not the case. And finally for the two lines to be intersecting at the same point, there should be one set of values of (X, Y) that should satisfy the equations of 3 lines. Solving the first two equations, we get X = 1 and Y = 1. If we substitute this in the third equation, we find that it also satisfies that equation. So the solution set (1, 1) satisfies all three equations, suggesting that the three lines intersect at the same point, viz. (1, 1). Hence, they are coincident.

**38. Correct Answer: b**

Out of the 5 girls, 3 girls can be invited in $^5C_3$ ways. Nothing is mentioned about the number of boys that he has to invite. He can invite one, two, three, four or even no boys. Each boy can be invited or not. He can invite them in $2^4$ ways. Thus, the total number of ways is $^5C_3 \times (2)^4 = 10 \times 16 = 160$.

### 39. Correct Answer: b

In a watch that is running correct, the minute hand should cross the hour hand once in every $65 + \dfrac{5}{11}$ min. So they should ideally cross three times once in

$3 \times \left( \dfrac{720}{11} \right) = \dfrac{2060}{11}$ min = 196.36 min. But in the watch under consideration they meet after every 3 hr, 18 min and 15 s, i.e. $(3 \times 60 + 18 + \dfrac{15}{60}) = \dfrac{793}{4}$ min = 198.25 min. In other words, our watch is actually losing time (as it is slower than the normal watch). Hence, when our watch elapsed 198.25 min, it actually should have elapsed 196.36 min. So in a day, when our watch will elapse (60 × 24) = 1440, it should actually elapse $\left( 1440 \times \dfrac{196.36}{198.25} \right)$

= 1426.27. Hence, the amount of time lost by our watch in one day = (1440 − 1426.27) = 13.73, i.e. 13 min and 50 s (approximately).

### 40. Correct Answer: b

In this case, we need not use the data that SP = Rs. 300 each. This has to be used only to figure out that the SP of both the articles is the same. Also since the profit percentage on one is equal to the loss percentage on the other, viz. 10% effectively, it will be a loss given by

$\dfrac{(10)^2}{100}$ = 1%. Hence, the correct answer is (−)1.

**For questions 41 to 45:**

First series: $(S_1) = x,\ y,\ \dfrac{x}{2},\ z,\ x + 20$

Second series: $(S_2) = a_1, a_2, a_3, a_4$

Now $a_1 = y - x$, $a_2 = \dfrac{x}{2} - y$, $a_3 = z - \dfrac{x}{2}$

and $a_4 = x + 20 - z$

$a_2 - a_1 = 30$ gives $3x - 4y = 60$ ... (i)
$a_4 - a_3 = 30$ gives $3x - 4z = 20$ ... (ii)
and $a_4 - a_2 = 60$ gives $x - 2z + 2y = 80$ ... (iii)
Solving these equations we get the values of x = 100, y = 60, z = 70

$\therefore S_1 = 100, 60, 50, 70, 120$

$S_2 = -40, -10, 20, 50$

### 41. Correct Answer: c

### 42. Correct Answer: d

### 43. Correct Answer: a

### 44. Correct Answer: c

### 45. Correct Answer: b

**SECTION-4 DILR**

Questions 1 to 5: To handle this type of questions, the best way is to express the data in the tabular form.

| Year | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|------|------|------|------|------|------|------|------|
| Revenue | 120 | 130 | 145 | 165 | 185 | 200 | 220 |
| Expenditure | 102 | 110 | 115 | 125 | 135 | 140 | 150 |
| Profit | 20 | 25 | 30 | 40 | 50 | 60 | 70 |

1. Correct Answer: b

The average revenue collected in the given 7 years

$$= \frac{(120 + 130 + 145 + 165 + 185 + 200 + 220)}{7} = 166.42$$

which is approximately is Rs. 168 lakh.

2. Correct Answer: a

Expenses of 7 years add up to 877. Revenue of 7 years add up to 1165.

Hence, the required answer is $\frac{877}{1165} \approx \frac{880}{1170} \approx 75\%$.

3. Correct Answer: d

We need to find the profit in each year.

| Year | Profit percentage |
|------|-------------------|
| 1990 | (5/20) × 100 = 25% |
| 1991 | (5/25) × 100 = 20% |
| 1992 | (10/30) × 100 = 33.33% |
| 1993 | (10/40) × 100 = 25% |
| 1994 | (10/50) × 100 = 20% |
| 1995 | (10/60) × 100 = 16.66% |

From the above table, clearly, the answer is 1992, as in 1992 the profit is maximum, i.e. 33.33%.

4. Correct Answer: d

The growth in expenditure over the previous year can be expressed as:

| Year | Growth in expenditure |
|------|----------------------|
| 1990 | (8/202) × 100 = 7.8% |
| 1991 | (5/110) × 100 = 4.5% |
| 1992 | (10/115) × 100 = 8.7% |
| 1993 | (10/125) × 100 = 8% |
| 1994 | (5/135) × 100 = 3.7% |
| 1995 | (10/140) × 100 = 7.14% |

Hence, it is maximum for 1992.

5. Correct Answer: b

Profit in 1994 = 60. Profit in 1995 = 70. Growth percentage

in profit in 1995 over 1994 = $\left(\dfrac{10}{60}\right) \times 100 = 16.66\%$.

Profit in 1996 will be (16.66% of 70) + 70 = Rs. 82 lakh.

6. Correct Answer: a

Lipton production is 1.64 (in '000 tonnes) which corresponds to 64.8% capacity. Maximum capacity will be 100%. For 64.8% it is 1.64 . ∴ For 100% it will be

$\left(\dfrac{100}{64.8}\right) \times 1.64 = \dfrac{100}{65} \times 1.64 = 2.53$ (in '000 tonnes).

7. Correct Answer: d

This can be represented in the following manner:

| | Production ('000 tonnes) | Capacity utilisation (%) | Total capacity (100%) | Unutilised capacity |
|---|---|---|---|---|
| | A | sB | C = A/B ×100 | C - A |
| Brooke Bond | 2.97 | 76.50 | 3.88 | 0.912 |
| Nestle | 2.48 | 71.20 | 3.48 | 1.003 |
| Lipton | 1.64 | 64.80 | 2.53 | 0.89 |
| MAC | 1.54 | 59.35 | 2.59 | 1.05 |

Hence, we find that the maximum unutilised capacity is for MAC, viz. 1,050 tonnes.

8. Correct Answer: c

61.3 % ≡ 11.6

∴ 100% ≡ $\left(\dfrac{100}{61.3}\right) \times 11.6 = \left(\dfrac{100}{62}\right) \times 11.6 = 18.7$

≃ 18.7 tonnes (in '000)

9. Correct Answer: d

From the data that is given, we cannot say anything about the price of coffee for the companies among others.

10. Correct Answer: b

Total sales of all brands
= (31.15 + 26.75 + 15.25 + 17.45) = Rs. 90.6 crore
Total sales value of others = 132.8 − 90.6 = Rs. 42.2 crore

Required percentage = $\dfrac{42.2}{132.8} \times 100 = \dfrac{42}{132} \times 100$

= 31.18 ≃ 32%.

11. Correct Answer: b

Originally for the fifth month, 4 people were scheduled to do coding. This would have cost them (10000 × 4) = Rs. 40,000. Now there are 5 people who are working on design in the fifth month.
The total cost for this would be (20000 × 5) = Rs.1,00,000.
Hence, percentage change in the cost incurred in the

$$\text{fifth month} = \frac{(100000 - 40000)}{40000} \times 100 = 150\%.$$

12. Correct Answer: a
As given in the previous question, it can be seen that the coding stage is now completed in 6th, 7th and 8th months. Number of people employed in the 6th month is 4 and in the 8th month is 5. In the 7th month also there are 5 people employed (from previous data). Hence, if we were to combine these months, we find that the total cost incurred in the coding stage = (5 + 5 + 4) × 10000 = Rs.1,40,000.

13. Correct Answer: b
The difference in the cost will arise only because of the following months: 5, 6 and 8. And we can compare the costs as given below

| | | Original scheme | | | New scheme | |
| --- | --- | --- | --- | --- | --- | --- |
| Month | People | Cost per man/ month | Total cost for the month | People | Cost per man/ month | Total cost for the month |
| 5 | 4 | 10000 | 40000 | 5 | 20000 | 1,00,000 |
| 6 | 5 | 10000 | 50000 | 4 | 10000 | 40,000 |
| 8 | 4 | 10000 | 40000 | 5 | 10000 | 50,000 |
| | Total cost | | Rs. 1,30,000 | Total cost | | Rs. 1,90,000 |

It can be clearly seen that the difference in the cost between the old and the new technique is Rs. 60,000.

14. Correct Answer: d
The cost incurred in various stages under the present scheme is as given below.

| | Month | People | Cost per man/ month | Total cost for the month | Total cost for the stage |
| --- | --- | --- | --- | --- | --- |
| Specification | 1 | 2 | 40000 | 80000 | Rs. 2,00,000 |
| | 2 | 3 | 40000 | 120000 | |
| Design | 3 | 4 | 20000 | 80000 | Rs. 2,40,000 |
| | 4 | 3 | 20000 | 60000 | |
| | 5 | 5 | 20000 | 100000 | |
| Coding | 6 | 4 | 10000 | 40000 | Rs. 1,40,000 |
| | 7 | 5 | 10000 | 50000 | |
| | 8 | 5 | 10000 | 50000 | |
| Testing | 9 | 4 | 15000 | 60000 | Rs. 75,000 |
| | 10 | 1 | 15000 | 15000 | |
| Maintenance | 11 | 3 | 10000 | 30000 | Rs. 90,000 |
| | 12 | 3 | 10000 | 30000 | |
| | 13 | 1 | 10000 | 10000 | |
| | 14 | 1 | 10000 | 10000 | |
| | 15 | 1 | 10000 | 10000 | |

Hence, the most expensive stage is Design.

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**15. Correct Answer: c**

If we look at the above table again, it is clear that the average cost for 5 consecutive month period is lowest for months 11 to 15.

**16. Correct Answer: d**

Total investment in the two districts in 1995
= 2932.1+ 7081.6 $\approx$ 10,000.
Total investment in the two districts in 1996
= 3489.5 + 8352 = 11840.

Required percentage = $\frac{(11840 - 10000)}{10000} = 18$ %.

**17. Correct Answer: b**

Total investment in electricity and thermal energy in both the districts in 1995 = (815.2 + 632.4 + 2065.8 + 1232.7) = 4746.1. Total investment made in that year = 2923.1 + 7081.6 = 10004.7 $\approx$ 10000

Hence, required percentage is $\frac{4746.1}{10,000} = 47\%$.

**18. Correct Answer: b**

Percentage increase in investment in electricity

$= \frac{300}{2070} = 14\%$. Percentage increase in investment in

chemical $= \frac{(986.4 - 745.3)}{745.31} \times 100 = \frac{240}{745} = 32\%$.

Percentage increase in investment in solar

$= \frac{428.6}{1792.1} \approx \frac{430}{1792} = 23\%$

Percentage increase in investment in nuclear

$= \frac{507.8}{1674.3} \approx \frac{500}{1670} = 29\%$. Clearly percentage increase

in investment in chemical is the highest.

**19. Correct Answer: c**

Total investment in Chittoor = 2923.1 + 3489.5 = 6412.6 $\approx$ 6410. Total investment in Khammam = 7081.6 + 8352

$\approx$ 15430. Required ratio = $\left(\frac{15430}{6410}\right) = 2.4$. times.

**20. Correct Answer: a**

Percentage increase in the total investment in Khammam

in 1996 = $\left(\frac{(8352 - 7081.6)}{7081.6}\right) \times 100 = \frac{1270}{7080} = 18\%$

Total investment in Khammam in 1997 will be 1.18 × 8352
= 9855.36 $\approx$ 9850

**21. Correct Answer: a**

By observation gap between the Cost and the Sales is the highest in September. Thus, the highest profit is recorded in September.

**22. Correct Answer: d**

By observation difference between the Cost in March and May is the highest. Thus, in May total increase in Cost is the highest as compared to two months ago.

23. Correct Answer: d
By observation difference between the Cost in March and May is the highest. Also, the Sales in March is less as compared to the following months. Thus, in May percentage increase in sales two months before the highest.

24. Correct Answer: d
By observation increase in the number of employees from January to March is the less than the increase in profit from January to March. Thus, profit per employee is the highest in March

25. Correct Answer: b
From January to November the number of employees that company takes = (16 – 11) × 1000 = 5000.

26. Correct Answer: c

| Year | Number of students employed | Number of students employed from finance | Number of students employed from marketing |
|------|------|------|------|
| 1992 | 800 | 0.22 × 800 = 176 | 0.36 × 800 = 288 |
| 1993 | 640 | 0.17 × 650 = 110.5 | 0.48 × 650 = 312 |
| 1994 | 1100 | 0.23 × 1100 = 253 | 0.43 × 1100 =473 |
| 1995 | 1200 | 0.19 × 1200 = 228 | 0.37 × 1200 = 444 |
| 1996 | 1000 | 0.32 × 1000 = 320 | 0.32 × 1000 = 320 |
|  |  | 1087.5 | 1837 |

∴ Difference in number of students employed from finance and marketing = 1837 − 1087.5 = 749.5 ≈ 750.

27. Correct Answer: d
Percentage increase in the average salary of finance

$$= \frac{9810 - 5450}{5450} \times 100 = 80\%$$

28. Correct Answer: c
Average annual rate at which the initial salary offered in software increases

$$= \frac{1}{4}\left[\frac{(8640 - 5290)}{5290} \times 100\right] = 15.83\% \approx 15.9\%$$

29. Correct Answer: a
By observation gap between the Cost and the Sales is the highest in September. Thus, the highest profit is recorded in September.

30. Correct Answer: b

| Year | Number of candidates employed from finance | Number of candidates employed from software |
|------|---------------------------------------------|----------------------------------------------|
| 1994 | 0.23 × 1100 = 253 | 0.21 × 110 = 231 |

Students seeking jobs in finance earned = 253 × 7550
= Rs. 16,28,550
Difference in the amount earned = 1910150 − 1628550
= Rs. 2.81 lakh per month
= Rs. 33.8 lakh per annum.

**31. Correct Answer: a**
None of the statements is useful in finding the radius of the rear wheel. In the question, distance travelled is given. But the number of rotations taken by it is not given.

**32. Correct Answer: a**
Given that containers are in equal volume, that does not mean that quantities in each container are in equal volumes. Since we do not know the quantity of the liquid, we cannot find the ratio of the final mixture.

**33. Correct Answer: d**
This question can be answered by using two statements.
Given $(a - b + c) > (a + b - c)$.
It is nothing but is $(-b + c) > (b - c)$.
Since b is negative and c is positive, $\Rightarrow c > b$ Using both statements $c > 0$ $b < 0$ $c > b$
So always $(a - b + c) > (a + b - c)$.

**34. Correct Answer: d**
Using statement II

$$2\alpha\beta = \frac{c}{a} = \alpha\beta$$

$\Rightarrow \alpha = 0$ or $\beta = 0$ or $\alpha$ and $\beta = 0$
Hence, cannot be answered.

**35. Correct Answer: a**
Both the statements are telling the same, that selling price is 75% of cost price. So we cannot determine the actual cost of the article.

**36. Correct Answer: c**
By using statement II, we can determine the selling price of the article. Selling price $= 1.25 \times 250 = 312.5$ But by using statement I we cannot determine the selling price.

**37. Correct Answer: a**
The question cannot be answered until and unless number of concurrent lines are known.

**38. Correct Answer: d**
Both the statements are needed to answer the questions. Since in statement I all the dates are given except the time to compound the interest. That date is given in the second statement.

**39. Correct Answer: a**
We cannot answer the question using both the statements. Given that Anil's ages are prime numbers in 1998 and 1996. It is of difference 2. There are so many prime numbers with difference 2. They are (17, 19), (41, 43) . . . so on. So, we cannot find out exact age of Sachin.

**40. Correct Answer: b**
Consider the statement I: Let number of type-1 widgets = x. Number of type-2 widgets = y. From the given question, $x + y = 20000$. From statement I, $1.1 x + 0.94y = 20000$. So we can get x and y. From statement II, number of type-2 widgets produced

$$= \frac{1}{3} \times 20000 = 6667.$$

The question can be answered by using either of the statements alone.

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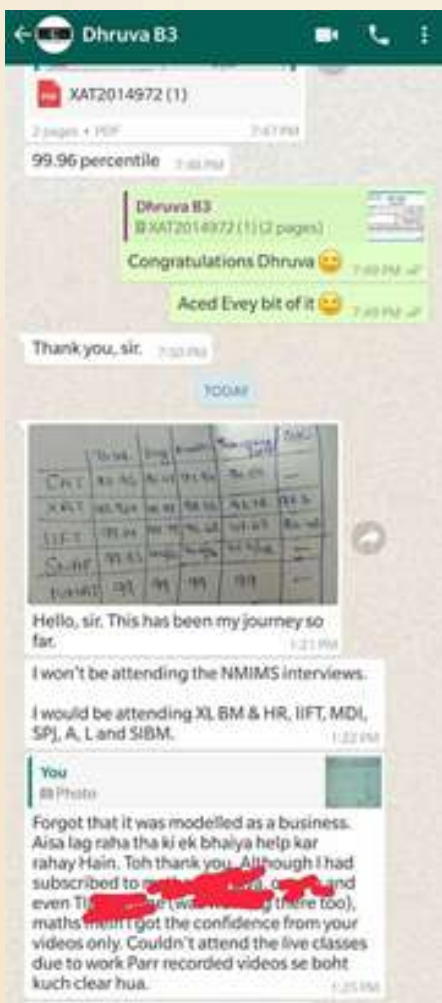


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