

CAT 2004

At that time the White House was as serene as a resort hotel out of season. The corridors were [1]. In the various offices, [2] gray men in waistcoats talked to one another in low-pitched voices. The only color, or choler, curiously enough, was provided by President Eisenhower himself. Apparently, his [3] was easily set off; he scowled when he [4] the corridors.

Fill up the blanks, the passage with the most appropriate word from the options given

- 1) Striking
- 2) Hollow
- 3) Empty
- 4) White

Answer: 3

Solve: If The White House is “serene”, then the corridors will definitely be “empty”

Fill up the blanks, in the passage with the most appropriate word from the options given

- 1) Quiet
- 2) Faded
- 3) Loud
- 4) Stentorian

Answer: 2

Solve: Solve: Take the hint from the next statement which talks of “The only color”. This means the previous blank has something to do with the color and of course not colorful.

Fill up the blanks, the passage with the most appropriate word from the options given

- 1) Laughter
- 2) Curiosity
- 3) Humour
- 4) Temper

Answer: 4

Solve: The paragraph provides you the information that the president was “Scowling”. Therefore the blank has to do something with anger the only close word is “Temper”.

Fill up the blanks, the passage with the most appropriate word from the options given

- 1) Paced
- 2) Strolled
- 3) Stormed

CAT 2004

4) Prowled

Answer: 1

Solve: This was a close one. All the words indicate moving around but “Strolled” is a leisurely walk where as “Stormed” and “Prowled” are very strong words which do not go in the context well hence answer is (A).

Read the passage and fill up the blank.

“Between the year 1946 and the year 1955, I did not file any income tax returns.” With that ____ (5) ____ statement, Ramesh embarked on an account of his encounter with the Income Tax Department. “I originally owed Rs. 20,000 in unpaid taxes. With ____ (6) ____ and ____ (7) ____, the 20,000 became 60,000. The income Tax Department then went into action, and I learned first hand just how much power the Tax Department wields. Royalties and trust funds can be ____ (8) ____; automobiles may be ____ (9) ____, and auctioned off. Nothing belongs to the ____ (10) ____ until the case is settled.”

Read the passage and fill up the blank with the most appropriate option.

- 1) Devious
- 2) Blunt
- 3) Tactful
- 4) Pretentious

Answer: 2

Solve: The statement given by Ramesh is Straight forward and no tact is involved in his dialogue. Neither is he try to be demon like therefore answer will be (B). That is blunt.

Read the passage and fill up the blank with the most appropriate option.

- 1) Interest
- 2) Taxes
- 3) Principal
- 4) Returns

Answer: 1

Solve: Taxes have increased from 20,000 to 60,000 that is through Interest

CAT 2004

Read the passage and fill up the blank with the most appropriate option.

- 1) Sanctions
- 2) Refunds
- 3) Fees
- 4) Fines

Answer: 4

Solve: On the reading the statement we understand that the amount is increasing and an amount can only be increased by accruing funds which can be done by levying “Interests” and imposing “fines”. Hence answers are (1) & (4).

Read the passage and fill up the blank with the most appropriate option.

- 1) Closed
- 2) Detached
- 3) Attached
- 4) Impounded

Answer: 4

Solve: This question is easy to answer if you know that the word for seizing the funds is “impounded”.

Read the passage and fill up the blank with the most appropriate option.

- 1) Smashed
- 2) Seized
- 3) Dismantled
- 4) Frozen

Answer: 2

Solve: The passage is all about how income tax authorities can take control of almost all assets of the individual to settle their claims. On the same lines the automobiles will also be taken control of which again means being “seized”.

Read the passage and fill up the blank with the most appropriate option.

- 1) Purchaser
- 2) Victim
- 3) Investor
- 4) Offender

CAT 2004

Answer: 4

Solve: If you have understood the paragraph given this will be an easy one. Nothing can belong to the person who has done something wrong. Necessarily the person will be "Offender".

Identify the incorrect sentence or sentences.

- A. Harish told Raj to plead guilty.
- B. Raj pleaded guilty of Stealing money from the shop.
- C. The court found Raj guilty of all the crimes he was charged with.
- D. He was sentenced for three years in jail.

- 1) A and C
- 2) B and D
- 3) A, C and D
- 4) B, C and D

Answer: 2

Solve: This question is better done with the help of process of elimination. Look at the statement C which contain no error. So that cannot be a part of answer. By eliminating the choices we are left with only one choice that is (B).

Identify the incorrect sentence or sentences.

- A. Last Sunday, Archana had nothing to do.
- B. After waking up, she lay on the bed thinking of what to do.
- C. At 11 o'clock she took shower and got ready.
- D. She spent most of the day shopping.

- 1) B and C
- 2) C
- 3) A and B
- 4) B, C and D

Answer: 1

Solve: The corrections

After walking up she lay in the bed thinking of what to do.

At 11 O' clock she took a shower and got ready

Identify the incorrect sentence or sentences.

- A. It was a tough situation and Manasi was taking pains to make it better.
- B. Slowly her efforts gave fruit and things started improving.
- C. Everyone complemented her for good work.
- D. She was very happy and thanked everyone for their help.

CAT 2004

- 1) A
- 2) D
- 3) B and C
- 4) A and C

Answer: 3

Solve: The corrections

Slowly her efforts bore fruit and things started improving.

Everybody complimented her for her good work.

Each statement has a part missing. Choose the best option from the four options given below the statement to make up the missing part

The ancient Egyptians believed _____ so that when these objects were magically reanimated through the correct rituals, they would be able to function effectively.

- 1) that it was essential that things they portrayed must have every relevant feature shown as clearly as possible.
- 2) it was essential for things they portray to have had every relevant feature shown as clearly as possible.
- 3) it was essential that the things they portrayed had every relevant feature shown as clearly as possible.
- 4) that when they portrayed things, it should have every relevant feature shown as clearly as possible.

Answer: 3

Solve: Because we talking about thing which are “essential”, they should be used in a general sense. So we will use “must have”.

Each statement has a part missing. Choose the best option from the four options given below the statement to make up the missing part.

Archaeologists believe that the pieces of red-ware pottery excavated recently near Bhavnagar and _____ shed light on a hitherto dark 600-year period in the Harappan history of Gujarat.

- 1) estimated with a reasonable certainty as being about 3400 years old,
- 2) are estimated reasonably certain to be about 3400 years old
- 3) estimated at about 3400 years old with reasonable certainty,
- 4) estimated with reasonable certainty to be about 3400 years old,

CAT 2004

answer: 4

solve: The answer here quite evidently is (D).

Each statement has a part missing. Choose the best option from the four options given below the statement to make up the missing part.

Many people suggest _____ and still others would like to convince people not to buy pirated cassettes.

- 1) to bring down audiocassette prices to reduce the incidence of music piracy, other advocate strong legal action against the offenders,
- 2) bringing down audiocassette prices to reduce the incidents of music piracy, other are advocating strong legal action against offenders,
- 3) bringing down audiocassette prices to reduce the incidence of music piracy, others advocate strong legal action against offenders
- 4) audiocassette prices to be brought down to reduce incidence of music piracy, others advocate that strong legal action must be taken against offenders

Answer: 3

Solve: Taking care of the parallel structure of the sentence it will be to reduce, advocate and to buy.

Following question, the word at the top of the table is used in four different ways, numbered (1) to (4). Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE.

BOLT

- 1) The shopkeeper showed us a bolt of fine silk.
- 2) As he could not move, he made a bolt for the gate.
- 3) Could you please bolt the door?
- 4) The thief was arrested before he could bolt from the scene of the crime.

Answer: 2

Solve: Bolt means either a rod or running away (Dashing). As given in statement 2, if someone cannot move the person cannot of course make a dash towards the gate.

So the user is definitely wrong.

Following question, the word at the top of the table is used in four different ways, numbered (1) to (4). Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE.

PASSING

CAT 2004

- 1) She did not have passing marks in mathematics.
- 2) The mad woman was cursing everybody passing her on the road.
- 3) At the birthday party all the children enjoyed a game of passing the parcel.
- 4) A passing taxi was stopped to rush the accident victim to the hospital.

Answer: 1

Following question, the word at the top of the table is used in four different ways, numbered (1) to (4). Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE.

FALLOUT

- 1) Nagasaki suffered from the fallout of nuclear radiation.
- 2) People believed that the political fallout of the scandal would be insignificant.
- 3) Who can predict the environmental fallout of the WTO agreements?
- 4) The headmaster could not understand the fallout of several of his good students at public examination.

Answer: 4

Solve: This sentence seems to be incomplete because it should have been like this-.....fallout of poor performance of several of Therefore answer is (D)

The sentence given in following question, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

- A. The two neighbours never fought each other.
- B. Fights involving three male fiddler crabs have been recorded, but the status of the participants was unknown.
- C. They pushed or grappled only with the intruder.
- D. We recorded 17 cases in which a resident that was fighting an intruder was joined by an immediate neighbour, an ally.
- E. WE therefore tracked 268 intruder males until we saw them fighting a resident male.

- 1) BEDAC
- 2) DEBAC
- 3) BDCAE
- 4) BCEDA

Answer: 3

CAT 2004

Solve: Let us try to derive the meaning of the Para jumble itself. The Para jumble wants to say that the neighbor crabs never fought with each other and therefore for the research a lot of samples have to be taken. This gives us a good link between A & E Hence answer is (C).

Under New Mercantilism, the fervent nationalism of the native middle classes does not create conflict with the multinational corporations because they (the middle classes)

- 1) negotiate with the multinational corporations.
- 2) are dependent on the international system for their continued prosperity.
- 3) are not in a position to challenge the status quo.
- 4) do not enjoy popular support.

Answer: 3

Solve: 2nd last para. Read the line.....cannot easily afford system.

Throughout human history the leading causes of death have been infection and trauma. Modern medicine has scored significant victories against both, and the major causes of ill health and death are now the chronic degenerative diseases, such as coronary artery disease, arthritis, osteoporosis, Alzheimer's, macular degeneration, cataract and cancer. These have a long latency period before symptoms appear and a diagnosis is made. It follows that the majority of apparently healthy people are pre-ill.

But are these conditions inevitably degenerative? A truly preventive medicine that focused on the pre-ill, analysing the metabolic errors which lead to clinical illness, might be able to correct them before the first symptom. Genetic risk factors are known for all the chronic degenerative diseases, and are important to the individuals who possess them. At the population level, however, migration studies confirm that these illnesses are linked for the most part to lifestyle factors—exercise, smoking and nutrition. Nutrition is the easiest of these to change, and the most versatile tool for affecting the metabolic changes needed to tilt the balance away from disease.

Many national surveys reveal that malnutrition is common in developed countries. This is not the calorie and/or micronutrient deficiency associated with developing nations (Type A malnutrition); but multiple micronutrient depletion, usually combined with caloric balance or excess (Type B malnutrition). The incidence and severity of Type B malnutrition will be shown to be worse if newer micronutrient groups such as the essential fatty acids, xanthophylls and flavonoids are included in the surveys. Commonly ingested levels of these micronutrients seem to be far too low in many developed countries.

There is now considerable evidence that Type B malnutrition is a major cause of chronic

degenerative diseases. If this is the case, then it is logical to treat such diseases not with drugs but with multiple micronutrient repletion, or 'pharmaco-nutrition'. This can take the form of pills and capsules—'nutraceuticals', or food formats known as 'functional foods'. This approach has been neglected hitherto because it is relatively unprofitable for drug companies—the products are hard to patent—and it is a strategy which does not sit easily with modern medical interventionism. Over the last 100 years, the drug industry has invested huge sums in developing a range of subtle and powerful drugs to treat the many diseases we are subject to. Medical training is couched in pharmaceutical terms and this approach has provided us with an exceptional range of therapeutic tools in the treatment of disease and in acute medical emergencies. However, the pharmaceutical model has also created an unhealthy dependency culture, in which relatively few of us accept responsibility for maintaining our own health. Instead, we have handed over this responsibility to health professionals who know very little about health maintenance, or disease prevention.

One problem for supporters of this argument is lack of the right kind of hard evidence. We have a wealth of epidemiological data linking dietary factors to health profiles / disease risks, and a great deal of information on mechanism: how food factors interact with our biochemistry. But almost all intervention studies with micronutrients, with the notable exception of the omega 3 fatty acids, have so far produced conflicting or negative results. In other words, our science appears to have no predictive value. Does this invalidate the science? Or are we simply asking the wrong questions?

Based on pharmaceutical thinking, most intervention studies have attempted to measure the impact of a single micronutrient on the incidence of disease. The classical approach says that if you give a compound formula to test subjects and obtain positive results, you cannot know which ingredient is exerting the benefit, so you must test each ingredient individually. But in the field of nutrition, this does not work. Each intervention on its own will hardly make enough difference to be measured. The best therapeutic response must therefore combine micronutrients to normalise our internal physiology. So do we need to analyse each individual's nutritional status and then tailor a formula specifically for him or her? While we do not have the resources to analyse millions of individual cases, there is no need to do so. The vast majority of people are consuming suboptimal amounts of most micronutrients, and most of the micronutrients concerned are very safe. Accordingly, a comprehensive and universal program of micronutrient support is probably the most cost-effective and safest way of improving the general health of the nation.

Type B-malnutrition is a serious concern in developed countries because

- 1) developing countries mainly suffer from Type-A malnutrition.
- 2) it is a major contributor to illness and death.
- 3) pharmaceutical companies are not producing drugs to treat this condition.
- 4) national surveys on malnutrition do not include newer micronutrient groups.

CAT 2004

Answer: 4

Solve: Last 3 lines of para 3 leads to choice (D).

Why are a large number of apparently healthy people deemed pre-ill?

- 1) They may have chronic degenerative disease.
- 2) They do not know their own genetic risk factors which predispose them to disease.
- 3) They suffer from Type-B malnutrition.
- 4) There is a lengthy latency period associated with chronically degenerative disease.

Answer: 4

Solve: Easily picked from last two lines of para 1. Hence choice (D).

The author recommends micronutrient repletion for large treatment of chronic degenerative disease because.

- 1) it is relatively easy to manage.
- 2) micronutrient deficiency is the cause of these disease.
- 3) it can over come genetic risk factors.
- 4) it can compensate for other lifestyle factors.

Answer: 2

Solve: Last para can help infer choice (B).

Tailoring micronutrient-based treatment plans to suit individual deficiency profiles is not necessary because.

- 1) it very likely to give inconsistent or negative results.
- 2) it is a classic pharmaceutical approach not suited to micronutrients
- 3) most people are consuming suboptimal amounts of safe-to-consume micronutrients.
- 4) it is not cost effective to do so.

Answer: 3

Solve: Last para last 3rd line states choice (C).

Fifty feet away three male lions lay by the road. They didn't appear to have a hair on their heads. Noting the color of their noses (leonine noses darken as they age, from pink to black), Craig estimated that they were six years old—young adults. "This is wonderful!" he said, after staring at them for several moments. "This is what we came to see. They really are maneless." Craig, a professor at the University of Minnesota, is arguably the leading expert on the majestic Serengeti lion, whose head is mantled in long, thick hair. He and Peyton West, a doctoral student who has been

CAT 2004

working with him in Tanzania, had never seen the Tsavo lions that live some 200 miles east of the Serengeti. The scientists had partly suspected that the maneless males were adolescents mistaken for adults by amateur observers. Now they knew better.

The Tsavo research expedition was mostly Peyton's show. She had spent several years in Tanzania, compiling the data she needed to answer a question that ought to have been answered long ago: Why do lions have manes? It's the only cat, wild or domestic, that displays such ornamentation. In Tsavo she was attacking the riddle from the opposite angle. Why do its lions not have manes? (Some "maneless" lions in Tsavo East do have partial manes, but they rarely attain the regal glory of the Serengeti lions'.) Does environmental adaptation account for the trait? Are the lions of Tsavo, as some people believe, a distinct subspecies of their Serengeti cousins?

The Serengeti lions have been under continuous observation for more than 35 years, beginning with George Schaller's pioneering work in the 1960s. But the lions in Tsavo, Kenya's oldest and largest protected ecosystem, have hardly been studied. Consequently, legends have grown up around them. Not only do they look different, according to the myths, they *behave* differently, displaying greater cunning and aggressiveness. "Remember too," *Kenya: The Rough Guide* warns, "Tsavo's lions have a reputation of ferocity." Their fearsome image became well-known in 1898, when two males stalled construction of what is now Kenya Railways by allegedly killing and eating 135 Indian and African laborers. A British Army officer in charge of building a railroad bridge over the Tsavo River, Lt. Col. J. H. Patterson, spent nine months pursuing the pair before he brought them to bay and killed them. Stuffed and mounted, they now glare at visitors to the Field Museum in Chicago. Patterson's account of the leonine reign of terror, *The Man-Eaters of Tsavo*, was an international best-seller when published in 1907. Still in print, the book has made Tsavo's lions notorious. That annoys some scientists. "People don't want to give up on mythology," Dennis King told me one day. The zoologist has been working in Tsavo off and on for four years. "I am so sick of this man-eater business. Patterson made a helluva lot of money off that story, but Tsavo's lions are no more likely to turn man-eater than lions from elsewhere."

But tales of their savagery and wiliness don't all come from sensationalist authors looking to make a buck. Tsavo lions are generally larger than lions elsewhere, enabling them to take down the predominant prey animal in Tsavo, the Cape buffalo, one of the strongest, most aggressive animals of Earth. The buffalo don't give up easily: They often kill or severely injure an attacking lion, and a wounded lion might be more likely to turn to cattle and humans for food.

And other prey is less abundant in Tsavo than in other traditional lion haunts. A hungry lion is more likely to attack humans. Safari guides and Kenya Wildlife Service rangers tell of lions attacking Land Rovers, raiding camps, stalking tourists. Tsavo is a tough neighborhood, they say, and it breeds tougher lions.

CAT 2004

But are they really tougher? And if so, is there any connection between their manelessness and their ferocity? An intriguing hypothesis was advanced two years ago by Gnoske and Peterhans: Tsavo lions may be similar to the unmaned cave lions of the Pleistocene. The Serengeti variety is among the most evolved of the species—the latest model, so to speak—while certain morphological differences in Tsavo lions (bigger bodies, smaller skulls, and maybe even lack of a mane) suggest that they are closer to the primitive ancestor of all lions. Craig and Peyton had serious doubts about this idea, but admitted that Tsavo lions pose a mystery to science.

The book *Man-Eaters of Tsavo* annoys some scientists because

- 1) It revealed that Tsavo lions are ferocious.
- 2) Patterson made a helluva lot of money from the book by sensationalism.
- 3) It perpetuated the bad name Tsavo lions had.
- 4) It narrated how two male Tsavo lions were killed

Answer: 3

Solve: Para 3. mentions that incorrect information was being spread regarding the Tsavo lions. Choice (B) best captures the idea

According to the passage, which of the following the NOT contributed to the popular image of Tsavo lions as savage creatures?

- 1) Tsavo lions have been observed to bring down one of the strongest and most aggressive animals-the Cape buffalo
- 2) In contrast to the situation in traditional lion haunts, scarcity of non-buffalo prey in the Tsavo makes the Tsavo lions more aggressive.
- 3) The Tsavo lion is considered to be less evolved than the Serengeti variety.
- 4) Tsavo lions have been observed to attack vehicles as well as humans.

Answer: 3

Solve: Though choice 3 is mentioned in the passage but not in the context that it contributes to the popular image. Hence answer is choice (C).

The sentence which concludes the first paragraph, “Now they know better”, implies that:

- 1) The two scientists were struck by wonder on seeing maneless lions for the first time.
- 2) Though Craig was an expert on the Serengeti lion, now he also knew about the Tsavo lions.
- 3) Earlier, Craig and West thought that amateur observers had been mistaken.
- 4) Craig was now able to confirm that darkening of the noses as lions aged applied to Tsavo lions as well.

CAT 2004

Answer: 3

Solve: Second last line of para 1 states choice (C).

Which of the following, if true, would weaken the hypothesis advanced by Gnoske and Peterhans most?

- 1) Craig and Peyton develop even more serious doubts about the idea that Tsavo lions are primitive.
- 2) The maneless Tsavo East lions are shown to be closer to the cave lions.
- 3) Pleistocene cave lions are shown to be far less violent than believed.
- 4) The morphological variations in body and skull size between the cave and Tsavo lions are found to be insignificant.

Answer: 3

Solve: Last para will help explain the choice.

The sentences given in following question, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

- A. Experts such as Larry Burns, head of research at GM, reckon that only such a full hearted leap will allow the world to cope with the mass motorization that will one day come to China or India.
- B. But once hydrogen is being produced from biomass or extracted from underground coal or made from water, using nuclear or renewable electricity, the way will be open for a huge reduction in carbon emissions from the whole system.
- C. In theory, once all the bugs have been sorted out, fuel cells should deliver better total fuel economy than any existing engines.
- D. That is twice as good as the internal combustion engine, but only five percentage points better than a diesel hybrid.
- E. Allowing for the resources needed to extract hydrogen from hydrocarbon, oil, carbon or gas, the fuel cell has an efficiency of 30%.

- 1) CEDBA
- 2) CEBDA
- 3) AEDBC
- 4) ACEBD

Answer: 1

The sentences given in following question, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a letter. Choose the most logical order of sentences from among the

CAT 2004

given choices to construct a coherent paragraph.

- A. But this does not mean that death was the Egyptians only preoccupation.
- B. Even papyri come mainly from pyramid temples.
- C. Most of our traditional sources of information about the Old Kingdom are monuments of the rich like pyramids and tombs.
- D. Houses in which ordinary Egyptians lived have not been preserved, and when most people died they were buried in simple graves.
- E. We know infinitely more about the wealthy people of Egypt than we do about the ordinary people, as most monuments were made for the rich.

- 1) CDBEA
- 2) ECDAB
- 3) EDCBA
- 4) DECAB

Answer: 3

Four alternative summaries are given below each text. Choose the option that best captures the essence of the text.

Although almost all climate scientists agree that the Earth is gradually warming, they have along been of two minds about the process of rapid climate shifts within larger periods of change. Some have speculated that the process works like a giant oven or freezer, warming or cooling the whole planet at the same time. Other thinks that shifts occur on opposing schedule in the Northern and Southern. Hemispheres, like exaggerated season. Recent research in Germany examining climate patterns in the Southern Hemisphere at the end of the last Ice Age strengthens the id that warming and cooling occurs at alternate times in the two hemispheres. A more definitive answer to this debate will allow scientists to better predict when how quickly the next climate will happen.

- 1) Scientists have been unsure whether rapid shifts in the Earth's climate happen all at once or on opposing schedules in different hemispheres; research will help find a definitive answer and better predict climate shifts in future
- 2) Scientists have been unsure whether rapid shifts in the Earth's climate happen all at once or on opposing schedules in different hemispheres; finding a definitive answer will help them better predict climate shifts in future
- 3) Research in Germany will help scientist find a definitive answer about warming and cooling of the Earth and predict climate shifts in the future in a better manner.
- 4) More research rather than debates on warming or cooling of the Earth and exaggerated season in its hemispheres; will help scientists in Germany predict climate changes better in future.

Answer: 2

Four alternative summaries are given below each text. Choose the option that best captures the essence of the text

CAT 2004

Modern bourgeois society said Nietzsche, was decadent and enfeebled a victim of the excessive development of the rational faculties at the expense of will and instinct. Against the liberal-rationalists stress on the intellect, Nietzsche urged recognition of the dark mysterious world of instinctual desires the true forces of life. Smother the will with excessive intellectualizing and you destroy the spontaneity that sparks cultural creativity and ignites a zest for living. The critical and theoretical outlook destroyed the creative instincts. For man's manifold potential to be realized, he must forego relying on the intellect and nurture again the instinctual roots of human existence.

- 1) Nietzsche urges the decadent and enfeebled modern society of forego intellect and given important to creative instincts.
- 2) Nietzsche urges the decadent and enfeebled modern society to smother the will with excessive intellectualizing and ignite a zest for living.
- 3) Nietzsche criticizes the intellectuals for enfeebling the modern bourgeois society by not nurturing man's creative instincts.
- 4) Nietzsche blames excessive intellectualization for the decline for modern society and suggests nurturing creative instincts instead.

Answer: 4

Four alternative summaries are given below each text. Choose the option that best captures the essence of the text

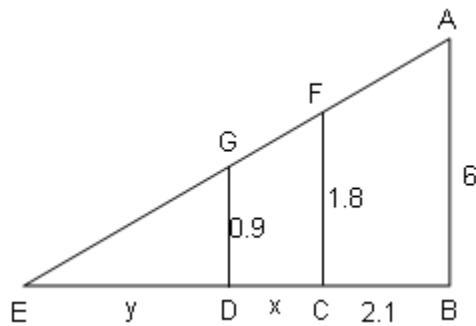
Local communities have often come in conflict with agents to exploit resources, at the faster pace, for an expanding commercial-industrial economy. More often than not, such agents of resource intensification are given preferential treatment by the state, through the grant of generous long leases over mineral or fish stocks, for example, or the provision of raw material at an enormously subdivided price. With the injustice so compound, local communities at the receiving end of this process have no recourse except direct action, resisting both the state and outside exploiters through a variety of protest techniques. These struggles might perhaps be seen as a manifestation of a new kind of class conflict.

- 1) A new kind of class conflict arises from preferential treatment given to agents of resource intensification by the state which the local community sees as unfair.
- 2) The grant of long leases to agents of resource-intensification for an expanding commercial industrial economy lead to direct protests from the local community, which sees it as unfair.
- 3) Preferential treatment given by the state to agents of resource-intensification for an expanding commercial-industrial economy exacerbates injustice to local communities and leads to direct protests from them, resulting in a new type of class conflict.
- 4) Local communities have no option but to protest against agents of resource – intensification and create a new type of class conflict when they are given raw material at subsidized prices for an expanding commercial-industrial economy

Answer: 3

CAT 2004

In the given figure, find the value of x .



- 1) 0.9
- 2) 0.75
- 3) 0.6
- 4) 0.45

Answer: 4

A milkman mixes 20 litres of water with 80 litres of milk. After selling one-fourth of this mixture, he adds 25 litres water to replenish the quantity that he has sold. What is the current proportion of water to milk?

- 1) 2 : 3
- 2) 1 : 2
- 3) 1 : 3
- 4) 3 : 4

Answer: 1

Karan and Arjun run a 10 metre race, where Karan beats Arjun by 10 metres. To do a favour to Arjun, Karan starts 10 metres behind the starting line in a second 100-metre race. They both run at their earlier speed. Which of the following is true in connection with the second race?

- 1) Karan and Arjun reach the finishing line simultaneously.
- 2) Arjun beats Karan by 1 metre
- 3) Arjun beats Karan by 11 metre
- 4) Karan beats Arjun by 1 metre

Answer: 4

N person stand on the circumference of a circle at distinct points. Each possible pair of persons, not standing next to each other, sings a two-minute song one pair after the other. If the total time taken for sings is 28 minutes, what is N ?

CAT 2004

- 1) 5
- 2) 7
- 3) 9
- 4) None of the above

Answer: 2

If the sum of the first 11 terms of an arithmetic progression equals that of the first 19 terms, then what is the sum of the 30 terms?

- 1) 0
- 2) -1
- 3) 1
- 4) Not unique

Answer: 1

If a man cycles at 10 km/hr, then he arrives at a certain place at 1 p.m. If he cycles at 15 km/hr, he will arrive at the same place at 11 a.m. At what speed must he cycle to get there at noon?

- 1) 11 km/hr
- 2) 12 km/hr
- 3) 13 km/hr
- 4) 14 km/hr

Answer: 2

On January 1, 2004 two new societies, S_1 and S_2 , are formed, each with n members. On the first day of each subsequent month, S_1 adds b members while S_2 multiplies its current number of members by a constant factor r . Both the societies have the same number of members on July 2, 2004. If $b = 10.5n$, what is the value of r ?

- 1) 2.0
- 2) 1.9
- 3) 1.8
- 4) 1.7

Answer: 1

The total number of integer pairs (x, y) satisfying the equation $x + y = xy$ is

- 1) 0
- 2) 1
- 3) 2

CAT 2004

4) None of the above

Answer: 3

Solve: The equation is $x + y = xy$; the only two integer pairs satisfy this are (0,0) and (2,2). Hence there are 2 pairs.

If $f(x) = x^3 - 4x + p$, and $f(0)$ and $f(1)$ are of opposite signs, then which of the following is necessarily true?

- 1) $-1 < p < 2$
- 2) $0 < p < 3$
- 3) $-2 < p < 1$
- 4) $-3 < p < 0$

Answer: 2

Solve: $f(x) = x^3 - 4x + P$

$f(0) = p$

$f(1) = 1 - 4 + P = P - 3$

As $f(0)$ & $f(1)$ are of opposite sign

$f(0) f(1) < 0 \Rightarrow p(P - 3) < 0 \Rightarrow 0 < P < 3$.

Suppose n is an integer such that the sum of the digits of n is 2 and $10^{10} < n < 10^{11}$. The number of different values of n is

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

Answer: 1

Solve: As $10^{10} < n < 10^{11}$. Therefore n must be eleven digit number. Also sum of digit is 2. It's only possible with 2's one or is two.

Total numbers with 2's one & 9's zeros = 1

Total numbers with 1's two 10's zero = 1

Total possibility = $10 + 1 = 11$

Let $f(x) = ax^2 - b|x|$, where a and b real constants. Then at $x = 0$, $f(x)$ is

- 1) maximized whenever $a > 0, b > 0$

CAT 2004

- 2) maximized whenever $a > 0, b < 0$
- 3) minimized whenever $a > 0, b > 0$
- 4) minimized whenever $a > 0, b < 0$

Answer: 1

solve: When $x > 0$

$$f(x) = ax^2 - bx$$

$$f'(x) = 2ax - b$$

$$2ax - b = 0$$

Maxima/Minima at $x = b/2a$

i.e., $b > 0, a > 0$ or $b < 0, a < 0$

for minima $a < 0$

So $a < 0, b < 0$

When $x < 0$

$$f(x) = ax^2 + bx$$

$$f'(x) = 2ax + b$$

Maxima/Minima at $x = -b/2a$

i.e., $b > 0, a > 0$ or $b < 0, a < 0$

For maxima $a > 0$

So $a > 0, b > 0$.

Two boats, traveling at 5 and 10 kms per hour, head directly towards each other. They begin at a distance of 20 kms from each other. How far apart they (in kms) one minute before they collide?

- 1) $1/12$
- 2) $1/6$
- 3) $1/4$
- 4) $1/3$

Answer: 3

Each family in a locality has at most two adults, and no family has fewer than 3 children.

Considering all the families together, there are more adults than boys, more boys than girls and more girls than families. Then the minimum possible number of families in the locality is

- 1) 4
- 2) 5
- 3) 2
- 4) 3

Answer: 4

Solve: Minimum possible no. of family in the locality should be 3.

CAT 2004

Family = 3

Max. adults = 6

Boys = 5

Girls = 4

This is the only possible solutions with 3 families.

In Nuts and Bolts factory, one machine produces only nuts at the rate of 100 nuts per minute and needs to be cleaned for 5 minutes after production of every 1000 nuts. Another machine only bolts at the rate of 75 bolts per minute and needs to be cleaned for 10 minutes after production of every 1500 bolts. If both the machines start production at the same time, what is the minimum duration required for producing 9000 pairs of nuts and bolts?

- 1) 130 minutes
- 2) 135 minutes
- 3) 170 minutes
- 4) 180 minutes

Answer: 4

A rectangular sheet of paper, when halved by folding it at the midpoint of its longer side, results in a rectangle, whose longer and shorter sides are in the same proportion as longer and shorter side of the original rectangle. If shorter side of the original rectangle is 2, what is the area of the smaller rectangle?

- 1) $4\sqrt{2}$
- 2) $2\sqrt{2}$
- 3) $\sqrt{2}$
- 4) 2

Answer; 2

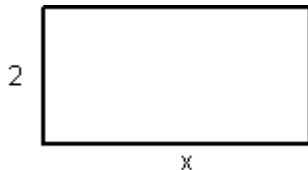
Solve: Let x be the longer side of original rectangle

When folded at half,

Longer side of the new rectangle = 2

Shorter side of the new rectangle = $x/2$

According to the question,



CAT 2004

$$\frac{x}{2} = \frac{2}{x/2}$$

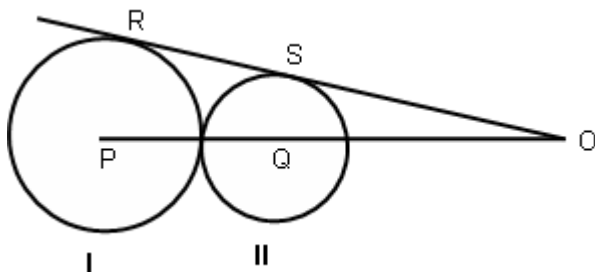
$$\Rightarrow \frac{x^2}{4} = 2 \Rightarrow x^2 = 8 \Rightarrow x = 2\sqrt{2}$$

$$\text{Area of the smaller rectangle} = 2 \times \frac{x}{2} = 2 \times \frac{2\sqrt{2}}{2} = 2\sqrt{2}.$$

Direction: Answer the questions on the basis of the information given below:

In the adjoining figure, I and II are circles with centres P and Q respectively. The two circles touch each other and have a common tangent that touches them at points R and S respectively. This common tangent meets the line joining P and Q at O. The diameters of I and II are in the ratio 4: 3. It is also

Known that the length of PQ is 7 cm.



What is the ratio of the length of PQ to that of QO?

- 1) 1:4
- 2) 1:3
- 3) 3:8
- 4) 3:4

Answer: 2

What is the radius of the circle II?

- 1) 2 cm
- 2) 3 cm
- 3) 4 cm
- 4) 5 cm

Answer: 2

Solve: Since PQ = 7

$$\Rightarrow \frac{4x}{2} + \frac{3x}{2} = 7 \Rightarrow x = 2$$

Radius of circle II

CAT 2004

$$\frac{3x}{2} = 3 \text{ cm.}$$

The length of SO is

- 1) $8\sqrt{3}$
- 2) $10\sqrt{3}$
- 3) $12\sqrt{3}$
- 4) $14\sqrt{3}$

Answer: 3

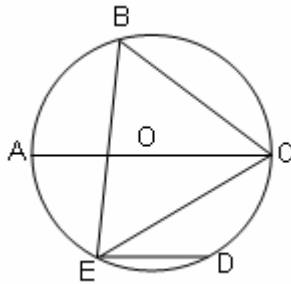
Solve: Consider right angled triangle SOQ

$$OQ^2 = SQ^2 + SO^2$$

$$21^2 = (3)^2 + SO^2$$

$$441 - 9 = SO^2$$

$$\Rightarrow SO = 12\sqrt{3}.$$

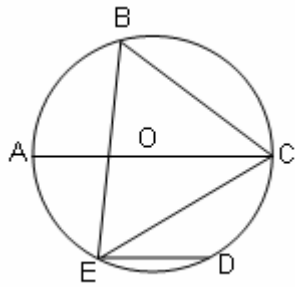


In the adjoining figure, chord CD is parallel to the diameter AC of the circle. If $\angle DCBE = 65^\circ$, then what is the value of $\angle DEC$?

- 1) 35°
- 2) 55°
- 3) 45°
- 4) 25°

Answer: 4

CAT 2004



Solve:

Join A with B and E

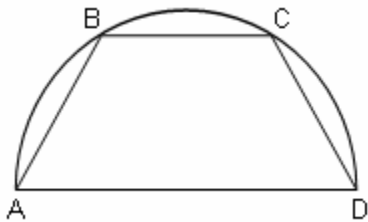
$$\angle CBE = 65^\circ \text{ (Given)}$$

$$\angle EBA = 25^\circ \text{ (}\because \angle CBA = 90^\circ\text{)}$$

$$\text{Also } \angle ACE = 25^\circ \text{ (angles on the same chord AE)}$$

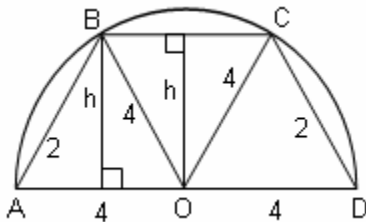
$$\angle DEC = \angle ACE = 25^\circ \text{ (alternate angles)}$$

On a semicircle with diameter AD, chord BC is parallel to the diameter. Further, each of the chords AB and CD has length 2, while AD has length 8. What is the length of BC?



- 1) 7.5
- 2) 7
- 3) 7.75
- 4) None of the above

Answer: 2



Solve:

$$\begin{aligned} &\text{Area of } \triangle OAB \\ &= \sqrt{5(5-4)(5-4)(5-2)} \text{ = (Hero's formula)} \\ &= \sqrt{15} \end{aligned}$$

$$\text{Also Area of } \triangle OAB = \frac{1}{2} \times 4 \times h$$

CAT 2004

$$\Rightarrow \frac{1}{2} \times 4 \times h = \sqrt{15}$$

$$\Rightarrow h = \frac{\sqrt{15}}{2}$$

Draw OE $\perp$ on BC

In $\triangle OBE$

$$OB^2 = OE^2 + BE^2$$

$$16 = \left(\frac{\sqrt{15}}{2} \right)^2 + BE^2$$

$$\Rightarrow BE^2 = 16 - \frac{15}{4} = \frac{49}{4}$$

$$\Rightarrow BE = \frac{7}{2}$$

$$\Rightarrow BC = \frac{7}{2} \times 2 = 7\text{cm.}$$

Answer the questions on the basis of the information given below.

$$\begin{aligned} f_1(x) &= x & 0 \leq x \leq 1 \\ &= 1 & x \geq 1 \\ &= 0 & \text{otherwise} \end{aligned}$$

$$\begin{aligned} f_2(x) &= f_1(-x) & \text{for all } x \\ f_3(x) &= -f_2(x) & \text{for all } x \\ f_4(x) &= f_3(-x) & \text{for all } x \end{aligned}$$

How many of the following products are necessarily zero for every x:

$$f_1(x) f_2(x), f_2(x) f_3(x), f_2(x) f_4(x)?$$

- 1) 0
- 2) 1
- 3) 2
- 4) 3

Answer: 1

Solve: (i) $f_1(x) f_2(x) = f_1(x) f_1(-x)$

(ii) $f_2(x) f_3(x) = f_1(-x) \times -f_2(x) = f_1(-x) \times -f_1(-x) = -f_1(-x) f_1(-x).$

(iii) $f_2(x) f_4(x) = f_1(-x) f_3(-x) = -f_1(-x) f_2(-x) = -f_1(-x) f_1(x).$

CAT 2004

Either of $f_1(x)$ or $f_1(-x)$ is zero.

(i) & (iii) must be zero.

Answer the questions on the basis of the information given below.

$$\begin{aligned}f_1(x) &= x & 0 \leq x \leq 1 \\ &= 1 & x \geq 1 \\ &= 0 & \text{otherwise}\end{aligned}$$

$$\begin{aligned}f_2(x) &= f_1(-x) & \text{for all } x \\ f_3(x) &= -f_2(x) & \text{for all } x \\ f_4(x) &= f_3(-x) & \text{for all } x\end{aligned}$$

Which of the following is necessarily true?

- 1) $f_4(x) = f_1(x)$ for all x
- 2) $f_1(x) = -f_3(-x)$ for all x
- 3) $f_2(-x) = f_4(x)$ for all x
- 4) $f_1(x) + f_3(x) = 0$ for all x

answer: 2

Solve: R.H.S = $-f_3(-x) = -(-f_2(-x)) = f_2(-x) = f_1(x) = \text{L.H.S}$

In an examination, there are 100 questions divided into three groups A, B and C, such that each group contains at least one question. Each question in group A carries 1 mark, in group B carries 2 marks and in group C carries 3 marks. It is known that the questions in group A together carry at least 60% of the total marks. If group B contains 23 questions, how many questions are there in group C?

- 1) 1
- 2) 2
- 3) 2
- 4) 4

Answer: 1

CAT 2004

Solve: As per the given statement,

$1 \times (100 - 23 - x) + 23 \times 2 + x \times 3$ are the total marks, where x is the no. of questions in group C.
Now, check it from options.

Option: $x = 1$

Total marks = $1 \times 76 + 23 \times 2 + 1 \times 3$

= $76 + 46 + 3 = 125$

$\frac{76}{125}$ is at least 60%, it will be our answer.

In an examination, there are 100 questions divided into three groups A, B and C such that each group contains at least one questions. Each question in group A carries 1 mark, each question in group B carries 2 marks and each question in group C carries 3 marks. It is known that the question in group A together carry at least 60% of the total marks.

If group C contains 8 questions and group B carries at least 20% of the total marks, which of the following best describes the number of questions in group B?

- 1) 11 or 12
- 2) 12 or 13
- 3) 13 or 14
- 4) 14 or 15

Answer: 3

Solve: Again try from options

Take option (3)

Group	Mark per question	No. of questions	Total marks	% ob each section
A	1	79	79	61.24
B	2	13	26	20.15

CAT 2004

C	3	8	24	18.61
Total marks			129	

Which is satisfying.

Similarly of it is true for 13, it has to be true for 14.

As sprinter starts running on a circular path of radius r meters. Her average speed (in the meters/minute) is πr during the first 30 seconds, $\pi r/2$ during next one minute, $\pi r/4$ during next 2 minutes, $\pi r/8$ during next 4 minutes, and so on. What is the ratio of the time taken for the n th round to that for the previous round?

- 1) 4
- 2) 8
- 3) 12
- 4) 32

Answer: 3

Consider the sequence of numbers $a_1, a_2, a_3, \dots$ to infinity where $a_1 = 81.33$ and $a_2 = -19$ and $a_j = a_{j-1} - a_{j-2}$ for $j \geq 3$. What is the sum of the first 6002 terms of this sequence?

- 1) -100.33
- 2) -30.00
- 3) 62.33
- 4) 119.33

Answer: 3

Solve: First term $T_1 = a_1$

$$T_2 = a_2$$

$$T_3 = a_2 - a_1$$

$$T_4 = -a_1$$

$$T_5 = -a_2$$

$$T_6 = a_1 - a_2$$

$$T_7 = a_1, T_8 = a_2, T_9 = T_3, T_{10} = T_4, T_{11} = T_5, \dots$$

$$\text{Sum of first six terms} = a_1 + a_2 + a_2 - a_1 - a_2 + a_1 - a_2 = 0$$

$$\text{Sum of next 6 terms} = 0$$

$$\text{Sum of 6000 terms} = 0$$

$$\text{Sum of 6002} = 0 + a_1 + a_2 = 81.33 - 19 = 62.33$$

The remainder, when $(15^{23} + 23^{23})$ is divided by 19, is

CAT 2004

- 1) 4
- 2) 15
- 3) 0
- 4) 18

Answer: 3

Solve: $15 \equiv -4 \pmod{19}$

$$15^{23} \equiv (-4)^{23} \pmod{19}$$

Similarly,

$$23 \equiv 4 \pmod{19}$$

$$(23)^{23} \equiv (4)^{23} \pmod{19}$$

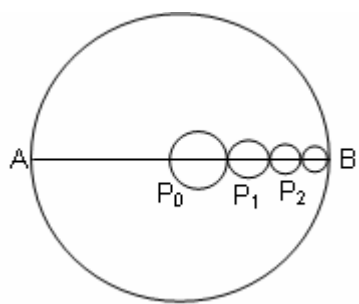
$$15^{23} + 23^{23} \equiv (-4)^{23} + (4)^{23} \equiv 0 \pmod{19}.$$

Let C be a circle with centre P_0 and AB be a diameter of C . Suppose P_1 is the midpoint of the line segment P_0B , P_2 is the midpoint of the line segment P_1B and so on. Let $C_1, C_2, C_3, \dots$ be circles with diameters $P_0P_1, P_1P_2, P_2P_3, \dots$ respectively. Suppose the circles $C_1, C_2, C_3, \dots$ all are shaded. The ratio of the area of the unshaded portion of C to that of the original circle C is

- 1) 8 : 9
- 2) 9 : 10
- 3) 10 : 11
- 4) 11 : 12

Answer: 4

Solve: Let the diameter of C be 2



$$P_0B = 1 \quad P_0P_1 = \frac{1}{2}$$

$$\text{Diameter of } C_1 = \frac{1}{2} \Rightarrow \text{Area of } C_1 = \frac{\pi d^2}{4} = \frac{\pi \times \left(\frac{1}{2}\right)^2}{4} = \frac{\pi}{16}.$$

CAT 2004

$$\text{Diameter of } C_2 = \frac{1}{4} \Rightarrow \text{Area of } C_2 = \frac{\pi d^2}{4} = \frac{\pi \left(\frac{1}{4}\right)^2}{4} = \frac{\pi}{64} = \frac{\pi}{4 \times 16}$$

$$\text{Similarly } C_3 = \frac{\pi}{4^2 \times 16} \quad C_4 = \frac{\pi}{4^3 \times 16} \dots \text{soon it is G.P. with } a = \frac{\pi}{16} \quad b = \frac{1}{4}$$

$$\text{Sum of area of shaded portion} = \text{Area of } (C_1 + C_2 + \dots) = \frac{\pi}{16} + \frac{\pi}{4 \times 16} + \frac{\pi}{4 \times 16} + \dots$$

$$= \frac{\frac{\pi}{16}}{1 - \frac{1}{4}} = \frac{\frac{\pi}{16}}{\frac{3}{4}} = \frac{\pi}{12}$$

Area of unshaded portion = Area of circle – shaded portion

$$= \pi - \frac{\pi}{12} = \frac{11\pi}{12}$$

$$\text{Ratio of un shaded to original} = \frac{\frac{11\pi}{12}}{\pi} =$$

$$\frac{11}{12}$$

Let $u = (\log_2 x)^2 - 6 \log_2 x + 12$ where x is a real number. Then the equation $x^u = 256$, has

- 1) no solution for x
- 2) exactly one solution for x
- 3) exactly two distinct solutions for x
- 4) exactly three distinct solutions for x

Answer: 2

$$\text{solve: } u = (\log_2 x)^2 - 6 \log_2 x + 12 \quad \& \quad x^u = 256 = 2^8 = 4^4 = 16^2 = 256^1$$

$$\text{If } x = 2 \Rightarrow u = (\log_2 2)^2 - 6 \log_2 2 + 12$$

$$u = 1 - 6 + 12 = 7 \text{ (not possible)}$$

$$\text{If } x = 4 \Rightarrow u = (\log_2 4)^2 - 6 \log_2 4 + 12$$

$$= (2 \log_2 2)^2 - 12 \log_2 2 + 12$$

$$= 4 - 12 + 12 = 4 \text{ (possible)}$$

$$\text{If } x = 16 \Rightarrow u = (\log_2 16)^2 - 6 \log_2 16 + 12$$

$$u = 16 - 24 + 12$$

CAT 2004

$u = 4$ (not possible)
If $x = 256 \Rightarrow u = (8 \log_2 2)^2 - 48 \log_2 2 + 12$
 $= 64 - 48 + 12$
 $u = 28$ (not possible)
 x can have exactly one solutions

A new flag is to be designed with six vertical stripes using some or all of the colours yellow, green, blue and red. Then, the number of ways this can be done such that no two adjacent stripes have the same colour is

- 1) 12×81
- 2) 16×192
- 3) 20×125
- 4) 24×216

Answer: 1

Solve: (6 strips)
1 2 3 4 5 6

Colour of strip 1 can be chosen in 4 ways

Colour of strip 2 can be chosen in 3 ways (As adjacent can't of same colour)

Colour of strip 3 can be chosen in 3 ways

Similarly -4, 5, 3 can be chose in 3 ways

Total ways = $4 \times 3 \times 3 \times 3 \times 3 \times 3 = 4 \times 3^5 = 4 \times 3 \times 3^4 = 12 \times 81$.

Direction: Answer the question on the basis of the information given below.

Prof. Singh has been tracking the number of visitors to his homepage. His service provider has provided him with the following data on the country of origin of the visitors and the university they belong to.

COUNTRY		DAY	
	1	2	3
Canada	2	0	0
Netherlands	1	1	0
India	1	2	0
UK	2	0	2
USA	1	0	1
UNIVERSITY		DAY	
	1	2	3
University 1	1	0	0
University 2	2	0	0
University 3	0	1	0
University 4	0	0	2

CAT 2004

University 5	1	0	0
University 6	1	0	1
University 7	2	0	0
University 8	0	2	0

University 1 can belong to

- 1) U.K
- 2) Canada
- 3) Netherlands
- 4) U.S.A

Answer: 3

Solve: As shown in the graph university 1 can belong to Netherlands.

University 5 can belong to

- 1) India or Netherlands, but not U.S.A
- 2) India or U.S.A, but not Netherlands
- 3) Netherlands or U.S.A, but not India
- 4) India or U.S.A, but not U.K

Answer: 1

Solve: This question is a tricky one. We have to just check with observation that the University 5 belongs to USA or not which is not the case University 6 should belong to USA because no other match is possible.

So if university 5 does not belong to USA then all options are ruled out & the option left is (A)

Visitors from how many universities from U.K visited Prof. Singh's homepage in three days?

- 1) 1
- 2) 2
- 3) 3
- 4) 4

Answer: 2

Solve: In chart 1 UK has 2 visitors on day 1 & 2 on day 3 and in chart 2 only university 4 has 2 visitors on day 3. So it belong to UK and now we are left with UK with 2 visitors on day 1 which have to be either from university 2 or from university 7 because no other combination is possible.

Which among the listed countries can possibly host three of the eight listed universities?

- 1) None
- 2) Only U.K

CAT 2004

- 3) Only India
- 4) Both India and U.K

Answer: 1

Solve: In Chart 1, UK has 2 visitors on day 1 and 2 on day 3.

In Chart 2 only university 4 only has 2 visitors on day 3. So university 4 has to belong with UK & what left is 2 visitors on day 1 with UK & both the university 1 & five which have 1 on day 1 can belong with UK. So in total 3 Universities can go with UK.

About India which have 1 visitor one day 1 & 2 visitor on day 2.

University 8 has to belong with India it is the only end with 1 visitor left for day 1, only one University,

No. of Visitors Country wise (Chart 1)

	Day			
Country	1	2	3	University No.
Canada	2	0	0	2
Netherland	1	1	0	1,3
India	1	2	0	5,8
UK	2	0	2	4,7
USA	1	0	1	6

No. of Visitors University wise (Chart 2)

	Day		
UNIVERSITY	1	2	3
University 1	1	0	0
University 2	2	0	0
University 3	0	1	0
University 4	0	0	2

CAT 2004

University 5	1	0	0
University 6	1	0	1
University 7	2	0	0
University 8	0	2	0

A study was conducted to ascertain the relative importance that employees in five different countries assigned to five different traits in their Chief Executive Officers. The traits were compassion (C), decisiveness (D), negotiation skills (N), public visibility (P), and vision (V). The level of dissimilarity between two countries is the maximum difference in the ranks allotted by the two countries to any of the five traits. The following table indicates the rank order of the five traits for each country.

Rank	Country				
	India	China	Japan	Malaysia	Thailand
1	C	N	D	V	V
2	P	C	N	D	C
3	N	P	C	P	N
4	V	D	V	C	P
5	D	V	P	N	D

Three of the following four pairs of countries have identical levels of dissimilarity. Which pair is the odd one out?

- 1) Malaysia & China
- 2) China & Thailand
- 3) Thailand & Japan
- 4) Japan & Malaysia

Answer: 2

Solve: All the pairs Malaysia & China, China & Thailand and Thailand & Japan have the highest level of dissimilarity i.e. 4

CAT 2004

But Japan & Malaysia have a this similarity of 3. So the answer is Japan & Malaysia.

Which amongst the following countries is most dissimilar to India?

- 1) China
- 2) Japan
- 3) Malaysia
- 4) Thailand

Answer: 2

Solve: The dissimilarity of India with China is 2.

The dissimilarity of India with Japan is 4

The dissimilarity of India with Malaysia is 3

The dissimilarity of India with Thailand is 3

So the answer is Japan.

Which of the following countries is least dissimilar to India?

- 1) China
- 2) Japan
- 3) Malaysia
- 4) Thailand

Answer: 1

Solve: The dissimilarity of India with China is 2.

The dissimilarity of India with Japan is 4

The dissimilarity of India with Malaysia is 3

The dissimilarity of India with Thailand is 3

So the answer is China.

Which of the following pairs of countries are most dissimilar?

- 1) China & Japan
- 2) India & China
- 3) Malaysia & Japan
- 4) Thailand & Japan

Answer: 4

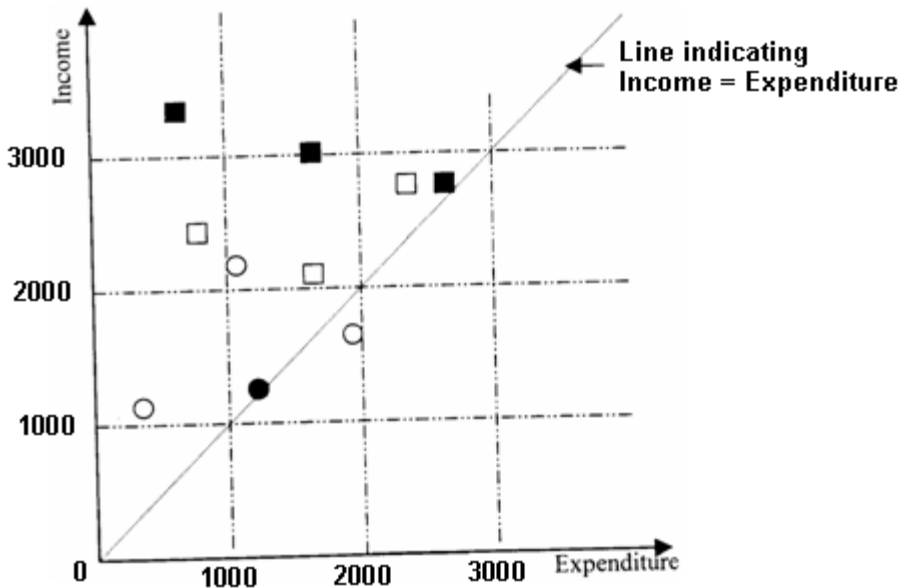
Solve: Clearly Thailand & Japan do have the highest dissimilarity i.e. 4 of the trait D (Discursiveness)

CAT 2004

Direction: Answer the questions on the basis of the information given below.

The data points in the figure below represent monthly income and expenditure data of individual members of the Ahuja family (U), the Bose family (O), the Coomar family (□), and the Dubey family (•). For these questions, savings is defined as

$$\text{Savings} = \text{Income} - \text{Expenditure}$$



Which family has the highest average expenditure?

- 1) Ahuja
- 2) Bose
- 3) Coomar
- 4) Dubey

Answer: 4

Which family has the lowest average income?

- 1) Ahuja
- 2) Bose
- 3) Coomar
- 4) Dubey

Answer: 3

The highest amount of savings accrues to a member of which family?

- 1) Ahuja
- 2) Bose

CAT 2004

- 3) Coomar
- 4) Dubey

Answer: 1

Which family has the lowest average savings?

- 1) Ahuja
- 2) Bose
- 3) Coomar
- 4) Dubey

Answer: 4

Solve: By comparing data from previous two Questions the answer is Dubey

Direction : Answer the questions on the basis of the information given below.

The Dean's office recently scanned student results into the central computer system. When their character reading software cannot read something, it leaves that space blank. The scanner output reads as follows

Name	Finance	Marketing	Statistics	Strategy	Operations	GPA
Aparana		B	F			1.4
Bikas	D	D	F	F		
Chandra		D	A	F	F	2.4
Deepak	A	B		D	D	3.2
Fazal	D	F	B		D	2.4
Gowri	C	C	A		B	3.8
Hari		B	A		D	2.8
Ismet			B		A	
Jagdeep	A	A	B		C	3.8
Kunal	F		A	F	F	1.8
Leena	B	A		B	F	3.2
Manab			A	B	B	
Nisha	A	D	B	A	F	3.6
Osman	C		B	B	A	4.6
Preeti	F	D		D		3.2
Rahul	A	C	A		F	4.2
Sameer		C	F	B		
Tara	B					2.4
Utkarsh			F	C	A	3.0
Vlpul	A		C	C	F	2.4

In the grading system, A, B, C, D and F grades fetch 6, 4, 3, 2, and 0 grade points respectively. The

CAT 2004

Grade Point Average (GPA) is the arithmetic mean of the grade points obtained in the five subjects. For example Nisha's GPA is $(6 + 2 + 4 + 6 + 0) / 5 = 3.6$.

Some additional facts are also known about the students' grades. These are

- (a) Vipul obtained the same grade in Marketing as Aparna obtained in Finance and Strategy.
- (b) Fazal obtained the same grade in Strategy as Utkarsh did in Marketing.
- (c) Tara received the same grade in exactly three courses.

In Operations, Tara could have received the same grade as

- 1) Ismet
- 2) Hari
- 3) Jagdep
- 4) Manab

Answer: 4

What grade did Preeti obtain in Statistics?

- 1) A
- 2) B
- 3) C
- 4) D

Answer: 1

What grade did Utkarsh obtain in Finance?

- 1) B
- 2) C
- 3) D
- 4) F

Answer: 3

In Strategy, Gowri's grade point was higher than the obtained by

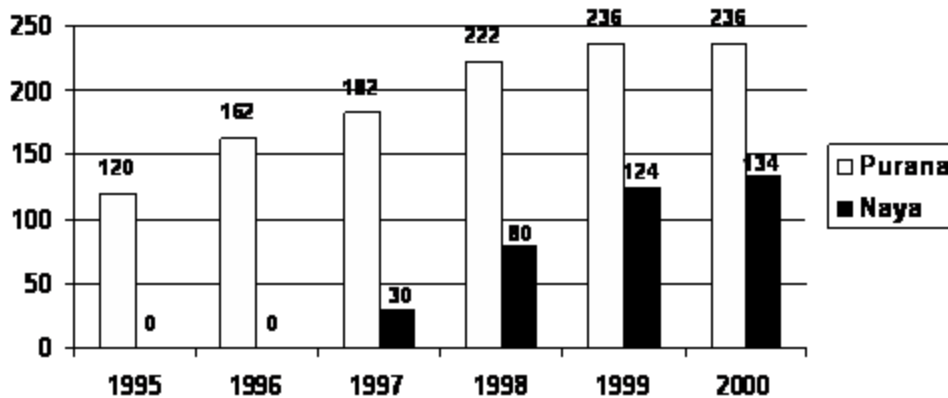
- 1) Fazal
- 2) Hari
- 3) Nisha
- 4) Rahul

Answer: 2

CAT 2004

Direction: Answer the questions on the basis of the information given below.

Purana and Naya are two brands of kitchen mixer-grinders available in the local market. Purana is an old brand that was introduced in 1990, while Naya was introduced in 1997. For both these brands 20% of the mixer-grinders bought in a particular year are disposed off as junk exactly two years later. It is known that 10 Purana mixer-grinders were disposed off in 1997. The following figures show the number of Purana and Naya mixer-grinders in operation from 1995 to 2000, as at the end of the year.



How many Naya mixer-grinders were disposed off by the end of 2000?

- 1) 10
- 2) 16
- 3) 22
- 4) cannot be determined from the data

Answer: 2

solve: In 1999 disposed off are 20 % of 30 = 6

In 2000 disposed off are 20 % of (80-30) =10

Total disposed of by 2000 = 16

How many Naya mixer-grinders were purchased in 1999?

- 1) 44
- 2) 50
- 3) 55
- 4) 64

Answer: 2

Solve: Difference in the Naya grinders in operation of 1999 & 1998 = $124 - 80 = 44$ and disposed of the year 1997 i.e. (20% of 30) 6 by the year of 1999. So the total Naya grinders purchased in 1999 =

CAT 2004

$$44 + 6 = 50$$

How many Purana mixer-grinders were purchased in 1999?

- 1) 20
- 2) 23
- 3) 50
- 4) cannot be determined from the data

Answer: 4

solve: Though the grinders in operation by 1999 is 236 but we don't know how many disposed off this year as we don't know the mixers purchased in the previous year. So we can't find the no. of grinders purchased in 1999.

How many Purana mixer-grinders were disposed off in 2000?

- 1) 0
- 2) 5
- 3) 6
- 4) cannot be determined from the data

answer: 4

solve: As we do not the mixers brought in the year 1998. So we can't find how many grinders were disposed off in 2000.

Following question is followed by two statements, A and B. Answer each question using the following instructions:

Ravi spent less than Rs.75 to buy one kilogram each of potato, onion, and gourd. Which one of the three vegetables bought was the costliest?

A: 2 kg potato and 1 kg gourd cost less than 1 kg potato and 2 kg gourd.

B: 1 kg potato and 2 kg onion together cost the same as 1 kg onion and 2 kg gourd.

- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either statement alone.

CAT 2004

- 4) if the question cannot be answered on the basis of the two statements

Answer: 3

solve: $75 = 1p + 1o + 1g$

Statement a:

$2p + 1g < 1p + 2g$ i.e. $1p < 1g$.

Statement A alone does not tell us anything about cost of onion. So answer is not found. So this statement alone does not give us the answer.

Statement B:

$1p + 2o = 1o + 2g$ i.e. $1p + 1o = 2g$. This only tells us that cost of gourd lies between the cost of potato and onion, but we cannot say which of the two (potato/onion) is costlier. So answer is not found. So this statement alone does not give us the answer.

Combining both the statements we can say that onion are the costliest

Following question is followed by two statements, A and B. Answer each question using the following instructions:

Tarak is standing 2 steps to the left of a red mark and 3 steps to the right of a blue mark. He tosses a coin. If it comes up heads, he moves one step to the right; otherwise he moves one step to the left. He keeps doing this until he reaches one of the two marks, and then he stops. At which mark does he stop?

A: He stops after 21 coin tosses.

B: He obtains three more tails than heads.

- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either statement alone.
- 4) if the question cannot be answered on the basis of the two statements

Answer: 2

solve: Blue __ Tarak _ Red

Statement A:

He stops after exactly 21 tosses. But this can only happen if he reaches the blue position. So this statement alone gives us the answer.

Statement B:

As he obtained 3 more tails than heads and he stops so he is bound to stop at blue position. So this statement alone gives us the answer.

CAT 2004

Following question is followed by two statements, A and B. Answer each question using the following instructions:

Nandini paid for an article using currency notes of denominations Re.1, Rs.2, Rs.5, and Rs.10 using at least one note of each denomination. The total number of five and ten rupee notes used was one more than the total number of one and two rupee notes used. What was the price of the article?

A: Nandini used a total of 13 currency notes.

B: The price of the article was a multiple of Rs.10.

- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either statement alone.
- 4) if the question cannot be answered on the basis of the two statements

Answer: 4

solve: a ten rupee notes

b five rupee notes

c two rupee notes

d one rupee notes

Given is $a + b = 1 + c + d$.

Statement A: $a + b + c + d = 13$

Statement A alone does not tell us anything.

Statement B: $10a + 5b + 2c + d = 10x$

Statement B alone does not tell us anything.

Even from both the statements combined, that is from the three equations given above we cannot find the values of four variables so we cannot find the answer in any case.

Following question is followed by two statements, A and B. Answer each question using the following instructions:

Four candidates for an award obtain distinct scores in a test. Each of the four casts a vote to choose the winner of the award. The candidate who gets the largest number of votes wins the award. In case of a tie in the voting process, the candidate with the highest score wins the award. Who wins the award?

A: The candidates with top three scores each vote for the top scorer amongst the other three.

B: The candidate with the lowest score votes for the player with the second highest score.

- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either

CAT 2004

statement alone.

- 4) if the question cannot be answered on the basis of the two statements

Answer: 1

solve: Let the four candidates are A, B, C, D.

Let us say they score in the same order that is a scores max, then b , then c and then d scores minimum.

Statement A:

According to this A votes for B, B votes for A, C votes for A and nothing known for vote of D. so A has got 2 votes in his favour and B has got 1 vote. Even if D casts vote to B he will not get the prize as his score is less than A, so definitely A will get the reward. So this statement alone gives us the answer.

Statement B:

This statement alone only tells us that D votes for B. but answer cannot be found from this information alone. So this statement alone does not give us the answer.

Following question is followed by two statements, A and B. Answer each question using the following instructions:

In a class of 30 students, Rashmi secured the third rank among the girls, while her brother Kumar studying in the same class secured the sixth rank in the whole class. Between the two, who had a better overall rank?

A: Kumar was among the top 25% of the boys merit list in the class in which 60% were boys.

B: There were three boys among the top five rank holders, and three girls among the top ten rank holders.

- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either statement alone.
- 4) if the question cannot be answered on the basis of the two statements

answer: 1

solve: -- R ----- ranks of girls students.

----- K ----- ranks of the whole class.

Statement A:

This tells us that 60% are boys, that is no of boys are 18. And kumar is among top 25% i.e. he is among first 4 ranks of the boys. So this statement alone does not give us the answer.

Statement B:

There are three boys among top 5 rank holders. also kumar is at 6th place, so ranking of rashmi can maximum be (if all the rest positions are of girls) seventh. So it is obvious that kumar has better

CAT 2004

rank than rashmi. So this statement alone gives us the answer.

Following question is followed by two statements, A and B. Answer each question using the following instructions:

Zakib spends 30% of his income on his children's education, 20% on recreation and 10% on healthcare. The corresponding percentages for Supriyo are 40%, 25%. and 13%. Who spends more on children's education?

A: Zakib spends more on recreation than Supriyo.

B: Supriyo spends more on healthcare than Zakib.

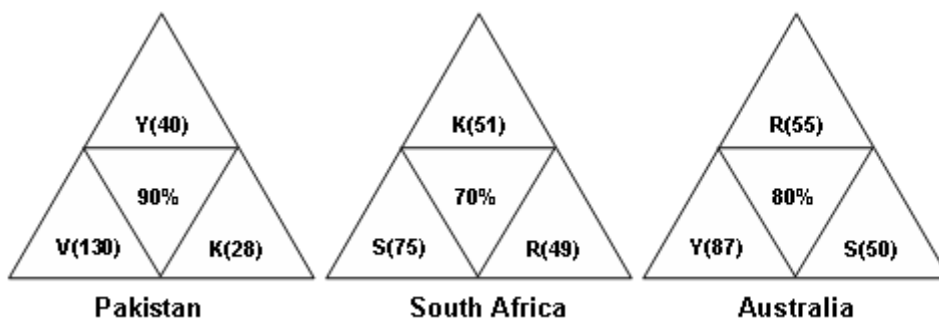
- 1) if the question can be answered by using one of the statements alone but not by using the other statement alone.
- 2) if the question can be answered by using either of the statements alone.
- 3) if the question can be answered by using both statements together but not by either statement alone.
- 4) if the question cannot be answered on the basis of the two statements

Answer: 1

Direction : Answer the questions on the basis of the information given below.

Coach John sat with the score cards of Indian players from the 3 games in a one-day cricket tournament where the same set of players played for India and all the major batsmen got out. John summarized the batting performance through three diagrams, one for each game. In each diagram, the three outer triangles communicate the number of runs scored by the three top scorers from India, where K, R, S, V, and Y represent Kaif, Rahul, Saurav, Virender, and Yuvraj respectively. The middle triangle in each diagram denotes the percentage of total score that was scored by the top three Indian scorers in that game. No two players score the same number of runs in the same game.

John also calculated two batting indices for each player based on his scores in the tournament; the R-index of a batsman is the difference between his highest and lowest scores in the 3 games while the M-index is the middle number, if his scores are arranged in a non-increasing order.



CAT 2004

Which of the players had the best M-index from the tournament?

- 1) Rahul
- 2) Saurav
- 3) Virender
- 4) Yuvraj

Answer: 2

Among the players mentioned, who can have the lowest R-index from the tournament?

- 1) Only Kaif, Rahul or Yuvraj
- 2) Only Kaif or Rahul
- 3) Only Kaif or Yuvraj
- 4) Only Kaif

Answer: 4

For how many Indian players is it possible to calculate the exact M-index?

- 1) 0
- 2) 1
- 3) 2
- 4) More than 2

Answer: 3

Solve: As explained before, it is possible to calculate the exact M index for R and S.
Therefore, answer is option (C).

How many players among those listed definitely scored less than Yuvraj in the tournament?

- 1) 0
- 2) 1
- 3) 2
- 4) More than 2

Answer: 2

Solve: V has scored 130 (one match) against Y's 127
S has scored 125 + possible 3rd against Y's 127 + possible 3rd
K if scores 48 in 3rd match would be tied with y (if he scored 0 in 2nd match)
R has scored 104 in two matches. Now in the third match he can score max. 22.
Even then he will definitely be behind Y (127) even if Y scores 0 in 2nd match.

CAT 2004

Direction: Answer the questions on the basis of the information given below.

Twenty one participants from four continents (Africa, Americas, Australasia, and Europe) attended a United Nations conference. Each participant was an expert in one of four fields, labour, health, population studies, and refugee relocation. The following five facts about the participants are given.

- (a) The number of labour experts in the camp was exactly half the number of experts in each of the three other categories.
- (b) Africa did not send any labour expert. Otherwise, every continent, including Africa, sent at least one expert for each category.
- (c) None of the continents sent more than three experts in any category.
- (d) If there had been one less Australasian expert, then the Americas would have had twice as many experts as each of the other continents.
- (e) Mike and Alfanzo are leading experts of population studies who attended the conference. They are from Australasia.

Which of the following numbers cannot be determined from the information given?

- 1) Number of labour experts from the Americas
- 2) Number of health experts from Europe
- 3) Number of health experts from Australasia
- 4) Number of experts in refugee relocation from Africa

Answer: 4

Solve: We can summarize the information given:

Let say the no. of labour expert = x

Then No. of health experts = $2x$

Then no of population studies = $2x$

Then no. of refugee relations = $2x$

Then $x + 2x + 2x + 2x = 21$

$$7x = 21$$

$$x = 3$$

The no. of labour expert = 3

The no. of population studies expert = 6

The no. of health studies expert = 6

The no. of ref. refugee relations = 6

CAT 2004

Now we come to the school point:-

Let the no. of American expert = $2x$

Then the no. of European expert = x

Then the no. of African expert = x

Then the no. of Australian expert = $x + 1$

$$\text{then } 2x + x + x + 1 = 21$$

$$5x = 20$$

$$x = 4$$

The no. of experts from America = 8

Africa = 4

Europe = 4

Australia = 5

We can make a table considering all the solutions:-

	Africa	America	Australia	Europe
Labour		1	1	1
Health	1/2/3	3/2/3	1	1
Population studies	2/1	½	2	1
Refugee	½	3/2	1	1

Which of the following combinations is NOT possible?

- 1) 2 experts in population studies from the Americas and 2 health experts from Africa attended the conference.
- 2) 2 experts in population studies from the Americas and 1 health expert from Africa attended the conference.
- 3) 3 experts in refugee relocation from the Americas and 1 health expert from Africa attended the conference.

CAT 2004

4) Africa and America each had 1 expert in population studies attending the conference.

Answer: 2

Solve: We can summarize the information given:

Let say the no. of labour expert = x

Then No. of health experts = $2x$

Then no of population studies = $2x$

Then no. of refugee relations = $2x$

Then $x + 2x + 2x + 2x = 21$

$$7x = 21$$

$$x = 3$$

The no. of labour expert = 3

The no. of population studies expert = 6

The no. of health studies expert = 6

The no. of ref. refugee relations = 6

Now we come to the school point:-

Let say the no. of American expert = $2x$

Then the no. of European expert = x

Then the no. of African expert = x

Then the no. of Australian expert = $x + 1$

then $2x + x + x + 1 = 21$

$$5x = 20$$

$$x = 4$$

The no. of experts from America = 8

Africa = 4

Europe = 4

Australia = 5

We can make a table considering all the solutions:-

	Africa	America	Australia	Europe
Labour	1	1	1	1
Health	1/2/3	3/2/3	1	1
Population studies	2/1	½	2	1
Refugee	½	3/2	1	1

If Ramos is the lone American expert in population studies, which of the following is NOT true about the numbers of experts in the conference from the four continents?

CAT 2004

- 1) There is one expert in health from Africa.
- 2) There is one expert in refugee relocation from Africa.
- 3) There are two experts in health from the Americas.
- 4) There are three experts in refugee relocation from the Americas.

Answer: 3

Solve: We can summarize the information given:

Let say the no. of labour expert = x

Then No. of health experts = $2x$

Then no of population studies = $2x$

Then no. of refugee relations = $2x$

Then $x + 2x + 2x + 2x = 21$

$$7x = 21$$

$$x = 3$$

The no. of labour expert = 3

The no. of population studies expert = 6

The no. of health studies expert = 6

The no. of ref. refugee relations = 6

Now we come to the school point:-

Let say the no. of American expert = $2x$

Then the no. of European expert = x

Then the no. of African expert = x

Then the no. of Australian expert = $x + 1$

then $2x + x + x + 1 = 21$

$$5x = 20$$

$$x = 4$$

The no. of experts from America = 8

Africa = 4

Europe = 4

Australia = 5

We can make a table considering all the solutions:-

	Africa	America	Australia	Europe
Labour	1	1	1	
Health	1/2/3	3/2/3	1	1
Population studies	2/1	1/2	2	1
Refugee	1/2	3/2	1	1

CAT 2004

Alex, an American expert in refugee relocation, was the first keynote speaker in the conference. What can be inferred about the number of American experts in refugee relocation in the conference, excluding Alex?

- i. At least one
 - ii. At most two
-
- 1) Only i and not ii
 - 2) Only ii and not i
 - 3) Both i and ii
 - 4) Neither i nor ii

Answer: 3

Solve: We can summarize the information given:

Let say the no. of labour expert = x

Then No. of health experts = $2x$

Then no of population studies = $2x$

Then no. of refugee relations = $2x$

Then $x + 2x + 2x + 2x = 21$

$$7x = 21$$

$$x = 3$$

The no. of labour expert = 3

The no. of population studies expert = 6

The no. of health studies expert = 6

The no. of ref. refugee relations = 6

Now we come to the school point:-

Let say the no. of American expert = $2x$

Then the no. of European expert = x

Then the no. of African expert = x

Then the no. of Australian expert = $x + 1$

then $2x + x + x + 1 = 21$

$$5x = 20$$

$$x = 4$$

The no. of experts from America = 8

Africa = 4

Europe = 4

Australia = 5

We can make a table considering all the solutions:-

CAT 2004

	Africa	America	Australia	Europe
Labour	1	1	1	
Health	1/2/3	3/2/3	1	1
Population studies	2/1	½	2	1
Refugee	½	3/2	1	1

Direction: Answer the questions on the basis of the information given below.

The year was 2006. All six teams in Pool A of World Cup hockey, play each other exactly once. Each win earns a team three points, a draw earns one point and a loss earns zero points. The two teams with the highest points qualify for the semifinals. In case of a tie, the team with the highest goal difference (Goal For - Goals Against) qualifies.

In the opening match, Spain lost to Germany. After the second round (after each team played two matches), the pool table looked as shown below.

Pool A

Teams	Games Played	Won	Drawn	Lost	Goals For	Goals Against	Points
Germany	2	2	0	0	3	1	6
Argentina	2	2	0	0	2	0	6
Spain	2	1	0	1	5	2	3
Pakistan	2	1	0	1	2	1	3
New Zealand	2	0	0	2	1	6	0
South Africa	2	0	0	2	1	4	0

In the third round, Spain played Pakistan. Argentina played Germany, and New Zealand played South Africa. All the third round matches were drawn. The following are some results from the fourth and fifth round matches

- (a) Spain won both the fourth and fifth round matches
- (b) Both Argentina and Germany won their fifth round matches by 3 goals to 0.
- (c) Pakistan won both the fourth and fifth round matches by 1 goal to 0.

Which one of the following statements is true about matches played in the first two rounds?

- 1) Pakistan beat South Africa by 2 goals to 1.
- 2) Argentina beat Pakistan by 1 goal to 0.
- 3) Germany beat Pakistan by 2 goals to 1.
- 4) Germany beat Spain by 2 goals to 1.

Answer: 2

CAT 2004

Solve: From the given information following is the only possible combination for 1st 2 rounds.

Round 1

Spain Vs Germany Argentina Vs New Zealand Pakistan Vs S.A.

0 – 1

1 – 0

2 – 0

Round 2

Spain Vs NZ Argentina Vs Pakistan Germany Vs S.A.

5 – 1

1 – 0

2 – 1

Which one of the following statements is true about matches played in the first two rounds?

- 1) Germany beat New Zealand by 1 goal to 0.
- 2) Spain beat New Zealand by 4 goals to 0.
- 3) Spain beat South Africa by 2 goals to 0.
- 4) Germany beat South Africa by 2 goals to 1.

Answer: 4

Solve: From the given information following is the only possible combination for 1st 2 rounds.

Round 1

Spain Vs Germany

Argentina Vs New

Zealand Pakistan Vs S.A.

0 – 1

1 – 0

2 – 0

Round 2

Spain Vs NZ

Argentina Vs Pakistan

Germany Vs S.A.

5 – 1

1 – 0

2 – 1

Answer: (4)

If Pakistan qualified as one of the two teams from Pool A. which was the other team that qualified?

- 1) Argentina
- 2) Germany
- 3) Spain
- 4) Cannot be determined

Answer: 4

Solve: From the given information following is the only possible combination for 1st 2 rounds.

Round 1

Spain Vs Germany

Argentina Vs New

Zealand Pakistan Vs S.A.

0 – 1

1 – 0

2 – 0

Round 2

Spain Vs NZ

Argentina Vs Pakistan

Germany Vs S.A.

5 – 1

1 – 0

2 – 1

CAT 2004

Which team finished at the top of the pool after five rounds of matches?

- 1) Argentina
- 2) Germany
- 3) Spain
- 4) Cannot be determined

Answer; 4

Solve: From the given information following is the only possible combination for 1st 2 rounds.

Round 1

Spain Vs Germany

0 – 1

Argentina Vs New

1 – 0

Zealand Pakistan Vs S.A.

2 – 0

Round 2

Spain Vs NZ

5 – 1

Argentina Vs Pakistan

1 – 0

Germany Vs S.A.

2 – 1

CAT 2004