

CAT 1992 Actual Paper

SECTION I

Q1 to 7 : arrange the sentences A, B, C and D to form a logical sequence between sentences 1 and 6.

1.

1. Amount of published information available varies widely by industry.

A. Unfortunately for the researcher, many industries do not meet these criteria, and there may be little published information available.

B. Generally, the problem the researcher will face in using published data for analysing an economically meaningful industry is that they are too broad or too arranged to fit the industry.

C. However, it is always possible to gain some important information about an industry from published sources and these sources should be aggressively pursued.

D. Larger the industry, the older it is, and the slower the rate of technological change, better is the available published information.

6. If a researcher starts a searching for data with this reality in mind, the uselessness of broad data will be better recognized and the tendency to give up will be avoided.

(a) ACBD

(b) CBAD

(c) DACB

(d) BDAC

2.

1. The main source of power in industrial undertaking is electricity.

A. Electricity from water also requires enormous river valley projects involving huge expenditure.

B. In contrast, electricity from atomic power stations will result in a tremendous saving in expenditure.

C. Besides, the mineral resources of the world required for generation of electricity are being rapidly depleted.

D. But the production of electricity needs huge quantities of coal.

6. The installation of atomic plants will help in meeting the shortage of these resources.

(a) ABDC

(b) CBAD

(c) DABC

(d) BCAD

3.

1. Intensity of competition in an industry is neither a matter of coincidence nor bad luck.

A. The collective strength of these forces determines the ultimate profit potential in the industry where profit potential is measured in terms of long run returns on invested capital.

B. Rather, competition in an industry is rooted in its underlying economic structure and goes well beyond the behavior of current competitors.

C. Not all industries have the same potential.

D. The state of competition in an industry depends on five basic competitive forces.

6. They differ fundamentally in their ultimate profit potential as the collective strength of the forces differ.

(a) CDBA

(b) DCAB

(c) BDAC

(d) ABDC

4.

1. The general enemy of mankind, as people have discovered, is not science, but war.
- A. It is found that there is peace, science is constructive; when there is war science is perverted to destructive ends.
 - B. Science merely reflects the social forces by which it is surrounded.
 - C. Until now, they have brought us to the doorstep of doom.
 - D. The weapon which science gives us do not necessarily create war, these make war increasingly more terrible.
6. Our main problem, therefore, is not to curb science, but to stop war, to substitute law for force and international governments for anarchy in the relations between nations.

- (a) ADBC
- (b) BADC
- (c) CDAB
- (d) DABC

5.

1. It will be foolish to deny that the countryside has many attractions to offer.
- A. One soon gets tired of the same old scenes and creatures day in and day out.
 - B. But there is another side of the picture.
 - C. The honesty and frankness of the country-folk, too, is a refreshing change from the dishonesty and selfishness we find in so many urban people.
 - D. There is the lovely scenery, the interesting and varied wildlife, the long rambles through the woods and fields and the clean, healthy air.
6. The loneliness and monotony in the countryside soon begin to make themselves felt and we long for the familiar sidewalks and street corners of the town.

- (a) ABCD
- (b) DCAB
- (c) DABC
- (d) DCBA

6.

1. A welfare state in the attainment of its objective must avoid coercion and violence.
- A. But communism implies the loss of freedom of expression and action and introduces a regimentation of life.
 - B. Communism implies the loss of freedom of expression and action and introduces a regimentation of life.
 - C. There are all serious disadvantages which perhaps outweigh the economic gains.
 - D. Communism aims at the welfare state and perhaps the completest form of the welfare state in most respects.
6. A true welfare state can develop only by following the path of peace and democracy.

- (a) CADB
- (b) ACDB
- (c) DCAB
- (d) DABC

7.

1. Human experience tends to show that the more we mix with a man, the more we come to dislike him.
- A. When the acquaintance with him ripens into intimacy, we are likely to become very keenly aware of his defects and imperfections.
 - B. In the beginning, we may feel greatly attracted by someone because of certain qualities that we find in him.
 - C. But on closer acquaintance we will begin to perceive his faults and shortcomings.
 - D. The truth is that nobody is free from faults and weaknesses.
6. But while a man makes a show of his strong points and his good qualities, he generally tries to conceal or cover his faults and defects.

- (a) ACBD
- (b) BCAD
- (c) CDBA
- (d) DCAB

Q8 to 15 : A number of sentences are given below which, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the four given choices to construct a coherent paragraph.

8.

- A. It is turning off the tap.
 - B. And with no consensus of the exit policy, the government is damned if it supports loss making units and damned if it doesn't.
 - C. The private sector did the same in the past because securing legal sanction for closure was virtually impossible.
 - D. After years of funding the losses of public sector companies, the government is doing the unthinkable.
- (a) DACB
 - (b) CADB
 - (c) DCAB
 - (d) BDAC

9.

- A. Trade protocols were signed, the dollar as the medium of exchange was ignored, trade was denominated in rupees and the exchange rate between the two countries was to be fixed outside the ambit of free markets.
 - B. A young India, some years after independence fashioning her foreign policy of nonalignment, found it prudent to stay close to the former Soviet Union.
 - C. Once upon a time there was a super power named Soviet Union that attracted nations apprehensive of the global aspirations of the other superpower, the U.S.A.
 - D. One way of doing this was to evolve a bilateral relations in trade that could be called upon provide a buffer against the arm-twisting by the U.S.A.
- (a) CBAD
 - (b) BADC
 - (c) BCAD
 - (d) CBDA

10.

- A. I had heard that sort of thing before.
 - B. He said that his generation was the first to believe that it had no future.
 - C. A young American made earthling stopped by my house the other day to talk about some book of mine he had read.
 - D. He was the son of a Boston man who had died an alcoholic vagrant.
- (a) CDBA
 - (b) ABCD
 - (c) CBAD
 - (d) ABDC

11.

- A. This is probably one of the reasons why the number of women and men remain roughly equal in most societies.
 - B. Fortunately or unfortunately, individual couples cannot really be concerned about this overall 'error'.
 - C. Population growth then can be considered the error of this central process.
 - D. Purely at the human level, it appears that most couples like to have at least one living daughter and one living son when they are in the middle ages.
- (a) CBDA
 - (b) DACB
 - (c) DCBA
 - (d) CDAB

12.

- A. Against this background, the current target of 12.8 percent does not seem that high a figure.
 B. A better vantage point to evaluate the 12.8 percent target for export growth is our performance in the 'golden years' between 1986 – 87 and 1990 – 91, during which time exports in dollar terms increased by 17.1 percent.
 C. In fact, the rate of growth would have to increase still further if we are to achieve the eighth plan target of export growth in value terms of 13.6 percent per annum.
 D. Even in 1990 – 91, the year of the Gulf War, exports went up by 9 percent.
- (a) BDAC
 (b) BCAD
 (c) DABC
 (d) ACBD

13.

- A. Their growing costs and a growing economy-must be reckoned with realistically.
 B. Central programmes persist and in some cases grow.
 C. As demand expands, programmes expand.
 D. It is extremely difficult to curtail them.
- (a) CDAB
 (b) BCDA
 (c) DABC
 (d) ACBD

14.

- A. It was never denied and seemed to be integrated into the city life.
 B. The poverty was there right in the open in all the streets.
 C. But, somehow it did not depress me as much as I had feared.
 D. Indian society is associated with great poverty, and indeed I saw a lot of poverty in Bombay.
- (a) ADABC
 (b) BCAD
 (c) BCDA
 (d) DCBA

15.

- A. This has been going on now for nearly 200 years.
 B. They haven't even been noticed much by central, state, or local governments, no matter how insolent or blasphemous or treasonous those writers may be.
 C. But writers of novels, plays, short stories or poems have never been hurt or hampered much
 D. Journalists and teachers are often bullied or fired in my country for saving this or that.
- (a) DCBA
 (b) ABCD
 (c) BCDA
 (d) DCAB

Q16 to 24 : Each question contains six statements followed by four sets of combinations of three. Choose the set in which the statements are logically related.

16.

- A. All boys are good.
 B. Some girls are bad.
 C. Good people are educated.
 D. Boys are educated.
 E. Ram is an educated boy.
 F. Lata is an educated girl.
- (a) BCF
 (b) ACD
 (c) DEF
 (d) ADF

17.

- A. All who are sincere are graduates.
- B. Some graduates are not sincere.
- C. All who are sincere are dull.
- D. All graduates are dull.
- E. Some who are dull are graduates.
- F. No one who is dull is sincere.

- (a) BEF
- (b) ADF
- (c) ABF
- (d) ACD

18.

- A. Sham won a lottery.
- B. Sham lost in a chess game.
- C. Sham is not intelligent.
- D. One need not be intelligent to win a lottery.
- E. One need not be intelligent to win a chess game.
- F. Sham plays chess.

- (a) BEF
- (b) ACD
- (c) BDE
- (d) BDF

19.

- A. Good managers are intuitive.
- B. Some managers are women.
- C. Supriya is a good manager.
- D. Supriya is a woman.
- E. Some women are intuitive.
- F. Supriya is intuitive.

- (a) BCE
- (b) ABD
- (c) ACF
- (d) ADF

20.

- A. Some college athletes are professionals.
- B. No college athlete is a professional.
- C. Some professionals are well paid.
- D. All professionals are well paid.
- E. All well – paid persons are professionals.
- F. No well – paid person is a college athlete.

- (a) BEF
- (b) ABF
- (c) BDF
- (d) ACF

21.

- A. Some intolerant are poor – thinkers.
- B. Some poor – thinker is intolerant.
- C. All people with high ideals are intolerant.
- D. No poor thinker is intolerant.
- E. No poor thinker has high ideals.
- F. Some people with high ideals are not poor thinkers.

- (a) CDE
- (b) CDF

- (c) ABD
(d) BCF

22.

- A. All engineers can sing.
B. No music lover can sing.
C. All who can sing are music lovers.
D. All music lovers can sing.
E. Some who can sing are engineers.
F. All engineers are music lovers.
(a) ACE
(b) ACF
(c) ABF
(d) ACD

23.

- A. Some well-dressed people are sociable.
B. All sociable people are well-dressed.
C. Some well dressed people are dull.
D. No dull person is well-dressed.
E. Some sociable people are dull.
F. Some dull ones are well-dressed.
(a) ACE
(b) BCE
(c) ADE
(d) BEF

24.

- A. Iran and Iraq are members of the UN.
B. Iran and Iraq are not friends.
C. Iran and Iraq are neighbours.
D. Some UN members are friends.
E. Not all members of the UN are friends.
F. All neighbours are not friends.
(a) ABE
(b) ABD
(c) CDF
(d) AEF

Q25 to 27 : Kya –Kya is an obscure island which is inhabited by two types of people: the ‘Yes’ type and the ‘No’ type. Native of type ‘Yes’ ask only questions the right answer to which is ‘Yes’ while those of type ‘No’ ask only questions the right answer to which is ‘No’. For example. The ‘Yes’ type will ask questions like “Is 2 plus 2 equal to 4?” while the ‘No’ type will ask questions like “Is 2 plus 2 equal to five?” The following questions are based on your visit to the island of Kya – Kya.

25. If an islander asks, “Do I belong to the ‘No’ type”, which of the following is correct?

- (a) He is a ‘No’.
(b) He is a ‘Yes’.
(c) It is impossible for him to have asked such a question.
(d) His type cannot be identified.

26. Ram and Laxman are brothers from the Island. Laxman asks you, “Is at least one of us brothers of type ‘No’?” You can conclude that

- (a) Ram is ‘NO’, Laxman is ‘Yes’.
(b) both are ‘Yes’.
(c) Ram is ‘Yes’, Laxman is ‘No’.
(d) both are ‘No’.

27. You are approached by one of the islanders and asked, "Am I of type 'Yes'?" You can infer that
- (a) he was a 'No'.
 - (b) he was a 'Yes'.
 - (c) such a situation is not possible.
 - (d) no conclusion is possible.

Q28 to 34 : Each of these questions has four items. You are required to select that item which does not belong to the group.

- 28.
- (a) authority
 - (b) cruel
 - (c) kind
 - (d) loyal

- 29.
- (a) revenue
 - (b) income
 - (c) expenditure
 - (d) receivables

- 30.
- (a) courage
 - (b) strength
 - (c) valour
 - (d) warrior

- 31.
- (a) democracy
 - (b) voting
 - (c) monarchy
 - (d) dictatorship

- 32.
- (a) Gold medalist
 - (b) Athlete
 - (c) Olympic Champion
 - (d) Record holder

- 33.
- (a) Managers use their authority.
 - (b) Scientists use their logical abilities.
 - (c) Artists use their creative abilities
 - (d) Engineers use their technical skills.

- 34.
- (a) Air travel is expensive.
 - (b) Most people travel to Australia by air.
 - (c) Businessmen travel a lot by air.
 - (d) Aeroplanes are expensive.

35. Each of three friends knows whether the other two have passed or failed in an examination, but does not know his own result. The teacher comes and says, "At least one has failed". If all three still does not know their own results which of the following is true?
- (a) One student has failed.
 - (b) Two students have failed.
 - (c) Two or more students have failed.
 - (d) All three have failed.

Q36 to 45 : Each question has a pair of CAPITALIZED words followed by four pairs of words. Choose the pair of words which best expresses the relationship similar to that expressed in the capitalized pair.

36. SYMPHONY : COMPOSER

- (a) rain : flood
- (b) light : switch
- (c) novel : author
- (d) song : music

37. TREE : TRUNK

- (a) pen : ink
- (b) car : chassis
- (c) cabin : log
- (d) arm : body

38. CIRCLE : ARC

- (a) line : segment
- (b) part : whole
- (c) percent : fraction
- (d) small : big

39. COW : HERD

- (a) grass : green
- (b) child : family
- (c) bald : hair
- (d) horse : jockey

40. WOOL : ACRYLIC

- (a) rayon : silk
- (b) plastic : rubber
- (c) winter : spring
- (d) cotton : terylene

41. DOCTOR : DISEASE

- (a) policeman : criminal
- (b) dentist : drill
- (c) politician : electorate
- (d) teacher : ignorance

42. BIRD : ORNITHOLOGY

- (a) zoology : animal
- (b) stars : galaxy
- (c) archeology : antiquity
- (d) plants : botany

43. FOOD : HUNGER

- (a) sleep : weariness
- (b) night : slumber
- (c) dream : sleep
- (d) thirst : drink

44. SPEAR : DART

- (a) knife : sword
- (b) door : window
- (c) mountain : molehill
- (d) cannon : gun

45. BUILDING : BRICK

- (a) lime : cement
- (b) highway : asphalt
- (c) river : bridge
- (d) vehicle : road

Q46 to 50 : In each of the three questions, a sentence has been divided into four parts and marked a, b, c and d. One of these parts contains a mistake in grammar, idiom or syntax. Identify that part and mark it as the answer.

46.

- (a) Pakistan was the team
- (b) whom most people thought
- (c) would win the World Cup
- (d) held in 1987.

47.

- (a) When you turn to your right,
- (b) you will find a big house
- (c) with a beautiful garden on the front side of it
- (d) and that is my residence.

48.

- (a) I have been postponing calling
- (b) on my friend in the hospital,
- (c) but I am planning
- (d) I would go there tomorrow.

49.

- (a) I wondered who could be calling me at midnight
- (b) and when I took the phone
- (c) I found it was not other
- (d) Than my fiancé from Paris.

50.

- (a) I want you to take the first bus
- (b) and to go to the Bank
- (c) and remit this cheque and then
- (d) come back straight here.

SECTION III

Passage 1

The core of modern doctoring is diagnosis, treatment and prognosis. Most medical schools emphasize little else. Western doctors have been analyzing the wheezes and pains of their patients since the 17th century to identify the underlying disease of the cause of complaints. They did it well and good diagnosis became the hall mark of a good physician. They were less strong on treatment. But when sulphonamides were discovered in 1935 to treat certain bacterial infections, doctors found themselves with powerful new tools. The area of modern medicine was born. Today there is a ever-burgeoning array of complex diagnostic tests, and of pharmaceutical and surgical methods of treatment. Yet what impact has all this had on health?

Most observers ascribe recent improvements in health in rich countries to better living standards and changes in lifestyle. The World Health Organization cites the wide differences in health between Western and Eastern Europe. The two areas have similar pattern of diseases: heart disease, senile dementia, arthritis and cancer are the most common cause of sickness and death. Between 1947 and 1964, both parts of Europe saw general health improve , with the arrival of cleaner water, better sanitation and domestic refrigerators. Since the mid 1960s, however, E. European countries, notable Poland and Hungary, have seen mortality rates rise and life expectancy fall, why? The WHO ascribes the divergence to differences in lifestyle-diet, smoking habits, alcohol, a sedentary way of life (factors associated with chronic and degenerative diseases) rather than differences in access in modern medical care.

In contrast, the huge sum now spent in the same of medical progress produce only marginal improvements in health. America devotes nearly 12% of its GNP to it high technology medicine, more than any other developed country. Yet, overall, Americans die younger, lose more babies and are at least as likely to suffer from chronic diseases. Some medical producers demonstrably do work: mending broken bones, the removable of cataracts, drugs for ulcers, vaccination, aspirin for headaches, antibiotics for bacterial infections, techniques that save new born babies, some organ transplant, yet the evidence is scant for many other common treatments. The coronary by-pass, a common, surgical technique, is usually to overcome the observation caused by a blood clot in arteries leading to the heart. Deprived of oxygen, tissues in the heart might otherwise die. Yet, according to a 1988 study conducted in Europe, coronary by-pass surgery is beneficial only in the short term. A by-pass patient who dies within five years has probably lasted longer than if he had simply taken drugs. But among those who get to or past five years, the drug-takers live longer than those who have surgery.

An American study completed in 1988 concluded that removing tissue from the prostate gland after the appearance of (non-cancerous) growth, but before the growths can do much damage, does not prolong life expectancy. Yet the operation was performed regularly and cost Medicare, the federally – subsidized system for the elderly, over \$1 billion a year.

Though they have to go through extensive clinical trials, it is not always clear that drugs provide health benefits. According to Dr. Louise Russell, a professor of economics at Rutgers University, in New Jersey, although anti – cholesterol drugs have been shown in clinical trails to reduce the incidence of deaths due to coronary heart disease, in ordinary life there is no evidence that extend the individual drug taker’s life expectancy. Medical practice varies widely from one country to another. Each year in America about 60 of every 100,000 people have a coronary by-pass; In Britain about six Anti-diabetic drugs are far more commonly used in some European countries than others. One woman in five, in Britain, has a hysterectomy (removal of the womb) at some time during her life; In America and Denmark, seven out of ten do so.

Why? If coronary heart problems were far commoner in America than Britain, or diabetes in one part of Europe than another, such differences would be justified. But that is not so. Nor do American and Danish women become evidently healthier than British ones. It is the medical practice, not the pattern of illness or the outcome, that differs. Perhaps American patients expect their doctors to “do something” more urgently than British ones? Perhaps American doctors are readier to comply? Certainly the American medical fraternity grows richer as a result. No one else seems to have gained through such practices.

To add injury to insult, modern medical procedures may not be just of questionable worth but sometimes dangerous. Virtually all drugs have some adverse side-effects on some people. No surgical procedure is without risk. Treatments that prolong life can also promote sickness: the heart attack victim may be saved but survive disabled.

Attempts have been made to sort out this tangle. The “outcomes movement” born in America during the past decade, aims to lessen the use of inappropriate drugs and pointless surgery by reaching some medical consensus which drug to give? Whether to operate or medicate? through better assessment of the outcome of treatments.

Ordinary clinical trials measure the safety and immediate efficacy of products or procedures. The outcomes enthusiasts try to measure and evaluate far wider consequences. Do patients actually feel better? What is the impact on life expectancy and other health statistics? And instead of relying on results from just a few thousand patients, the effect of treating tens of thousands are studied retrospectively. As an example of what this can turn up, the adverse side-effects associated with Opren, an anti-arthritis drug, were not spotted until it was widely used.

Yet Dr. Arnold Epstein, of the Harvard Medical School, argues that, worthy as it may be, the outcomes movement is likely to have only a modest impact on medical practice. Effectiveness can be difficult to measure: patients can vary widely in their responses. In some, a given drug may relieve pain, in others not: is highly subjective. Many medical controversies will be hard to resolve because of data conflict.

And what of the promised heart-disease or cancer cures? Scientists accept that they are unlikely to find an answer to cancer, heart disease or degenerative brain illness for a long while yet. These diseases appear to be highly complex triggered when a number of bodily functions go awry. No one pill or surgical procedure is likely to be the panacea. The doctors probably would do better looking at the patient's diet and lifestyle before he becomes ill than giving him six pills for the six different bodily failure that are causing the illness once he has got it.

Nonetheless modern medicine remains entrenched. It is easier to pop pills than change a lifetime' habits. And there is always the hope some new miracle cure --or some individual miracle.

Computer technology has helped produce cameras so sensitive that they can detect the egg in the womb, to be extracted for test tube fertilization. Bio-materials have created an artificial heart that is expected to increase life expectancy among those fitted with one by an average of 54 months. Bio-technology has produced expensive new drugs for the treatment of cancer. Some have proved life-savers against some rare cancers; none has yet had a substantial impact on overall death rates due to cancer.

These innovations have vastly increased the demand and expectations of health care and pushed medical bills even higher – not lower, as was once hoped, Inevitably, governments, employers and insurers who finance health care have rebelled over the past decade against its astronomic costs, and have introduced budgets and rationing to curb them.

Just as inevitably, this limits access to health care: rich people get it more easily than poor ones.

Some proposed solutions would mean no essential change, just better management of the current system. But others, mostly from American academics, go further, aiming to reduce the emphasis on modern medicine and its advance. Their trust is two headed:

- (i) prevention is better – and might be cheaper – than cure; and
- (ii) if you want high-tech, high-cost medicine, you (or your insurers, but not the public) must pay for it, especially when its value is uncertain.

Thus the finance of health-care systems, private or public, could be skewed to favour prevention rather than cure. Doctors would be reimbursed for preventive practices, whilst curative measures would be severely rationed. Today the skew is all the other way: Governments or insurers pay doctors to diagnose disease and prescribe treatment, but not to give advise on smoking or diet.

Most of the main chronic diseases are man-made. By reducing environmental pollution, screening for and treating biological risk indicators such as high blood pressure, providing vaccination and other such measures – above all, by changing people's own behavior – within decades the incidence of these diseases could be much reduced. Governments could help by imposing ferocious "Sin taxes" on unhealthy products such as cigarettes, alcohol, maybe even fatty foods, to discourage consumption.

The trouble is that nobody knows precisely which changes – apart from stopping smoking – are really worth putting into effect, let alone how. It is clear that people whose blood pressure is brought down have a brighter future than if it stayed high; It is not clear that cholesterol screening and treatment are similarly valuable. Today's view of what constitutes a good diet may be judged wrong tomorrow.

Much must change before any of these "caring" rather than "cure" schemes will get beyond the academic drawing-board. Nobody has yet been able to assemble a coherent preventive programme. Those countries that treat medicine as a social cost have been wary of moves to restrict public use of advanced and / or costly medical procedures, while leaving the rich to buy what they like. They fear that this would simply leave ordinary people with third-class medicine.

In any case, before fundamental change can come, society will have to recognize that modern medicine is an imprecise science that does not always work: and that questions of how much to spend on it, and how, should not be determined almost incidentally, by doctor's medical preferences.

101. The discovery of sulphonamides

- (a) helped the doctors to diagnose better.
- (b) led to better treatment of some bacterial infections.
- (c) eventually led to pharmaceutical and surgical methods of treatment.
- (d) None of the above.

102. The current medical practice as carried out in America benefits mostly the

- (a) doctors
- (b) rich
- (c) biotechnology companies
- (d) None of the above

103. In some European countries anti-diabetic drugs are far more commonly used than others because

- (a) the drugs are fairly easy to take.
- (b) more people in those countries suffer from diabetes than in others.
- (c) medical practice in different countries varies.
- (d) the sedentary way of life which marks their lifestyle results in more people becoming diabetic.

104. Which of the following statements is false?

- (a) Coronary by-pass operation is entirely ineffective.
- (b) Drug taking is sometimes better than undergoing coronary by-pass surgery.
- (c) Removing tissue from prostate gland after non-cancerous growths appear is a risky operation.
- (d) The American medicare is billed about a billion dollars annually for prostate operations.

105. Which of the following measures if undertaken under 'Care rather than Cure' movement could prove to be controversial?

- (a) 'Sin' taxes on harmful substances such as tobacco and alcohol.
- (b) Screening for high blood pressure.
- (c) Providing vaccinations.
- (d) Cholesterol screening.

106. The outcomes movement could make a significant impact on medical practice if only

- (a) the efficacy of all drugs could be tested fast.
- (b) the results from just a few thousands patients could be relied on.
- (c) the patient had responded uniformly to drugs and medical procedure.
- (d) pain could be easily relieved.

107. Modern cures are too expensive because

- (a) bio-materials are expensive.
- (b) employing biotechnological processes in making medicines is an expensive process.
- (c) there is a huge demand for them but the supply is limited.
- (d) None of these.

108. The main objection to 'care rather cure' approach is that it

- (a) might leave the poor to fend for themselves.
- (b) will lead to confusion as far as the choice of medical technique to be followed.
- (c) is not possible to put together coherent preventive programmes.
- (d) will lead to the neglect of curative techniques.

Passage 2

Smith did not invent economics. Joseph Schumpeter observed that “The Wealth of the Nations” did not contain “a single analytic idea, principle or method that was entirely new”. Smith’s achievement was to combine an encyclopaedic variety of insight, information and anecdote, and to distill from it a revolutionary doctrine. The resulting masterpiece is the most influential book about economics ever published. Remarkably, much of it speaks directly to questions that are still of pressing concern.

The pity is that Smith’s great book, like most classics (of 900 pages), is more quoted than read. All sides in today’s debates about economic policy have conspired to peddle a conveniently distorted version of its idea. If his spirit is still monitoring events, it will undoubtedly have celebrated the collapse of communism. But it must also long to meet the politicians who have taken charge of a fine reputation and not so fine profile. And put them right on one or two points.

Today Smith is widely seen as intellectual champion of self-interest. This is a misconception. Smith saw no moral virtue in selfishness ; on the contrary he saw its dangers. Still less was he a defender of capital over labour (he talked of the capitalist’s “mean rapacity”), of the rising bourgeoisie over the common folk. His suspicion of self – interest and his regard for the people as a whole come through clearly in one of his best-known remarks: “People of the same trade often meet together, even have merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.”

Far from praising self-interest as a virtue, Smith merely observed it to be a driving economic force. In “The Wealth of Nations” he explained how this potentially destructive impulse is harnessed to the social good. What is to prevent greedy producers raising their prices until their customers can afford to pay no more? The answer is competition. If producers raise their prices too high, they create an opportunity for one or more among them to profit by charging less and thus selling more. In this way competition tames selfishness and regulates prices and quality. At the same time it regulates quantities. If buyers want more bread and less cheese, their demand enables bakers to charge more and obliges cheese-mongers to charge less. Profits in bread-making would rise and profits in cheese-making would fall; effort and capital would move from one task to the other.

Through Smith’s eyes, it is possible to marvel afresh at this fabulously powerful mechanism and to relish, as he did, the paradox of private gain yielding social good. Only more so, for the transactions that deliver a modern manufactured good to its customer are infinitely more complicated than those described by Smith. In his day, remember, the factory was still a novel idea: manufacturing meant pins and coats.

A modern car is made of raw materials that have been gathered from all over the world, combined into thousands of intermediate products, sub-assembled by scores of separate enterprises. The consumer need know nothing of all this, any more than the worker who tapped the rubber for the tyres knows or cares what its final use will be. Every transaction is voluntary. Self-interest and competition silently process staggering quantities of information and direct the flow of good. Services, capital and labour – just as in Smith’s much simpler world. Far-sighted as he was, he would surely have been impressed. Mind you, modern man has also discovered something else. With great effort and ingenuity, and the systematic denial of personal liberty, governments can supplant self-interest and competition, and replace the invisible hand of market forces with collective endeavour and a visible input- output table. The result is a five-year waiting list for Trabants.

Because Smith was convinced that the market would, literally, deliver the goods, he wanted it, by and large, left alone. He said that governments should confine themselves to three main tasks: defending the people from the “violence and invasion of other independent societies”, protecting every member of society from the “injustice or oppression of every other member of it”; and providing “certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain.”

Each of these jobs arises because the market in some ways fails. In the first two cases-collective defence and the administration of justice - the failure is the so-called free-rider problem. People disguise what they are willing to pay for a service that must be provided to everybody or not at all; they want to consume it and let others meet the cost. However the

third job the provision of “certain public works and certain public institutions” goes much wider. Indeed, to modern minds, it threatens to be all encompassing. It recognizes not only the free-rider problem but also other species of market failure notably, the effects of private transactions on third parties, or “externalities”. Smith has in mind roads, public education, and help for the destitute. As it turned out, millions of teachers, nurses, firemen, postmen, rubbish collectors, bus drivers and 57,000 varieties of civil servant have since marched through this opening.

Smith’s thinking already seems to permit a great deal of government intervention. Add some modern economics and the floodgates open. For instance, theorists have shown that if just one price in an economy is different from price under competition, efficiency may require other every price to be somewhat distorted as well. Less government intervention, it seems to follow, cannot be assumed to be better. Competition itself has changed out of recognition. Modern economies, it is said, are driven not by countless small producers, but by handful of giant enterprises and monopolistic trade unions. And the rapid pace of industrial change has made the externality of pollution for more obvious than before. Smith, admittedly, is a bit thin on global warming.

Above all, many have forgotten something than Smith saw clearly: that every advantage granted by government to one part of the economy puts the rest at a disadvantage. Accordingly, he talked not of “intervention” -a too-neutral word-but of “preference” and “restraint”. Modern governments offer preference as though it costs nothing: the beneficiaries demand it as of right.

But Smith went further than revealing the penalty in every preference. He also understood that ministers, like markets, fail. A great virtue of unfettered competition, he said, was that “the sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient. “ Many of the reasons why markets fail are also reasons why governments fail at the same task. If the consumer refuses to reveal his preferences in a market setting, how are governments to discover them? All too often, moreover, government intervention is itself a cause of the market breaking down which becomes the reason for further rounds of intervention, and so on. In Britain think of tax preferences for housing, rent controls, planning, regulations; America think of tax preferences for borrowing, deposit insurance, leverage buy-outs, financial-market regulation.

In one crucial respect, Smith’s arguments are even more powerful now than in this day. Naturally, he favoured free trade to prevent market failure: “By means of glasses, hotbeds, and hotwalls, very good grapes can be raised in Scotland, and very good wine too can be made of them at about thirty times the expense for which at least equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of all foreign wines, merely to encourage the making of claret and burgundy in Scotland?” Two centuries later, free trade is not just a matter of the cheapest supply; it is also the best way to force producers that might otherwise be near-monopolies to compete. It is perfect folly to complain that today’s big companies render the invisible hand powerless, and to conclude that barriers to trade must go up: trade and competition need each other more than ever before.

Smith was a pragmatist. The principles he expounded on the proper role of government are flexible if anything, too flexible. They are a remainder that imperfect markets are usually cleverer than imperfect governments, but they cannot draw a line to separate good intervention from bad. If governments and voters could be guided by two Smithian precepts, however, the market system that has worked so well would work even better.

First, the competitive clash of self interest against self-interest, however imperfect, has built-in safeguards. Before governments exert their monopoly power to displace it, they must justify themselves. Let the burden of proof always be on them, Second, when preference or restraint are judged to be necessary, use market forces to apply them. Tariffs are better than quotas; taxes are better than bans or direct controls; allocating resources by price (e.g. in health or education) is better than allocating them by fiat, even if the services are then provided “free” (but never forget those inverted commas) to their consumers.

109. Smith’s attitude to the virtues of self interest can be best described as

- (a) pragmatic
- (b) cynical
- (c) skeptical
- (d) supportive

110. According to Adam Smith

- (a) selfishness is dangerous.
- (b) competition is the result of 'mean rapacity'
- (c) self interest always leads to competition.
- (d) competition regulates quantities.

111. All of the following are reasons for market failure except:

- (a) The effects of private transactions on third parties.
- (b) People would like to consume goods without paying for them.
- (c) Unfettered and unbridled trade.
- (d) Government intervention.

112. Adam Smith is most likely to agree with the statement:

- (a) It is necessary for capital to exploit labour if competition and low prices are to be engendered.
- (b) Businessmen would form cartels given the chance.
- (c) Lesser government intervention is better.
- (d) Collective endeavour could be the basis of economic growth.

113. Which of the following situations is not an instance of market failure?

- (a) A government practising apartheid.
- (b) A specialist doctor charging high fees.
- (c) Poor development of roads and railways.
- (d) A murderer going scot-free.

114. The 'free rider' problem results in the need for all of the following except

- (a) government laws to prevent crime.
- (b) a national defence budget.
- (c) a national R & D centre for an industry.
- (d) a United Nations peace keeping force.

115. Based on the passage, competitions will directly affect all of the following except:

- (a) quantity of a good produced.
- (b) quality of a good produced
- (c) direction of flow of goods.
- (d) price of goods sold.

116. We can conclude from the passage that:

- (a) government control is often self propagating.
- (b) rulers are prone to delusions.
- (c) governments often fail because markets also fail.
- (d) government actions rarely have justifications.

117. Based on the passage, we could say that Adam Smith would not support

- (a) government intervention.
- (b) corporation
- (c) taxes.
- (d) import licences.

118. All the following characteristics of the modern world are used as arguments for government intervention except.

- (a) advanced and costly research in basic science.
- (b) the far greater complexity of the modern manufacturing process.
- (c) increased pollution and environmental hazards.
- (d) the pre-eminence of large corporations.

119. Based on the passage, the following can be inferred, except which of the following?

- (a) Governments must act only when necessary.
- (b) High customs duties are an acceptable way to restrict a change.
- (c) High taxation is better than bans.
- (d) The role of governments must be more flexible.

120. The most serious problem of modern government is that they

- (a) hire too many people.
- (b) offer advantages to groups as if it costs nothing.
- (c) are often unwise in their decisions.
- (d) tax the citizens too much.

Passage 3

Atmospheric jet streams were discovered towards the end of World War II by U.S. bomber pilots over Japan and by German reconnaissance aircraft over the Mediterranean. The World Meteorological Organization defines a jet stream as a strong, narrow air current that is concentrated along nearly horizontal axis in the upper troposphere or stratosphere (10 to 50 km altitude), characterized by wind motions that produce strong vertical lateral shearing action and featuring one of more velocity maximum. Normally a jet stream is thousands of kilometers long, hundreds of kilometers wide and several kilometers deep. The vertical wind shear is of the order of 5 to 10 m/sec per kilometer, and the lateral shear is of the order of 5 m/sec per 100 km. An arbitrary lower limit of 30m/sec is assigned to the speed of the wind along the axis of a jet stream.

With abundant radio-sonic data now available over the Northern Hemisphere it is possible to map the jet streams in the upper troposphere (near 10 to 12 km) in their daily occurrence and variation and to forecast them reasonably well with numerical prediction techniques. Upper-air information from the Southern Hemisphere is still sparse. Constant-level balloons (the so-called GHOST balloons) and satellite information on temperature structure and characteristic cloud formations in the atmosphere are serving to close the data on the global jet stream distribution.

The strongest winds known in jet streams have been encountered over Japan, where speeds up to 500 km/hr (close to 300 knots) occur. A persistent band of strong winds occurs during the winter season over this region, flowing from the southwest and leading tropical air northern India into juxtaposition with polar and arctic air from Siberia. A similar region of confluence of air masses with vastly different temperatures exists over the central and eastern United States, leading to a maximum frequency of occurrence of jet streams during winter and spring.

The main impact on weather and climate comes from two distinct jet stream system: the Polar - Front Jet Stream, which is associated with the air mass contracts (the fronts) of middle latitudes and which gives rise to the formation of squalls, storms, and cyclones in this latitude belt; and the Subtropical Jet Stream, which lies over the subtropical high-pressure belt, and which is characterized by predominant subsidence motions and, hence, with fair weather. During summer, a belt of strong easterly winds is found over Southeast Asia, India, the Arabian Sea, and tropical Africa, this tropical, easterly jet streams is tied in with the weather disturbances of the Indian and African summer monsoons and their heavy rainfalls.

Because of their strong winds, jet streams play an important role in the economy of air traffic. Head winds must be outlasted by extra fuel, which takes up useful cargo space. Clear air turbulence (CAT) is often associated with the strong vertical wind shears found in the jet stream region. It is a hazard to passenger and crew safety, and, because of the increased stresses on the air frame, it decreases the useful life of the aircraft.

121. An atmospheric jet stream is

- (a) a rare phenomenon.
- (b) three dimensional.
- (c) concentrated in the northern hemisphere.
- (d) more common in summer.

122. Detailed studies of atmospheric streams have been made over

- (a) South Africa
- (b) Europe
- (c) Australia
- (d) Antarctica

123. The atmospheric jet stream consists of
- (a) cumulous clouds bearing saturated moisture.
 - (b) debris caused by meteorites.
 - (c) air currents.
 - (d) effluents from speeding aircraft.
124. According to present knowledge, jet streams are caused when
- (a) polar and Arctic air meet.
 - (b) air masses with considerably different temperatures meet.
 - (c) winds with different speeds meet.
 - (d) squalls, storms and cyclones get dispersed.
125. Jet streams affect air-traffic by
- I. delaying flights.
 - II. Increased fuel consumption.
 - III. Their propensity to cause accidents.
 - IV. Damaging the air frame.
- (a) I, II, III & IV
 - (b) II & IV only
 - (c) II, III & IV only
 - (d) II & III only
126. The summer monsoon over India is caused by
- (a) the rotation of the earth.
 - (b) jet streams from the subtropical regions.
 - (c) juxtaposition of tropical air with Arctic air in the upper atmosphere.
 - (d) a tropical and easterly jet stream.
127. The result of the Subtropical Jet Stream is
- (a) the occurrence of cyclones.
 - (b) the prevalence of fair weather.
 - (c) head winds which affect air traffic.
 - (d) high wind speed over Japan.

Passage 4

A conservation problem equally as important as that of soil erosion is the loss of soil fertility. Most agriculture was originally supported by the natural fertility of the soil; and, in areas in which soils were deep and rich in minerals, farming could be carried on for many years without the return of any nutrients to the soil other than those supplied through the natural breakdown of plant and animal wastes. In river basins, such as that of the Nile, annual flooding deposited a rich layer of silt over the soil, thus restoring its fertility. In areas of active volcanism, such as Hawaii, soil fertility has been renewed by the periodic deposition of volcanic ash. In other areas, however, natural fertility has been quickly exhausted. This is true of most forest soils, particularly those in the humid tropics. Because continued cropping in such areas caused a rapid decline in fertility and therefore in crop yields, fertility could be restored only by abandoning the areas and allowing the natural forest vegetation to return. Over a period of time, the soil surface would be rejuvenated by parent materials, new circulation channels would form deep in the soil, and the deposition of forest debris would restore minerals to the topsoil. Primitive agriculture in such forests was of shifting nature: areas were cleared of trees and the woody material burned to add ash to the soil; after a few years of farming, the plots would be abandoned and new sites cleared. As long as populations were sparse in relation to the area of forestland, such agricultural methods did little harm. They could not, however, support dense populations or produce large quantities of surplus foods.

Starting with the most easily depleted soils, which were also the easiest to farm, the practice of using various fertilizers was developed. The earliest fertilizers were organic manures, but later, larger yields were obtained by adding balanced combinations of those nutrients (e.g. potassium, nitrogen, phosphorus and calcium) that crop plants require in greatest quantity. Because high yields are essential, most modern agriculture depends upon the continued addition of chemical

fertilizers to the soil. Usually these substances are added in mineral form, but nitrogen is often added as urea, an organic compound.

Early in agricultural history, it was found that the practice of growing the same crop year after year in a particular plot of ground not only caused undesirable changes in the physical structure of the soil, but also drained the soil of its nutrients. The practice of crop rotation was discovered to be a useful way to maintain the condition of the soil, and also to prevent the buildup of those insects and other plant pests that are attracted to a particular kind of crop. In rotation systems, a grain crop is often grown the first year, followed by a leafy-vegetable crop in the second year, and pasture crop in the third. The last usually contains legumes (e.g. clover, alfalfa), because such plants can restore nitrogen to the soil through the action of bacteria that live in nodules on their roots.

In irrigation agriculture, in which water is brought in to supply the needs of crops in an area with insufficient rainfall, a particular soil-management problem that develops is the salinization (concentration of salts) of the surface soil. This most commonly results from inadequate drainage of the irrigated land; because the water cannot flow freely, it evaporates, and the salts dissolved in the water are left on the surface of the soil. Even though the water does not contain a large concentration of dissolved salts, the accumulation over the years can be significant enough to make the soil unsuitable for crop production. Effective drainage solves the problem; in many cases, drainage canals must be constructed, and drainage tiles must be laid beneath the surface of the soil. Drainage also requires the availability of an excess of water to flush the salts from the surface soil. In certain heavy soils with poor drainage, this problem can be quite severe; for example, large areas of formerly irrigated land in the Indus basin, in the Tigris-Euphrates region, in the Nile Basin, and in the Western United States, have been seriously damaged by salinization.

128. The areas most prone to salinization are

- (a) those irrigated with well-water.
- (b) those in which crop rotation is not practiced.
- (c) sub-tropical forests.
- (d) flat land irrigated from reservoirs.

129. The most appropriate title to his passage is

- (a) Problems of soil erosion
- (b) Agriculture in Volcanic islands.
- (c) The importance of chemical fertilizers.
- (d) Causes of and remedies of soil-infertility.

130. Natural fertility exhausts most quickly in

- (a) river valley lands
- (b) humid tropical forests
- (c) volcanic areas
- (d) lands near urban areas

131. The factor that can restore fertility to the soil not mentioned in the passage is

- (a) alluvium brought by rivers
- (b) bacterial action
- (c) fertilizer fixation through lightning
- (d) organic manure

132. Crop rotation helps to

- I. increase the farmer's seasonal income.
 - II. preserve soil condition.
 - III. desalinize the soil.
 - IV. destroy pests.
- (a) I, II, III & IV
 - (b) I, II & IV only.
 - (c) II & IV only
 - (d) II, III & IV only

133. One of the characteristics of agricultural land in Nile basin is

- (a) it contains a lot of bacteria.
- (b) it consists of heavy soil with poor drainage properties.
- (c) the Nile water contains an excess of salts.
- (d) it contains nutritive minerals.

134. Plants with nodules on their roots are known as

- (a) debris
- (b) leafy-vegetables
- (c) legumes
- (d) grain crop

Passage 5

Scientism has left humanity in our technical mastery of inanimate nature, but improvised us in our quest for an answer to the riddle of the universe and of our existence in it. Scientism has done worse than that with respect to our status as social beings, that is, to our life with our fellow human beings. The quest for the technical mastery of social life, comparable to our mastery over nature, did not find scientism at a loss for an answer: reason suggested that physical nature and social life were fundamentally alike and therefore proposed identical methods for their domination. Since reason in the form of causality reveals itself most plainly in nature, nature became the model for the social world and the natural sciences the image of what the social sciences one day would be. According to scientism, there was only one truth, the truth of science, and by knowing it, humanity would know all. This was, however, a fallacious argument, its universal acceptance initiated an intellectual movement and a political technique which retarded, rather than furthered, human mastery of the social world.

The analogy between the natural and social worlds is mistaken for two reasons. On the one hand human action is unable to model the social world with the same degree of technical perfection that is possible in the natural world. On the other hand, the very notion that physical nature is the embodiment of reason from which the analogy between natural and social worlds derives, is invalidated by modern scientific thought itself.

Physical nature, as seen by the practitioner of science consists of a multitude of isolated facts over which human action has complete control. We know that water boils at a temperature of 212 degrees Fahrenheit and, by exposing water to this temperature, we can make it boil at will. All practical knowledge of physical nature and all control over it are essentially of the same kind.

Scientism proposed that the same kind of knowledge and of control held true for the social world. The search for a single cause, in the social sciences, was but a faithful copy of the method of the physical sciences. Yet in the social sphere, the logical coherence of the natural sciences finds no adequate object and there is no single cause by the creation of which one can create a certain effect at will. Any single cause in the social sphere can entail an indefinite number of different effects, and the same effect can spring from an indefinite number of different effects, and the same effect can spring from an indefinite number of different causes.

135. The author's attitude towards the application of scientism to the social sciences is best described as one of

- (a) committed scrutiny
- (b) dismissal
- (c) criticism
- (d) approval

136. According to the author, causes and effects in the social world are

- (a) unrelated to each other
- (b) difficult to identify or predict.
- (c) subject to manipulation at will.
- (d) reducible to a single cause for each effect.

137. Which of the following statements about scientism is best supported by the passage?

- (a) Scientism provides the basis for mastery of the social world
- (b) Scientism is only superficially concerned with cause-and-effect relationships
- (c) Scientism is poorly suited to explain social behaviour
- (d) Scientism is no longer applicable to the study of the natural sciences.

138. As is used in the passage, the term 'scientism' can best be defined as
- belief that the methods of the physical sciences can be applied to all fields of enquiry.
 - faith that human beings can master their own physical limitations.
 - desire to keep the social sciences separate from the physical sciences
 - opinion that scientists must take moral responsibility for their actions
139. In the passage, the author is most concerned with doing which of the following?
- Upholding the primacy of reason over superstition
 - Attacking a particular approach to the social sciences
 - Describing a method for achieving control over human social behaviour
 - Demonstration the superiority of the social sciences over the natural sciences

Passage 6

From a vantage point in space, an observer could see that the Earth is engaged in a variety of motions. First, there is its rotation on its own axis, causing the alternation of day and night. This rotation, however, is not altogether steady. Primarily because of the moon's gravitational action, the Earth's axis wobbles like that of an ill-spun top. In this motion, called 'precession', the North and South Poles each traces out the base of a cone in space, completing a circle every 25,800 years. In addition, as the Sun and the Moon change their positions with respect to the Earth, their changing gravitational effects result in a slight 'nodding' of the earth's axis, called 'mutation', which is superimposed on precession. The Earth completes one of these 'nods' every 18.6 years.

The earth also, of course, revolves round the Sun, in a 6-million mile journey that takes 365.25 days. The shape of this orbit is an ellipse, but it is not the center of the Earth that follows the elliptical path. Earth and Moon behave like an asymmetrical dumb-bell, and it is the center of mass of this dumb-bell that traces the ellipse around the sun. The center of the Earth-Moon mass lies about 3000 miles away from the center of the Earth, and the Earth thus moves in an S-curve that crosses and re-crosses its orbital path. Then too, the Earth accompanies the sun in the sun's movements: first, through its local star cloud, and second, in a great sweep around the hub of its galaxy, the Milky Way that takes 200 million years to complete.

140. The passage is most likely directed towards an audience of
- geologists.
 - astronauts.
 - meteorologists interested in weather prediction.
 - person with little technical knowledge of astronomy.
141. Which of the following best describes the main subject of the passage?
- The various types of the Earth's motions
 - Past changes in the Earth's position
 - The moon gravitational effect on the earth
 - Oddities of the Earth's rotation of its axis.
142. The passage indicates that a single cycle of which of the following motions is completed in the shortest period of time?
- Mutation.
 - Precession.
 - The Earth's rotation on its axis.
 - The movement of the dumb-bell formed by the center of mass of Earth-Moon.
143. Which of the following techniques does the author use in order to make the descriptions of motion clear?
- Comparison with familiar objects.
 - Reference of geometric forms.
 - Allusions to the works of other authors.
- I only
 - II only
 - I and II only
 - II and III only

Passage 7

The connective tissues are heterogeneous group of tissues derived from the mesenchyme, a meshwork of stellate cells that develop in the middle layer of the early embryo. They have the general function of maintaining the structural integrity of organs, and providing cohesion and internal support for the body as a whole. The connective tissues include several types of fibrous tissue that vary only in their density and cellularity, as well as more specialized variants ranging from adipose tissue through cartilage to bone. The cells that are responsible for the specific function of an organ are referred to as its parenchyma, while the delicate fibrous meshwork that binds the cells together into functional units, the fibrous partitions or septa that enclose aggregations of functional units, and the dense fibrous capsule that encloses the whole organ, collectively make up its connective-tissue framework, or stroma. Blood vessels, both large and small, course through connective tissues, which is therefore closely associated with the nourishment of tissues and organs throughout the body. All nutrient materials and waste products exchanged between the organs and the blood must traverse peri-vascular spaces occupied by connective tissue. One of the important functions of the connective – tissue cells is to maintain conditions in the extra-cellular spaces that favour this exchange.

Some organs are suspended from the wall of a body cavity by thin sheets of connective tissues called mesenteries; others are embedded in adipose tissue a form of a connective tissue in which the cells are specialized for the synthesis and storage of energy-rich reserves of fat, or lipid. The entire body is supported from within by a skeleton composed of bone, a type of connective tissue endowed with great resistance to stress owing to its highly ordered, laminated structure and to its hardness, which results from deposition of mineral salts in its fibres and amorphous matrix. The individual bones of the skeleton are held firmly together by ligaments, and muscles are attached to bone by tendons, both of which are examples of dense connective tissue in which many fibre bundles are associated in parallel array to provide great tensile strength. At joints, the articular surfaces of the bones are covered with cartilage, a connective tissue with an abundant intercellular substance that gives it a firm consistency well adapted to permit smooth gliding movements between the opposed surfaces. The synovial membrane, which lines the margins of the joint cavity and lubricates and nourishes the joint surfaces, is also a form of connective tissue.

144. The passage has most probably been taken from a book on

- (a) neurology
- (b) nutrition
- (c) physiology
- (d) calisthenics

145. Mesenteries are

- (a) adipose tissue in which some organs are embedded.
- (b) referred to as parenchyma, and are responsible for specific functions of an organ.
- (c) thin sheets from which some organs are suspended.
- (d) cells through which blood flows.

146. Through peri-vascular spaces exchange takes place between

- (a) blood and organs.
- (b) cells and embryo.
- (c) nutrients and waste products.
- (d) septa and stroma.

147. The connective tissue in which fat is stored is called

- (a) adipose tissue
- (b) mesenteries
- (c) ligaments
- (d) adipose tissue

148. The connective tissues originate in the

- (a) cartilage
- (b) bone
- (c) embryo
- (d) nutrients.

149. Some instances of connective tissues are

I. Cartilage

II. Stroma

III. Lipid

IV. Synovia

(a) I, II, III & IV

(b) I, III & IV only

(c) I, II, & IV only

(d) I and II only

150. The tissue which enables smooth gliding movements of neighbouring surface is

(a) adipose tissue

(b) cartilage

(c) synovial membrane

(d) stellate cells