

SECTION – I

VERBAL SKILLS

Directions (Qs. 1 to 19): Answer the following questions after reading the following passage. Base your answer on Information that is either started or implied in passage. Choose the best answer and darken the corresponding oval in the answer sheet.

PASSAGE-I

Environmental protection is gaining momentum, with India poised to play a greater role in the years to come. There is a great potential for a category of non-solid natural timber products which include PVC boards, MDF boards, Glass fiber reinforce plastic, wood based particle board, black boards, rubber wood, etc.

MDF boards are produced from agro-based raw material and have been widely accepted as the most effective substitute for wood globally, initially these were manufactured on low scale but Subwood Ltd. went ahead with technology transfer and equity participation from world leaders in Sweden. Using state-of-art technology with an investment of Rs. 600 million, the plant is geared to 39,000 tones of Subwood MDF annually.

Subwood has a very wide usage in housing, industrial and institutional sectors, MDF industry is experiencing global boon. There exists a major demand supply gap. The demand for natural wood for the building industry is estimated at a phenomenal 12 million tones per year. However the product being new to the Indian market it is going to face a tough competition from natural wood in high-income class and also lower strata of the society.

1. Opportunity offered to Subwood Ltd. is primary on account of:
 - [1] The state-of-art technology from Sweden.
 - [2] Environmental protection gaining momentum.
 - [3] The use of agro based raw material.
 - [4] Wide usage of MDF in all sectors.

2. The strength of Subwood MDF is primarily
 - [1] It's contribution to control deforestation.
 - [2] It's wide usage.
 - [3] It's effectiveness in being a substitute of wood.
 - [4] It's great potential.

3. The most promising consumer for Subwood Ltd. is the
 - [1] Building industry.
 - [2] Middle income class.
 - [3] High income class.
 - [4] Low income strata.

4. In order to market the product, Subwood MDF should mainly focus on:
 - [1] Advertising on television.
 - [2] Sending its own sales force to its customers.
 - [3] Not using own sales force but sell through dealers only.
 - [4] Offering heavy introductory discounts.

5. Subwood MDF must concentrate on:

[1] Institutional sector	[2] Industrial sector	[3] Housing sector	[4] All 3
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6. The threat offered to the product by Subwood Ltd is primarily the
- [1] Natural wood.
 - [2] Limited usage of MDF.
 - [3] Agro based raw material.
 - [4] Low acceptance of its product globally.
7. The problem faced by Subwood Ltd. is mainly
- [1] Its versatility.
 - [2] Low acceptance by building industry.
 - [3] Tough competition from natural wood.
 - [4] High costs.

PASSAGE-II

Traditionally, the first firm to commercialize a new technology has benefited from the unique opportunity to shape product definitions, forcing followers to adapt to a standard or invest in an unproven alternative. Today, however, the largest payoffs go to the companies, that lead in production and distribution.

Producers of the Beta Format for videocassette recorders (VCRs), for example, were first to develop the VCR commercially in 1975, but producers of the rival VHS (Video home system) format proved to be more successful at forming strategic alliances with the producers and distributors to manufacture and market their VCR format. Seeking to maintain exclusive control over VCR distribution, Beta producers were reluctant to form such alliances and eventually lost ground to VHS, in the competition for the global VCR market.

Despite Beta's substantial technological head start and the fact that VHS was neither technically better nor cheaper than Beta, developers of VHS quickly turned a slight early lead in sales into a dominant position. Strategic alignment with producers of prerecorded tapes reinforced the VHS advantage. The perception among consumers that prerecorded tapes were more available in VHS format further expanded VHS's share of market. By the end of 1980's, Beta was no longer in production.

8. According to the passage, today's successful firms, unlike successful firms in the past, may earn the greatest profits by
- [1] establishing technological leadership in order to shape product definitions in advance of competing firms.
 - [2] adapting rapidly to a technological standard previously set by a competing firm.
 - [3] investing in search to produce cheaper versions; of existing technology.
 - [4] emphasizing the development of methods for the mass production and distribution of a new technology.
9. According to the passage, consumers began to develop a preference for VCRs in the VHS format because they believed which of the following?
- [1] VHS prerecorded videotapes were more available than Beta-format tapes.
 - [2] VCRs in the VHS format were less expensive than competing-format VCRs.
 - [3] VCRs in the VHS format were technically better than competing-format VCRs;
 - [4] was the first standard format for VCRs.
10. Which of the following best describes the relation of the first paragraph to the passage as whole?
- [1] it outlines a process to be analysed.
 - [2] It poses a question to be answered.
 - [3] It makes a general observation to be exemplified.
 - [4] It introduces conflicting arguments to be reconciled.

11. The alignment of producers of VHS-format VCRs with producers of prerecorded videotapes is most similar to which of the following?
 - [1] The alignment of an automobile manufacturer with an automotive glass company whereby the windshields are procured only from, that one glass company.
 - [2] The alignment of an automobile manufacturer with a petroleum company to ensure the widespread availability of the fuel required by a new type of engine developed by the manufacturer.
 - [3] The alignment of an automobile manufacturer with its dealers to adopt a plan to improve automobile design.
 - [4] The alignment of an automobile dealer with an automobile chain to adopt a strategy for an advertising campaign to promote a new type of automobile.

12. The passage is primarily concerned with which of the following?
 - [1] illustrating a business strategy by means of a case history.
 - [2] Evaluating two competing technologies.
 - [3] Reinterpreting an event from contemporary business history.
 - [4] Tracing the impact of a new technology by narrating a sequence of events.

13. The author implies that one way that VHS producers won control over the VCR market was by
 - [1] sharing control of the marketing of VHS-format VCRs.
 - [2] sacrificing technological superiority over Beta-format VCR's in order to remain competitive in price.
 - [3] retaining a strict monopoly on the production of prerecorded videotapes.
 - [4] carefully restricting access to VCR technology.

PASSAGE-III

In the early years of the 21st century, environmental knowledge may be considered to be in its “second generation” in terms of conceptual evaluation and understanding of how human interventions impact on eco-systems, damaging them and how much of an impossibility, the act of restoration is, compared to even half a century ago. Similarly, we know now much better the advantages and disadvantages of drawing a roadmap for sustainable development in such parts of the world that were deemed “underdeveloped”, overnight following the Truman declaration dividing the world into the “developed” and “underdeveloped”. Save those living in USA, Europe, Japan and few other countries, most human beings became citizens of the underdeveloped world as the wholesale march towards development, Western style, became the mantra for progress, that was almost entirely indifferent to nature.

The ensuing large-scale environmental disorders have brought this draconian model of growth and development to the brink. It has also provided a fresh opportunity for Traditional knowledge, culture and wisdom to come to the forefront of decision making, while transacting with nature. India, with its rich repertoire of such a Traditional knowledge base, has a definite edge while preparing its own roadmap for sustainable development. The draft environment policy by the Government of India, very recently prepared has referred to the traditional knowledge base in the realm of biodiversity and conservation but only within the remit of ethno-botany. It is hardly adequate.

In July 1999, UNESCO organized a World Conference which intensively deliberated upon the importance of traditional knowledge base, which may be useful, hopefully for reframing the Draft Policy Document. Among other things it says “Governments are called upon to formulate national policies that allow a wider use of the applications of traditional forms of learning and knowledge, while at the same time ensuring that its commercialization is properly rewarded”; and “enhanced support for activities at the national and international levels on traditional and local systems should be considered”.

If the rich stock of traditional knowledge and biodiversity gives one an advantage, poverty puts one in a position of disadvantage. Poverty further exposes avenues of exploitation and assaulting the poorer

section of the people in particular. If poverty is described as a “proximate driver” of environmental degradation, environmental degradation becomes a major causal factor in enhancing and perpetuating poverty. Environmental degradation seems to be a convenient fallacy while seeking a cyclical relationship between poverty and environmental degradation. The same grinding machine producing more and more poor globally, needing a guaranteed sustainable impoverishment of such people to run smoothly and continuously, is also causing environmental degradation. Stated simply, environmental disorders and poverty are the result of the same economic order and this is one of the basic lessons that the poorer countries have to learn.

Poverty is most extensive in Indian villages, which account for most sickness and deaths due to air and water pollution, malnutrition and lack of safe drinking water. The five areas of concern are pollution due to overuse of agricultural chemicals, water related disorders, problems of waste disposal and physical planning and finally, the gradual loss of traditional knowledge base. Surely the time is ripe to bring the concern for rural environment to the forefront of national policy considerations. Developing countries face another disadvantage in that conventional economic growth invariably enhances environmental disorders.

Students of environmental economics are familiar with the Kuznets curve hypothesis that explains that when the country is relatively poor, economic growth enhances environmental disorders. After a certain level of growth the disorders are replaced by gradual improvement in the state of environment. This theory has been comprehensively rebutted and the dangers of viewing economic growth as the prescribed remedy to environmental problems in the developing countries is fairly well established.

Any policy on environment, global, national or even local, rests upon “ecology” as its subjective base without any exception. It is because of the outstanding ecological research and thinking that this new area of concern has emerged. Ecology continues to remain the bedrock for understanding of environmental problems and providing the key to preparing the agenda for sustainable development.

Economic development based on new-classical economies, however, relies on attaining ‘economic efficiency’ in various public actions for environmental conservation. Fundamental questions are being raised relating to the methodology associated with measuring such efficiency. Economic efficiency, says Richard Welford, is essentially a new-classical concept based around optimization. In the case of the environment, it is known that such optimization involves an almost impossible trade-off between the many different effects of industrial production. Any policy framework which uses solely the vocabulary of economists, weakens its user base among the prime stakeholders, that is, environmentalists, conservationists, and citizens.

Agenda setting for resource conservation suffers from a lacuna that can be plugged through conservation. For example, the discussion of wetlands says nothing about the country’s obligation towards Ramsar sites, which is part of India’s international commitment. In India, the most serious problem around wetland conservation is that the government has no real constituency for it and this is a problem that the final environmental policy should address.

(**Source:** An article published in a national daily in October 2004. Some changes have been made for the purpose of this test.)

14. Which of the following titles, best summarizes the content of the passage?
- [1] Ecology and Economics: the problem of sustainable development
 - [2] The Draft Environmental Policy of the Government of India and Economic Development
 - [3] A Roadmap of Sustainable Development in India
 - [4] National Policy of Development: Use of traditional knowledge base

15. The passage is primarily concerned with-which of the following?
- [1] To critically discuss the neo-classical economics approach of development in developing countries.
 - [2] To discuss the issue that the sustainable development is interrelated with environmental degradation in the underdeveloped countries.
 - [3] To focus on the ecological knowledge in understanding of environmental problems and providing the key to preparing the agenda for sustainable development.
 - [4] To highlight that in India the conservation of wetlands is the basic problem that should be addressed in the environmental policy.
16. Which of the following could be considered as the antithesis of the author's main idea, expressed in the passage?
- [1] New-classical economics which relies on "economic efficiency" in various public actions for environmental conservation will lead to economic development.
 - [2] Poverty which is most extensive in Indian villages is inseparably interwoven with pollution and environmental degradation.
 - [3] The causal factors of environmental degradation, in economic terms, weakens its user base among the prime stakeholders, that is, environmental-ists, conservationists and citizens.
 - [4] In India, the final environmental policy should address the most serious problem of wetlands conservation.
17. Which of the following statement(s), if true, strengthen(s) the author's argument in the passage?
- I. The surest way to maximize the growth of total employment and thus alleviate poverty, is to maximize the growth of labour productivity in industry and agriculture.
 - II. A byproduct of globalization, urban agglomerations have emerged as the arena of confrontation between 21st century prosperity and enduring poverty.
 - III. The tug of war between the so called direct assault on poverty and unemployment and the indirect assault via growth has been devilled Indian economic thinking, since the very beginning of planning and this distorts the concept of sustainable development.
- [1] I only [2] II only [3] II only [4] I, II and III
18. Which of the following, is the central theme of passage?
- [1] Environmental disorder and poverty are the result of the same economic order and this is the basic lesson poorer countries must learn.
 - [2] Advancement of environment knowledge in the 21st century.
 - [3] Major factors of pollution and consequent environmental disorders.
 - [4] An analytical analysis of the Kuznets curve hypothesis that explains that when the country is relatively poor, economic growth enhances environmental disorders.
19. According to the passage, which of the following statement(s) is/are true?
- I. The march towards development, Western style, became a mantra for progress that was indifferent to nature.
 - II. Rural environment should be in the forefront of national policy consideration.
 - III. The draft environment policy by the Government of India has referred adequately to the traditional knowledge base in the realm of biodiversity conservation within the remit of ethnobotany.
- [1] I and III only [2] II and III only [3] II only [4] I and II only

Directions (Qs. 20 to 29): In each of the following questions, a related pair of words or phrases is followed by four numbered pairs of words or phrases. Choose the numbered pair that best expresses a relationship, similar to that expressed in the original pair and then darken the corresponding oval in the answer sheet.

20. DECELERATE:SPEED ::
 [1] dessicate : dryness [2] enervate: vitality
 [3] decontaminate: sterility [4] interpolate: interval
21. GUST:WIND ::
 [1] rapids : river [2] mist : fog [3] cloudburst: rainfall [4] surf : sea
22. ELEGY:SORROW ::
 [1] tirade :joy [2] eulogy: admiration [3] requiem: euphoria [4] encomium: criticism
23. DISABUSE: ERROR::
 [1] belittle: imperfection [2] rehabilitate: addiction
 [3] discredit: reputation [4] persevere: dereliction
24. PURIFICATION : DROSS ::
 [1] assay : gold [2] reaction : catalyst
 [3] condensation : vapour [4] desalinization : salt
25. FRIEZE : ORNAMENT ::
 [1] nave : border [2] pillar : support [3] arch: divide [4] relief : form
26. CRAWL:PROCEED::
 [1] nurture: grow [2] dwindle : decrease [3] plummet : descent [4] rampage : destroy
27. POTTERY:SHARD::
 [1] building: architect [2] wall: brick [3] bread:crumb [4] symphony: musician
28. DISGUISE : RECOGNITION ::
 [1] infidelity : marriage [2] camouflage: infiltration
 [3] espionage: diplomacy [4] padding: damage
29. DESPOTIC:TYRANNY::
 [1] skillful: celebrity [2] suspect: illegality
 [3] generous: liberality [4] authoritarian: superiority

Directions (Qs. 30 to 37): Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are four numbered words or sets of words, Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.

30. The notion that a parasite can alter, the behaviour of a host organism is not mere fiction; indeed, the phenomenon is not even_____.
 [1] observable [2] comprehended [3] imaginable [4] rare
31. That many of the important laws of science were discovered during experiments designed to _____other phenomena suggests their experimental results are the _____ of inevitable natural forces rather than of planning.
 [1] alter.....adjuncts [2] verify.....essence
 [3] illuminate.....consequence [4] analyzefoundation

32. Darwin's method did not really _____ the idea of race as an important conceptual category; even the much more central idea of species was little more than a theoretical _____.
- [1] subsume ...validation [2] exclude...practice
[3] require... convenience [4] reject...fact
33. People frequently denigrate books about recent catastrophes as morally _____ attempts to profit from misfortune, but in my view our desire for such books, together with the venerable tradition to which they belong, _____ them.
- [1] fortuitous ... fosters [2] corrupt... generates
[3] despicable... legitimizes [4] inopportune.... encourages
34. Although Shakespeare received little formal education, scholarship has in recent years _____ the view that he was _____ the work of classical authors.
- [1] questioned.....influenced by [2] supported.....oblivious to
[3] substantiated.....unimpressed by [4] undermined.....unfamiliar with
35. Borrowing a copyrighted book from a library amounts to a form of theft _____ by entrenched custom; the copyright owner's property, the book, is used repeatedly without _____ for such use.
- [1] perpetrated.....permission [2] provoked.....adjustment
[3] anticipated.....acknowledgement [4] sanctioned.....compensation
36. Although in eighteenth century England an active cultural life accompanied the beginnings of middle class consumerism, the _____ of literacy was _____ with the rise of such consumerism in the different areas of the country.
- [1] degree.....uncorrelated [2] spread.....compatible
[3] promotion.....combined [4] renewal.....inconsistent
37. The trainees were given copies of a finished manual to see whether they could themselves begin to the inflexible, though tacit, rules for composing more of such instructional materials.
- [1] derive [2] design [3] revise [4] standardize

Directions (Qs. 38 to 43): Choose the best answer for each question after reading the passage on the basis of what is stated or implied in the passage, then darken the corresponding oval in the answer sheet.

PASSAGE-IV

Two modes of argumentation have been used on behalf of women's emancipation in Western societies. Arguments in what could be called the "rational" feminist tradition maintain the doctrine of "equality in difference", or equity as distinct from equality. They posit that biological distinctions between the sexes result in a necessary sexual division of labour in the family and throughout society and that women's procreative labour is currently undervalued by society, to the disadvantage of women. By contrast, the individualist feminist tradition emphasizes individual human rights and celebrates women's quest for personal autonomy, while downplaying the importance of gender role and minimizing discussion of childbearing and its attendant responsibilities.

Before the late nineteenth century, these views coexisted within the feminist movement, often within the writings of the same individual. Between 1890 and 1920, however, relational feminism, which had been the dominant strain in feminist thought, and which still predominates among European and non-Western feminists, lost ground in England and the United States. Because the concept of individual rights was already well established in the Anglo-Saxon legal and poetical tradition, individualist feminism came to predominate in English speaking countries. At the same time, the goals of the two approaches began to seem increasingly irreconcilable. Individualist feminists began to advocate a totally gender-blind system with equal right for all relational feminists, while agreeing that equal educational and economic opportunities outside the home should be available for all women, continued to emphasize women's special contributions to society as homemakers and mothers; they demanded special treatment for women,

including protective legislation for women workers, state-sponsored maternity benefits, and paid compensation for home work.

Relational arguments have a major pitfall because they underline women's physiological and psychological distinctiveness, they are often appropriated by political adversaries and used to endorse male privilege. But the individualist approach, by attacking gender roles, denying the significance of physiological difference, and condemning existing familial institutions as hopelessly patriarchal, has often simply treated as irrelevant the family roles important to many women. If the individualist framework, with its claim for women's autonomy could be harmonized with the family oriented concerns of relational feminists, a more fruitful model for contemporary feminist politics could emerge.

38. According to the author, which of the following was true of feminist thought in Western societies before 1890?
- [1] The predominant view among feminists held that the welfare of women was ultimately less important than the welfare of children.
 - [2] The predominant view among feminists held that the sexes should receive equal treatment under the law.
 - [3] Individualist feminist arguments were not found in the thought or writing of non-English speaking feminists.
 - [4] Individualist feminism was a strain in feminist thought, but another strain, rational feminism, predominated.
39. The author of the passage alludes to the well established nature of the concept of individual rights in the Anglo-Saxon legal and political tradition in order to
- [1] help account for an increasing shift toward individualist feminism among feminists in English speaking countries.
 - [2] argue that feminism was already a part of the larger Anglo-Saxon intellectual tradition, even though this has often gone unnoticed by critics of women's, emancipation.
 - [3] account for the philosophical differences between individualist and relational feminists in English speaking countries.
 - [4] illustrate the influence of individualist feminist thought or more general intellectual trends in English history
40. The passage suggests that the author of the passage believes which of the following?
- [1] A consensus concerning the direction of future feminist politics will soon emerge, given the awareness among feminists of the need for cooperation among women.
 - [2] Political adversaries of feminism often misuse arguments predicted on differences between the sexes to argue; that the existing social system should be maintained.
 - [3] The individualist and relational feminist views are irreconcilable, given their theoretical differences concerning the foundations of society.
 - [4] Relational feminism provides the best theoretical framework for contemporary feminist politics, but individualist feminism could contribute much toward refining the strengthening modern feminist thought.
41. It can be inferred from the passage that the individualist feminism tradition denies the validity of which of the following causal statements?
- [1] A division of labour on the basis of gender in a social group is necessitated by the existence of sex-linked biological differences between male and female members of the group.
 - [2] A division of labour in a social group causes inequities in the distribution of opportunities and benefits among group members.
 - [3] Culturally determined distinctions based on gender in a social group the existence of differing attitudes and opinions among group members.
 - [4] A division of labour in a social group can result in increased efficiency with regard to the performance of group tasks,

42. According to the passage, relational feminists and individualist feminists agree that
- [1] laws guaranteeing equal treatment for all citizens regardless of gender should be passed.
 - [2] the gender-biased division of labour in society should be eliminated.
 - [3] the same educational and economic opportunities should be available to both sexes
 - [4] individual human rights take precedence over, most other social claims.
43. The author implies that which of the following was true of most feminist thinkers in England and the United States after 1920?
- [1] They moderated their initial criticism of the economic systems that characterized their societies
 - [2] They did not attempt to unite the two different feminist approaches in their thought.
 - [3] They are less concerned with politics than with intellectual issues.
 - [4] They began to reach a broader audience and their programmes began to be adopted by mainstream political parties.

Directions (Qs. 44 to 49): These questions test your ability to recognize correct and effective expression. Follow the requirements of standard written English grammar, choice of words and sentence construction,

In each question below, either part or all of the sentence is underlined. The sentence is followed by four ways of writing the underlined parts. Choose the answer which results in the dearest, most exact sentence but does not change the meaning of the original sentence. The answer choice [1] repeats the original; the other answer choices numbered [2], [3] and [4] vary. If you think that the original phrasing is the best, select that choice. Choose the best or correct one for each question. Darken the oval corresponding to your choice in the answer sheet.

44. Certain pesticides can become ineffective if used repeatedly in the same place: one reason is suggested by the finding that there are much larger populations of pesticide-degrading microbes in soils with a relatively long history of pesticide use than in soils that are free of such chemicals.
- [1] Certain pesticides can become ineffective if used repeatedly in the same place: one reason is suggested by the finding that there are much larger populations of pesticide-degrading microbes in soils with a relatively long history of pesticide use than in soils that are free of such chemicals.
 - [2] If used repeatedly in the same place, one reason that certain pesticides can become ineffective is suggested by the finding that there are much larger populations of pesticide-degrading microbes in soils with a relatively long history of pesticide use than in soils that are free of such chemicals.
 - [3] If used repeatedly in the same place, one reason certain pesticides can become ineffective is suggested by the finding that much larger populations of pesticide-degrading microbes are found in soils with a relatively long history of pesticide use than those that are free of such chemicals.
 - [4] The finding of much larger populations of pesticide-degrading microbes in soils with a relatively long history of pesticide use than in those that are free of such chemicals suggests one reason why a certain pesticide can become ineffective if used repeatedly in the same place.
45. Eating saltwater fish may significantly reduce the risk of heart attacks and also aid for sufferers of rheumatoid arthritis and asthma, according to three research studies published in the New England Journal of Medicine.
- [1] significantly reduce the risk of heart attacks and also aid for
 - [2] significantly reduce the risk of heart attacks and aid
 - [3] significantly reduce the risk of heart attacks as well as aiding
 - [4] cause a significant reduction in the risk of heart attacks and aid to

46. One view of the economy contends that a large drop in oil prices should eventually lead to lowering interest rates, as well as lowering fears about inflation, a rally in stocks and bonds, and a weakening of the dollar.
[1] lowering interest rates, as well as lowering fears about inflation,
[2] a lowering of interest rates, along with fears about inflation,
[3] interest rates being lowered, and with fears about inflation,
[4] a lowering of interest rates and of fears about inflation,
47. Because Earth's crust is more solid there and thus better able to transmit shock waves, an earthquake of a given magnitude typically devastates an area of 100 times greater in the Eastern United States than it does in the West.
[1] a given magnitude typically devastates an area of 100 times greater in the Eastern United States than it does in the West.
[2] will typically devastate 100 times the area in the Eastern United States than one of comparable magnitude occurring in the West.
[3] of a given magnitude will typically devastate 100 times the area if it occurs in the Eastern United States instead of the West.
[4] in the Eastern United States will typically devastate an area 100 times greater than will a quake of comparable magnitude, occurring in the West.
48. Although the term "psychopath" is popularly applied to an especially brutal criminal, in psychology it is someone who is apparently incapable of feeling compassion or pangs of conscience.
[1] it is someone who is
[2] it is a person
[3] it refers to someone who is
[4] it is in reference to people
49. As business grows more complex, students majoring in specialized areas like those of finance and marketing have been becoming increasingly successful in job market.
[1] majoring in specialized areas like those of finance and marketing have been becoming increasingly
[2] who major in such specialized areas as finance and marketing are becoming more and more
[3] having majored in such specialized areas as finance and marketing are being increasingly
[4] who major in specialized areas like those of finance and marketing have been becoming more and more

Directions (Qs. 50 to 54): For each of these questions, four or five sentences lettered A to D/E are given. These sentences, if arranged in a logical sequence, will form a coherent and meaningful paragraph. Choose the most logical order from among the given choices numbered [1], [2], [3] and [4] to construct a coherent paragraph, then darken the corresponding oval in the answer sheet.

50. A. The end was perhaps inevitable, but before that Christopher Reeve confirmed a faith in life that will not be easily forgotten.
B. But even in a practically hopeless situation, he never allowed depression to get the better of an unflinching sense of optimism that passed on to everyone around him.
C. Christopher Reeve made life worth living in a wheelchair
D. He himself didn't have much hope of recovery.
E. His mental faculties were alive and focused on a campaign against spinal disunities that he hoped would draw a greater following.
[1] ADEBC [2] CEDBA [3] CEABD [4] CADBE

51. A. Elemental composition can vary within the same copper-ore, lode usually because of varying admixtures of the other elements, especially iron, lead, zinc and arsenic.
B. Researchers have analyzed artifacts and ores for their concentrations of elements, but for a variety of reasons, these studies have generally failed to provide evidence of the sources of the copper used in the objects.
C. The determination of the sources of copper ore used in the manufacture of copper and bronze artifacts of Bronze Age civilizations would add greatly to our knowledge of cultural contacts and trade in that era.
D. And high concentrations of cobalt or zinc, noticed in some artifacts, appear in a variety of copper-ore sources.
E. Moreover, the processing of ores introduced poorly controlled changes in the concentrations, of minor and trace elements in the resulting metal.
[1] CBADE [2] BDCAE [3] BDEAC [4] ACBED
52. A. Since disease-fighting antibodies bind to the capsid, an antibody developed to protect against one rhinovirus strain is useless against other strains.
B. Humans have difficulty resisting colds because rhinoviruses are so diverse, including at least 100 strains.
C. Unfortunately, the common cold, produced most often by rhinovirus, is intractable to antiviral defense.
D. Different antibodies must be produced for each strain.
E. The strains differ most in the molecular structure of the proteins in their capsids.
[1] ADECB [2] BACDE [3] CDEBA [4] CBEAD
53. A. The exposed viral nucleic acid produces new viruses from the contents of the cell.
B. Viruses, infectious particles consisting of nucleic acid packaged in a protein coat (the capsid), are difficult to resist.
C. Finally, the cell releases the viral progeny, and a new cell cycle of infection begins.
D. In one kind of viral life cycle, the virus first binds to the cell's surface, then penetrates the cell and sheds its capsid.
E. Unable to reproduce outside a living cell, viruses reproduce only by subverting the genetic mechanisms of a host cell.
[1] DBEAC [2] DCEAB [3] BEDAC [4] EDBAC
54. A. Our intuition is by no means an infallible guide.
B. Accordingly, science sometimes requires courage - at the very least the courage to question the conventional wisdom.
C. Its goal is to find out how the world works, to seek, what regularities there may be, to penetrate to the connections of things from sub nuclear particles, which may be the constituents of all matter, to living organisms, human/social community, and thence to cosmos as a whole.
D. Science is a way of thinking much more than it is a body of knowledge.
E. Even so straightforward a question as whether in the absence of friction a pound of lead falls faster than a gram of fluff was answered incorrectly by Aristotle and almost everyone else before the time of Galileo.
[1] AEBCD [2] EABDC [3] DCBEA [4] DCAEB

Directions (Qs. 55 to 60): Each question below consists of a word printed in CAPITAL LETTERS, followed by four words or phrases numbered [1], [2], [3] and [4]. Choose the numbered word or phrase that is most nearly OPPOSITE in meaning to the word or phrase in capital letters, Darken the corresponding oval in the answer sheet

Since some of the questions require you to distinguish fine shades of meaning be sure to consider all the choices before deciding which one is the best.

55. VENAL:
[1] healthy [2] pleasant [3] clever [4] incorruptible
56. ZENITH:
[1] abyss [2] obscurity [3] nadir [4] decline
57. PERIPATETIC:
[1] stationary [2] essential [3] careful [4] discrete
58. CONVOLUTED:
[1] completely flexible [2] straightforward [3] consistently calm [4] symmetrical
59. MITIGATE:
[1] preponderate [2] extrapolate [3] exacerbate [4] satiate
60. SAP:
[1] bolster [2] condone [3] reinstate [4] satiate

SECTION-II

ANALYTICAL SKILLS

This section examines the analytical and logical thinking abilities of a candidate. Remember that a particular question is less important than the reasoning task you are asked to perform. No specialized knowledge of any particular field is required for answering the questions, and no knowledge of the terminology and conventions of format logic is presupposed.

In these questions you need to analyse the situation on which each question is based, and then select the answer that is the most appropriate response to the question.

Each question or group of questions is based on a passage or set of conditions. In answering some of the questions, select the best answer from the choices given. Darken the corresponding oval in the answer sheet.

61. Proportionally, more persons diagnosed as having the brain disorder schizophrenia were born in the late rainy season (August/September) than any other time of the year. A recent study suggests that the cause may have been the nutrient-poor diets of some expectant mothers during the months of heavy rains or floods of the year, when it was hardest for people to get or afford, a variety of fresh foods.

Which of the following, if true, helps to support the, concision presented above?

- [1] A sizable proportion of patients involved in the study have a history of schizophrenia in the family.
- [2] Over the years the number of cases of schizophrenia has not shown a correlation with degree of economic distress.

- [3] The nutrients in fresh foods have the same effect on the development of the brain as do the nutrients in preserved foods.
- [4] Most of the development of brain areas affected in schizophrenia occurs during the last month of the mother's pregnancy.

Directions (Qs. 62 to 64): A psychologist has designed an experiment that involves running five mice - C, D, E, F and G - through a maze that is connected to five compartments - 1, 2, 3, 4 and 5. The experimenter places each mouse in one of the five compartments. When a bell is rung, each mouse leaves its compartment, runs through the maze, and enters or reenters one of the five compartments. At no point is there more than one mouse in one compartment.

- When the bell is rung, any mouse placed in 4 always goes in 2, and any mouse placed in 2 always goes to 4.
- When the bell is rung, any mouse placed in 5 always goes to 3, and any mouse placed in 3 always goes to 5.

The experimenter has designed the experiment such that after the mice have run through the maze, the following outcome always obtained:

- G is neither in 3 nor in 4
 - If E is in 1, F is in 2
 - If G is in 2, F is in 5
62. If C is in 5 after the mice have run through the maze, G must have been in which of the following before running through the maze?
 [1] 1 [2] 2 [3] 4 [4] 5
63. If G is in 2 after the mice have run through the maze, F must have been in which of the following before running through the maze?
 [1] 1 [2] 2 [3] 3 [4] 4
64. Which of the following is a persiflage distribution of the mice after they have run through the maze?

- | | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> |
|-----|----------|----------|----------|----------|----------|
| [1] | C | E | D | G | F |
| [2] | G | F | D | C | E |
| [3] | E | F | G | C | D |
| [4] | D | G | F | E | C |

65. As a part of a delicately balanced system, the human heart secretes a hormone, a substance that controls the amount of salt in the blood and the volume of blood circulating within the body. Only very small quantities of the hormone are required. This hormone is extremely important in regulating blood pressure and is found in large amounts in the blood of those suffering a heart attack.

If the statements above are true, then it must also be true that

- [1] if there is deficiency in the amount of heart hormone secreted, low blood pressure will result
- [2] any drug that regulates blood pressure will have its effect by influencing the amount of heart hormone secreted
- [3] if a de vice that is only a mechanical pump is used as an artificial heart, it will not perform all the functions of the human heart
- [4] it is large quantities of the heart hormone that cause heart attacks to occur

66. Recent surveys show that many people who seek medical help are under a great deal of stress. Medical research also shows that stress can adversely affect an individual's immune system, which is responsible for combating many infections. Thus when a person is under stress, she or he is more likely to become ill.

Which of the following, if true, would most strengthen the conclusion above?

- [1] There is a marked decrease in the number of complaints presented at college infirmaries during vacation time.
 - [2] Most people report that being in hospital or an infirmary is a stressful situation.
 - [3] There is a marked increase in the number of illnesses treated at college infirmaries around the time of examinations.
 - [4] Opium was used in alternative medicinal system of treatment (e.g., in Ayurveda) as an anti-stress drug since ages.
67. A person who agrees to serve as mediator between two warring factions at the request of both abandons his impartiality. To take sides at a later point would be to suggest that the earlier presumptive impartiality was a sham.

The passage above emphasizes which of the following points about mediators?

- [1] They should feel free to take sides in the dispute right from the start, provided that they make their biases publicly known.
 - [2] They should not agree to serve unless they are equally acceptable to all parties to a dispute.
 - [3] They should reserve the right to abandon their impartiality so as not to be open to the charge of having been deceitful.
 - [4] They should not agree to serve unless they are committed to maintain a stance of impartiality.
68. Many researchers believe that the presence of RNA in brain cells is the biochemical basis of memory; that is, the presence of RNA enables us to remember. Because certain chemicals are known to inhibit the synthesis of RNA in the body, we can test this hypothesis. Animals that have learned particular responses can be injected with an RNA inhibitor and then tested for memory of the learned responses.

Which of the following test results would most seriously weaken the case for RNA as the basis of memory?

- [1] After an injection of RNA inhibitor, animals cannot learn a new response.
- [2] After injections of RNA inhibitor, some animals lost memory of the learned responses totally but others lost it only partially.
- [3] After an injection of RNA inhibitor, a wide range of behaviors in addition to the learned responses were affected.
- [4] After an injection of RNA inhibitor, animals that had not consistently been giving the learned responses were able to give them consistently.

Directions (Qs. 69 to 72): The following are the nine options that are available for the Seelvar, a certain make of automobile: air conditioning, power brakes, power steering, power windows, a heavy-duty engine, heavy-duty shock absorbers, a hatch-back, a sunroof and a tinted windshield. Because of certain manufacturing and safety considerations, the purchase of these options must conform to the following conditions:

- If air conditioning is chosen, a heavy-duty engine, heavy-duty shock absorber, and a tinted windshield are also required.
- If any of the power-assisted options (power brakes, power steering, power windows) are chosen, a heavy-duty engine is also required.
- If heavy-duty engine is chosen, power brakes are also required.

- If a hatchback is chosen, a sunroof cannot be chosen.
➤ A tinted windshield can be chosen only for an automobile for which either a sunroof or air conditioning or both are chosen.
69. A buyer who does not want air conditioning but otherwise wants the maximum number of options for a Seelvar CANNOT purchase
[1] power windows [2] power brakes [3] power steering [4] a hatchback
70. Which of the following options can be chosen without the purchase of additional options?
[1] A heavy-duty engine [2] Heavy-duty shock absorbers
[3] Power brakes [4] Power windows
71. Which of the following must be true?
[1] A Seelvar equipped with a sunroof must also be equipped with a tinted windshield.
[2] A Seelvar equipped with air conditioning must also be equipped with a sunroof.
[3] A Seelvar equipped with a tinted windshield must also be equipped with a heavy duty, engine.
[4] A Seelvar equipped with air conditioning must also be equipped with power brakes.
72. Of the following, which could be a completed selection of optional equipment that conforms to the conditions?
[1] Air conditioning, power brakes, a heavy-duty engine, a hatchback, a tinted windshield
[2] Power brakes, power steering, a heavy-duty engine, heavy-duty shock absorbers, a hatchback
[3] Power steering, a sunroof
[4] Air conditioning, power brakes, a heavy-duty engine, heavy-duty shock absorbers, hatchback.
73. In the 1950's sixty per cent of (rented cancer patients lived at least five years after detection of the disease. Now, sixty per cent live at least seven years after detection. This fact demonstrates that, because of improved methods of treatment, cancer patients now live longer after they contract the disease than cancer patients did in the 1950's.
- The conclusion of the argument above depends on which of the following assumptions?
[1] Detection of cancer does not now take place, on average, significantly earlier in the progression of the disease than it did in the 1950's.
[2] The number of cancer patients now is approximately the same as it was in the 1950's.
[3] For the 1950's only sixty per cent of cancer patients received treatment, whereas now a substantially higher percentage does.
[4] Physicians now usually predict a longer life for cancer patients after detection of the disease than did physicians in the 1950's.

Directions (Qs. 74 to 79): In a certain emergency medical centre, seven paramedics - B, C, D, E, F, K and L – are assigned to accompany three ambulance vans during a single 12 hour shift. Each paramedic must be assigned to just one of the vans according to following rules:

- At least two paramedics must be assigned to van 1.
 - At least three paramedics; one of whom must be F, must be assigned to van 3.
 - If B is assigned to van 1, E must also be assigned to van 1.
 - C must be assigned to van 2
 - L cannot be assigned to van 3
74. If E is assigned to van 2, which of the following must be TRUE?
[1] D is assigned to van 1 [2] K is assigned to van 3
[3] L is assigned to van 1 [4] B is assigned to van 1

75. Which of the following is a possible assignment of the seven paramedics to the vans?
- | | Van 1 | Van 2 | Van 3 |
|-----|-------|---------|---------|
| [1] | E, L | C, B | D, F, K |
| [2] | B, C | E, L | D, F, K |
| [3] | B | C, D, E | F, K, L |
| [4] | C, E | D, L | B, F, K |
76. If E and L are the only paramedics assigned to van 1, which of the largest group of paramedics that could possibly be assigned to van.3?
- [1] B, D, F K [2] B, F, K [3] C, D, F, K [4] D, K
77. If exactly three paramedics are assigned in van 1, which of the following must be TRUE?
- [1] B is assigned to van 3 [2] K is assigned to van 1
[3] C alone is assigned to van 2 [4] B is assigned to the same van as E
78. If B and L are assigned to van 1, all of the following must be true EXCEPT:
- [1] Exactly one paramedic is assigned to van 2
[2] D is assigned to van 2
[3] Exactly three paramedics are assigned to van 1
[4] Exactly three paramedics are assigned to van 3
79. If E is the only paramedic not yet assigned, and if, at this point, E could be assigned to any one of three vans, which of the following must be TRUE?
- [1] L is assigned to van 1 [2] K is assigned to van 3
[3] D is assigned to van 3 [4] D is assigned to van 1
80. For acrylic, a clear rigid plastic, to be cast, fairly complex molecules must be induced to link up, in a process called polymerization. Polymerization is exothermic; i.e., its net effect is that each time molecules link, a small quantity of heat is generated. In addition, the rate of linking speeds up as temperature increases.

Which of the following can be inferred from the passage above?

- [1] If air temperatures are kept steady when acrylic is cast, the rate at which the molecules link remains constant.
[2] Unless the heat that results from linking of molecules is drawn off promptly, there will be a heat built up at an accelerating rate as acrylic is cast.
[3] Once the process of polymerization has been induced, it cannot be slowed before all possible links among molecules have been formed.
[4] In casting of thin sheets of acrylic, which lose heat quickly to the surrounding air, polymerization proceeds much faster than it does in the casting of thick pieces.
81. Ironically, people who use aspartame as a sweetener to reduce their caloric intake could wind up defeating their purpose, since studies show that high levels of aspartame may trigger a craving for carbohydrates by depleting then brain of a chemical that registers carbohydrate satiety.

Which of the following conclusions can most properly be drawn if the statements above are true?

- [1] Food products that contain aspartame are typically low in carbohydrate.
[2] People tend to prefer sweet foods to those high in carbohydrates.
[3] People who do not use aspartame are not likely to develop a craving for carbohydrates.
[4] The caloric content of foods that are high in carbohydrates is significant.

82. In the 1960s long-term studies of primate behaviour often used as subjects tamarins, small monkeys that were thought ideal because they require only small cages breed frequently, and grow quickly. Field studies were not used because they were costly and difficult. Tamarins were kept caged in male-female pairs, because otherwise serious fights erupted between unrelated females. On the basis of the fact that breeding occurred, tamarins were viewed as monogamous.

The view taken by the researchers concerning the monogamy of tamarins depended on a questionable assumption. Which of the following could have served as that assumption?

- [1] Adult male tamarins contribute to the care of the tamarin infants.
- [2] The social system of tamarins requires monogamous pairing.
- [3] The way the tamarins were kept in cages did not affect their mating behaviour.
- [4] Male tamarin monkeys do not display aggressive behaviour in the wild.

83. It is impossible to believe scientific predictions that a long “nuclear winter” would envelop the Earth as a result of nuclear war. Atmospheric scientists and weather experts cannot reliably and accurately predict tomorrow's weather. Yet the effect of nuclear explosions on local and worldwide atmospheric conditions must follow the same laws that control everyday weather changes. If the weather cannot be predicted with present knowledge, neither can a nuclear-scenario.

Which of the following, if true, would most seriously **weaken** the argument made above that if scientists cannot reliably predict the daily weather, their predictions of a “nuclear winter” cannot be believed?

- [1] Scientists' predictions about a nuclear winter are necessarily speculative, since they cannot be verified by harmless experimentation.
- [2] The scientific theory of a nuclear winter is concerned with drastic climatic changes rather than day-to-day fluctuations in the weather.
- [3] The scientific theory of a nuclear winter uses data that is available to those who forecast the daily weather.
- [4] Weather forecasters usually do not insist that their predictions are infallible.

Directions (Qs. 84 to 87): A mail carrier must deliver mail by making a stop at each of six buildings -D, E, F, H, K and M. Mail to be delivered is of two types, ordinary mail and priority mail. The delivery of both types of mail is subject to the following conditions:

- Regardless of the type of mail to be delivered mail to K and mail to M must be delivered before mail to F is delivered.
 - Regardless of the type of-mail to be delivered, mail to E and mail to D must be delivered before mail to M is delivered.
 - Mail to buildings receiving some priority mail must be delivered, as far as the above conditions permit, before mail to buildings receiving only ordinary mail.
84. If, E, F and M are each receiving priority mail, which of the following lists the buildings in an order, from first to sixth, in which they must receive the mail?
[1] E, D, M, K, F, H [2] M, E, F, K, D, H [3] D, E, K, M, H, F [4] F, E, M, K, D, H
85. If D is the only building receiving priority mail, which of the following lists the buildings in an order, from first to sixth, in which they can receive their mail?
[1] D, K, E, M, H, F [2] E, D, K, M, H, F [3] D, E, K, F, M, H [4] H, D, E, K, M, F
86. If only one building is to receive priority mail, and, as a result, H can be no earlier than fourth in the order of buildings, which of the following must be the building receiving priority mail that day?
[1] D [2] F [3] M [4] K.

94. Figures issued by the government of a certain country show that in 1980 the public sector and private sector each employed the same number of people. Between 1980 and 1984 according to the government, total employment decreased. In the public sector more than it increased in the private sector.

If, according to the governmental figures, the unemployment rate in this country was the same in both 1980 and 1984, which of the following statements must be true about this country?

- [1] In 1984 more people sought work in the private sector than in the public sector.
 [2] The government's figures for total employment increased between 1980 and 1984.
 [3] The competition for available work increased between 1980 and 1984.
 [4] Fewer people were in the labour force, as counted by the government, in 1984 than in 1980.

Directions (Qs. 95 to 97): A marketing faculty wishes to schedule three classes on marketing in a B-School- one at 10 a.m., one at 2 p.m., and one at 6 p.m. Eight groups of students - M, N, O, P, R, S, T and U - who have registered to attend the class with each group be assigned to one of the three classes. Each class will contain either two or three groups of students. The assignment of student-groups to each class must conform to the following restrictions:

- M-group must be assigned to a class to which only one other group is assigned.
- N-group must be assigned to the same class as T group
- O-group must not be assigned to the same class as S group
- P-group must be assigned to either the 10 a.m. class or the 6 p.m. class
- S-group must be assigned to a class that meets earlier in the day than the class to which R-group is assigned.

95. If M-group and U-group are assigned to the 10 a.m. class, which of the following must be the groups of students assigned to the 6 p.m. class?

- [1] P, S, U [2] N, R, T [3] O, P, R [4] N, R, P

96. Which of the following is a possible assignment of student-group to the class?

- | | <u>10a.m.</u> | <u>2p.m.</u> | <u>6p.m.</u> |
|-----|---------------|--------------|--------------|
| [1] | O, P, S | N, T, U | M, R |
| [2] | N, S, T | M, O, R, P, | U |
| [3] | N, S, T | O, R, U | M, P |
| [4] | M, S | N, P, U | O, R, T |

97. If O-group and M-group are assigned to the 6 p.m. class, which of the following must be the group of students assigned to the 10 a.m. class?

- [1] P, R, U [2] P, S, U [3] N, T, U [4] N, S, T

98. When the manufacturer of Lipica, a major soft drink, changed its secret formula last year, the export earnings of an island in the Indian Ocean began to fall. This island's only export comprises more than half of the world's supply of vanilla beans. Analysts concluded that the original formula of Lipica contained vanilla from beans, but the new formula did not.

Which of the following, if true, would most **strengthen** the conclusion drawn by the analysts?

- [1] imports of vanilla beans dropped in countries where Lipica is made.
 [2] There were decreases in sales of several widely sold products that were known to contain vanilla.
 [3] A new process for synthesizing vanilla was under development in the laboratory in Germany.
 [4] The vanilla bean plantings of a nearby island were beginning to produce crops.

99. Instead of relying on general tax revenue, as it now does, the government should rely more heavily on passenger fares to finance public bus and train service. In order for public transportation to be maintained without cutting service users should pay all the operating costs even if these costs should increase. Such charges would be fair since only users benefit from public transportation.

Which of the following is a principle on which the position above could be based?

- [1] The government should provide support from general tax revenue to any transportation industry that has passenger service available to the public.
[2] General tax revenues should not be used to finance public services that benefit a limited number of people:
[3] If necessary, general taxes should be raised to ensure that public transportation services are provided.
[4] The number of users of a public service should determine the amount of governmental financial support for the service.
100. Arpita is shorter than Julie, but she is taller than Eve. Sumita is shorter than Julie, and she is shorter than Eve. Madhu is taller than Sumita, but shorter than Julie.

If the statements above are true, one can validly conclude that Bandana is shorter than Arpita if it is true that

- [1] Madhu is taller than Bandana, but shorter than Eve.
[2] Bandana is shorter than Julie, but taller than Eve.
[3] Madhu is equal in height to Bandana.
[4] Arpita is equal in height to Madhu.

Directions (Qs. 101 to 110): These questions are based on a proposition or a sentence or a passage. Each proposition/sentence/passage represents an argument, which consists of several parts such as an assumption, a conclusion, an inference, or a premise etc. These terms are defined as follows:

- Argument : an argument in any group of propositions of which one is claimed to follow from others, which are regarded as providing support or grounds for the truth of that one.
Assumption: an assumption is an unstated and/or implied premises that supports the conclusion.
Conclusion : The conclusion of an argument is the proposition that is affirmed on the basis of the other, propositions of the argument, and these other propositions, which are affirmed (or assumed) as providing support or reasons for accepting the conclusion, are the premises of that argument. Conclusion and inference are often used synonymously in an argument.
Premise : a premise is a stated reason or a piece of evidence, facts, examples, that support(s) the conclusion or inference.

In this part, an argument passage, an excerpt or a passage, is followed by question(s) which is/are statement(s) either concerned with or related to the passage or reproduced from the argument passage. These questions are concerned with the parts of an argument as defined above i.e., assumption, Conclusion/inference, premise etc. Identify if the statement given in the question is an assumption, a conclusion/inference, a premise or none of these. Choose the following number as indicated below;

- Choose [1] - if the statement is an assumption
Choose [2] - if the statement is a conclusion
Choose [3] - if the statement is a premise
Choose [4] - if the statement is not an argument

Directions (Qs. 101 to 103): The expansion of the universe is based on the application of known physics to astronomical observations. We observe a systematic expansion of galaxies that reflexes an underlying expansion of space. The antiquity of this expansion matches pretty nearly with the ages of the oldest stars in our own Milky Way galaxy.

101. The expansion of the universe is based on the application of known physics to astronomical observations.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
102. The antiquity of this expansion matches pretty nearly with the ages of the oldest-stars in our own Milky Way galaxy.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
103. a systematic expansion of galaxies that reflects an underlying expansion of space.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument

Directions (Qs. 104 to 110): Questions are based on the following passage.

The Big Bang theory is crumbling ... According to orthodox wisdom the cosmos began with the Big Bang an hymens, perfectly symmetrical explosion 20 billion years ago. The problem is that astronomers have confirmed by observation the existence of huge conglomerations of galaxies that are simply too big to have formed in, a mere 20 billion years Studies based on new data collected by satellite and backed up by earlier ground surveys show that galaxies are clustered into vast ribbons that stretch billions of light years and are separated by voids hundreds of millions of light years across. Because galaxies are observed to travel at only a small fraction of the speed of light, mathematics shows that such large clumps of matter must have taken at least One hundred billion years to come together - five times as long as the time since the hypothetical Big Bang ... Structures as big as those now seen can't be made in 20 billion years....The Big Bang theorizes that matter was spread evenly through the universe. From this perfection, there is no way for such vast clumps to have formed so quickly.

104. The Big Bang theory is crumbling.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
105. Structures as big as those now seen can't be made in 20 billion years.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
106. such large clumps of matters must have taken at least one hundred billion years to come together -five times as long as the time since the hypothetical Big Bang.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
107. galaxies are clustered into vast ribbons that stretch billion years and are separated by voids hundreds of millions of light years across.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
108. The Big Bang theorizes that matter was spread evenly through the universe.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
109. there is no way for such vast clumps to have formed so quickly.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument
110. The exact way the galaxies are formed 20 billion years ago or so including our own galaxy Milky Way - is still beyond the scientific studies.
[1] an assumption [2] a conclusion [3] a premise [4] not an argument

Directions (Qs. 111 to 115): For each question, two or three or more statements are given. These statements are lettered (A), (B), (C)etc., as the case may be followed by two conclusions numbered I and II. Identify the conclusion(s) that can validly be drawn from the statements and then darken the corresponding oval in the answer sheet,

The statements even if they vary from known facts, assume them to be true.

111. **Statements:** A. Doctors and lawyers are professional people.
B. Professional people and executives are respected.
Conclusions: I. Therefore doctors are respected
II. Therefore respected people are professionals
[1] I only [2] II only [3] Both I and II [4] Neither I nor II
112. **Statements:** A. All of facials are citizens. Some officials are not present.
B. Therefore there are traitors.
C. Therefore officials who are not traitors are present.
Conclusions: I. Therefore there are traitors.
II. Therefore officials who are not traitors are present.
[1] I only [2] II only [3] Both I and II [4] Neither I nor II
113. **Statements:** A. All cut-rate items are either shopworn or out of date.
B. Nothing shopworn is worth buying
C. Some cut-rate items are worth buying
Conclusions: I. Therefore some shopworn items are cut-rate items
II. Therefore some cut-rate items are out of date.
[1] I only [2] II only [3] Both I and II [4] Neither I nor II
114. **Statements:** A. Some diamonds are used for adornment.
B. Only things worn as jewels or, applied as cosmetics are used as adornment.
C. Diamonds are never applied-as cosmetics.
D. Nothing worn as a jewel is properly used if it has industrial application.
E. Some diamonds have industrial applications.
Conclusions: I. Therefore some diamonds are not properly used.
II. Therefore things used for adornment are not things of diamonds.
[1] I only [2] II only [3] Both I and II [4] Neither I nor II
115. **Statements:** A. Only lawyers and politicians are members.
B. Some members are not college graduates.
Conclusions: I. Therefore some lawyers are not college graduates.
II. Therefore some politicians are not college graduates.
[1] I only [2] II only [3] Both I and II [4] Neither I nor II

Directions (Qs. 116 to 130): In these questions you are to analyse the situation on which each question is based, and then select the answer choice that is the most appropriate response to the question. Darken the corresponding oval in the answer sheet.

116. When limitations were in effect on nuclear-arms testing, people tended to spend more of their money. The perceived threat of nuclear-catastrophe, therefore, decreases the willingness of people to postpone consumption for the sake of saving money.

The argument above assumes that

- [1] There are more consumer goods available when nuclear-arms testing increases.
[2] The perceived threat of nuclear catastrophe has increased over the years.

- [3] The people who saved the most money when nuclear-arms testing was limited were the ones who supported such limitations,
- [4] People's perception of the threat of nuclear catastrophe depends on the amount of nuclear-arms testing being done.

117. Most archaeologists have held that people first reached the Americas less than 20,000 years ago by crossing the land bridge into North America. But recent discoveries of human shelters in South America dating from 32,000 years ago have led researchers to speculate that people arrived in South America first, after voyaging across the Pacific and then spread northward.

Which of the following, if it were discovered, would be pertinent evidence against evidence of the speculation above?

- [1] The climate is warmer at the 32,000-year-old South American site than at the oldest known North American site.
- [2] The last Ice Age, between 11,500 and 20,000 years ago, considerably lowered worldwide sea levels.
- [3] The site in South America that was occupied 32,000 years ago was continuously occupied until 6000 years ago.
- [4] Some North American sites of human habitation predate any sites found in South America.

118. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 500 to 800 kms apart. The successful implementation of this plan would cost far less than expanding existing airports, and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, **if true**, could proponents of the plan above most appropriately cite as a piece of evidence for, the soundness of their plan?

- [1] One-half of all departing flights in the nation's busiest airport head for a destination in a major city 700 km away.
- [2] A large proportion of air travelers are vacationers who are taking long-distance flights.
- [3] Many new airports are being built in areas that are presently served by high-speed-ground transportation systems.
- [4] A high-speed-ground-transportation system would require major repairs to many highways and mass-transit improvements.

119. Correctly measuring the productivity of service workers is complex. Consider, for example, postal workers: they are often said to be more productive if more letters are delivered per postal worker. But is this really true? What if more letters are lost or delayed per worker at the same time than more are delivered?

The objection implied above to the productivity measure described is based on doubts about the truth of which of the following statements?

- [1] Productivity should be described to categories of workers, not to individuals.
- [2] The quality of service rendered can appropriately be ignored in computing productivity.
- [3] The delivery of letters is the primary activity of the postal service.
- [4] Postal workers are representative of service workers in general.

120. Although migraine headaches are believed to be caused by food allergies, putting patients on diet that eliminates those foods to which the patients have been demonstrated to have allergic migraine reactions frequently does not stop headaches. Obviously, some other cause of migraine headaches besides food allergies must exist.

Which of the following, if true, would most **weaken** the conclusion above?

- [1] Food allergies affect many people who never develop the symptom of migraine headaches.

- [2] Very rarely do food allergies cause patients to suffer a symptom more severe than that of migraine headaches.
- [3] Many patients report that the foods that cause them migraine headaches are among the foods that they least enjoy eating.
- [4] Many common foods elicit an allergic response only after several days, making it very difficult to observe links between specific foods patients eat and headaches they develop.

Directions (Qs. 121 to 125): The editors of a journal that publishes three issues a year will devote the upcoming winter, spring, and autumn issues - in that order - exclusively to articles written by seven authors: R, S, T, U, V, W and X. Each of the seven authors will have at least one article published, but some may have more than, one article published. The following restrictions apply to the publication of their articles:

- If an article by R appears in an issue, then an article by S must also appear in that issue:
- If an article by U appears in a issue, then an article by W must appear in the immediately preceding issue.
- An article by W cannot be published in an issue that contains an article by X.
- No author may publish in each two consecutively published issues or twice in the same issue.
- Each of the issues being prepared must contain at least two articles.
- The seven authors' articles can only appear in the upcoming winter, spring, and autumn issues.

121. The winter issue of the Journal can consist exclusively of articles by which of the following groups of authors?

- [1] R, S, V, W and X [2] T, V, and W [3] R and T [4] R, W, and X

122. Which of the following authors CANNOT contribute to the winter issue of the Journal?

- [1] T [2] V [3] W [4] U

123. If winter issue consists exclusively of articles by R and S, then the spring issue can consist exclusively of articles by which of the following groups of authors?

- [1] T, W, X [2] T and W [3] R, S and X [4] T and V

124. If winter issue consists exclusively of articles by SVT and X, then the autumn issue must contain an article by which of the following authors?

- [1] S [2] V [3] W [4] X

125. If the autumn issue consists exclusively of articles by S, T and U, then the spring issue must have consisted of articles by which of the following groups of authors?

- [1] V and W [2] R and V [3] S and W [4] R and X

Directions (Qs. 126 & 127): In a certain flight crew, the positions of captain, co-pilot and flight engineer are held by Ambeth, Mohankumar and Sundarrajan, though not necessarily in that order.

- The co-pilot, who is an only child, earns the least
- Sundarrajan, who married Mohankumar's sister, earns more than the pilot.

126. From the information given above, the co-pilot must

- [1] Ambeth
[2] Mohankumar
[3] Sundarrajan
[4] Cannot be determined from the information given

127. From the information given above, identify the position Sundarrajan holds;
- [1] Captain
 - [2] Co-pilot
 - [3] Flight Engineer
 - [4] Cannot be determined from the given information

Directions (Qs. 128 to 130): Gopal, Nagarajan, Ganapathy and Raghu are four creative artists of great talent. One is a dancer, one is a painter, one singer, and one is a writer, though not necessarily in that order.

- Gopal and Ganapathy were in the audience the night singer made his debut on the concert stage
- Both Nagarajan and the writer have had their portraits painted from life by the painter
- The writer, whose biography of Raghu was a best-seller, is planning to write a biography of Gopal
- Gopal never heard of Ganapathy

128. Which of the following MUST be the artistic field of Gopal?
- [1] Dancer [2] Painter [3] Singer [4] Writer
129. Which of the following MUST be the artistic field of Ganapathy?
- [1] Dancer [2] Painter [3] Singer [4] Writer
130. Which of the following MUST be the artistic field of Raghu?
- [1] Dancer [2] Painter [3] Singer [4] Writer

SECTION-III

QUANTITATIVE SKILLS

Directions (Qs. 131 to 200): For each of the following question, select the correct or the best of the answer choices numbered [1], [2], [3] and [4] and darken the oval corresponding to your choice in the answer sheet.

Numbers : All numbers are real numbers.

Figures : Position of points, angles, regions, etc., can be assumed to be in the order shown; and angle measures can be assumed to be positive.

Lines drawn as straight can be assumed to be straight.

Figures that accompany questions are intended to provide information useful in answering the questions. However, unless it is stated, a specific figure is not drawn to scale; the diagrams and figures are drawn as accurately as possible. You should solve these problems NOT by estimating sizes by sight or by measurement, but using your knowledge of mathematics.

Start answering from Question 131 and proceed serially. You can skip a question and come back to it, if you want, within the time limit specified for this section only. You cannot go to any other section.

Directions (Qs. 131 to 150): Choose the correct answer from the answer choices and then darken the corresponding oval in the answer sheet.

131. If x and y are prime numbers, which of the following CANNOT be sum of x and y ?
- [1] 9 [2] 13 [3] 16 [4] 23
132. The sum of the ages of Uma and Jaya is y years. If Uma is 12 years older than Jaya, how many years old will Jaya be y years from now, in terms of y ?
- [1] $\frac{3y}{2} - 6$ [2] $\frac{y}{2} - 6$ [3] $2y - 6$ [4] $y - 6$

133. If a square region has area x , what is the length of its diagonal in terms of x ?
 [1] $2\sqrt{x}$ [2] \sqrt{x} [3] x [4] $\sqrt{2}x$
134. Is $x = y$?
 A. $(x + y) \left(\frac{1}{x} + \frac{1}{y} \right) = 4$ B. $(x - 50)^2 = (y - 50)^2$
 [1] A or B but not one of the statements alone
 [2] Either statement
 [3] Both statements together
 [4] Cannot be answered
135. If x is a positive integer, is x odd?
 A. $3x$ is odd. B. $x + 3$ is even.
 [1] A or B but not one of the statements alone.
 [2] Either statement
 [3] Both statement together
 [4] Cannot be answered
136. Is the number 10^{30} divisible by all the following EXCEPT?
 [1] 125 [2] 32 [3] 16 [4] 6
137. If m and n are two integers such that $mxn = 64$, which of the following cannot be the value of $m + n$?
 [1] 20 [2] 65 [3] 16 [4] 35
138. Which of the following is are true?
 I. $(x^{b-c})^a (x^{c-a})^b (x^{a-b})^c = 1$
 II. Fractions $\frac{3}{18}, \frac{19}{20}$ of $\frac{16}{19}$ are in descending order
 III. IF $\log(x + 1) - \log(x - 1) = \log 2$ then $x = 3$.
 [1] I & II [2] Only I [3] I & III [4] II & III
139. Which of the following can be the value of x such that $(x + 7)$ is a factor of $(x + 1)^2$?
 [1] 12 [2] 47 [3] 25 [4] 30
140. Consider the series (1), (2, 3), (4, 5, 6) (7, 8, 9, 10)
 Find the sum of numbers in fiftieth such bracket
 [1] 62525 [2] 1225 [3] 12525 [4] 13225
141. The characteristic of the logarithm of 21735 is
 [1] 2 [2] 11 [3] 3 [4] 4
142. In a thousand metre race A beats B by 100 metres & B beats C by 100 metres. How many metres start can A give to C.
 [1] 195 metres [2] 200 metres [3] 205 metres [4] 190 metres
143. Dilip buys a radio at $\frac{3}{4}$ of its value and sells it for 20% more than its value. What is his gain %?
 [1] 20% [2] 45% [3] 60% [4] 75%
144. The G. M. of two numbers is 3 & their A.M. is 6. Find the H.M. between the same numbers.
 [1] 1.5 [2] 2.5 [3] 2 [4] 1

145. If $f(x) = \frac{1}{x} - g(x) = 1(1 - x)$ & $h(x) = x^2$, then find $f \circ g \circ h(2)$.
- [1] -1 [2] 1 [3] $\frac{1}{2}$ [4] None
146. Which of the following is unit digit in the expansion of $(222)^{222}$?
- [1] 2 [2] 3 [3] 4 [4] 6
147. The value of $\left(\frac{101}{100}\right)^{100}$ is nearest to
- [1] 3 [2] 30 [3] 300 [4] 3000
148. Salesperson A's compensation for any week is Rs.360.00 plus 6 per cent of the portion of A's total sales above Rs. 1,000.00 for that week. Salesperson B's compensation for any week is 8 per cent of B's total sales for that week. For what amount of total weekly sales would both sales people earn the same compensation?
- [1] Rs. 18,000.00 [2] Rs. 15,000.00 [3] Rs. 21,000.00 [4] Rs. 4,000.00
149. In a certain company, the ratio of the number of managers to the number of production-line workers is 5 to 72. If 8 additional production-line workers were to be hired, the ratio of the number of managers to the production-line workers would be 5 to 74. How many managers does the company have?
- [1] 10 [2] 20 [3] 30 [4] 25
150. If an unbiased coin is to be tossed three times, what is the probability that on at least one of the tosses the coin will turn up tails? (Assume that the, tossing is also unbiased).
- [1] $\frac{7}{8}$ [2] $\frac{1}{8}$ [3] $\frac{3}{4}$ [4] $\frac{1}{2}$

Directions (Qs. 151 to 160): In each of the problems, a question is followed by two statements A and B, Containing certain data, pertaining to the problem. You are to determine whether the data provided by statements are sufficient to answer for each question, From the four answer choices mannered, [1], [2], [3] and [4], choose the correct answer for each question based upon the statement's data and then darken the corresponding oval in the answer sheet:

1. Statement A ALONE is sufficient, but statement B, alone is not sufficient
 2. Statement B ALONE is sufficient, but statement A alone is not sufficient
 3. BOTH statements TOGETHER but NEITHER statement ALONE is sufficient
 4. Statements A and B TOGETHER are NOT sufficient
151. What the value of x the sum of a list of 'n' odd integers?
- A. n = 8
B. The sequence of the number of integers on the list is 64.
- [1] A alone [2] B alone [3] A and B together [4] Not sufficient
152. A certain bakery sells brown bread in 250 gms loaves and 450 gms loaves, and all loaves of the same size sell for the same price per loaf regardless of the number of loaves purchased. What is the price of a 450 gms loaf in this bakery?
- A. The total price of a 250 gm loaf and a 450 gm loaf of this bread is Rs.24.00
B. The total price of two 250 gm loaves and one 450 gm loaf of this bread is Rs.34.00
- [1] A alone [2] B alone [3] A and B together [4] Not sufficient

153. What is the ratio of x to y ?
 A. x is 4 more than twice y
 B. The ratio of $0.5x$ to $2y$ is 3 to 5
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
154. If n is a positive integer, what is the value of n ?
 A. 15 per cent of 30 per cent of n is 18
 B. n is divisible by 4
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
155. If r and s are integers, is $r + s$ divisible by 3?
 A. s is divisible by 3
 B. r is divisible by 3
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
156. What is the value of $w + z$?
 A. The product of w , x , y , and z is 770
 B. $1 < w < x < y < z$
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
157. Is the integer n odd?
 A. n is divisible by 3
 B. n is divisible by 5
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
158. If x and y are positive, is $\frac{x}{y} > 1$?
 A. $xy > 1$ B. $x - y > 0$
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
159. Is xy must be odd?
 A. x and y are positive integers and both are not odd
 B. $2(x + y) - 1$ is odd
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
160. If p and q are positive integers and $pq = 24$ what is the value of p ?
 A. $\frac{q}{6}$ is an integer B. $\frac{p}{2}$ is an integer
 [1] A alone [2] B alone [3] A and B together [4] Not sufficient
161. A rectangle becomes a square when its length is reduced by 10 units and its breadth is increased by 5 units; but by this process the area of the rectangle is reduced by 210 units². The area of the rectangle (x) in square units is
 [1] $2950 > x < 2900$ [2] $2925 > x > 2900$ [3] $2925 \geq x > 2875$ [4] $2950 < x < 2900$
162. The diagonal of a rectangular field is 15 meter and the difference between its length and width is 3 meter. The area of the rectangular field is
 [1] 9 m^2 [2] 12 m^2 [3] 21 m^2 [4] 108 m^2
163. If $4x + 3y \leq 13$ and $3x + y = 5$ then which of the following MUST be TRUE?
 I. $x < 1$ and $y \leq 3$ II. $x^3 > 1$ and $y \leq 3$ III. $x^3 > 1$ and $y \leq 3$
 [1] I only [2] II only [3] III only [4] II and III only

164. A buyer purchased a few books of equal value each for a total cost of Rs.720.00. If the above value of each were Rs. 2.00 less than the price at which the buyer originally bought, she could have purchased 4 more books than what she had bought. How many books she originally purchased?
 [1] 20 [2] 18 [3] 36 [4] 34
165. The age of a person is equal to 4 times the sum of the ages of her three daughters. 8 years hence her age will be double the sum of their ages. What is her age now?
 [1] 20 years [2] 40 years [3] 60 years [4] 80 years
166. Ms. Priyanka sold two properties, X and Y, for Rs. 30,000 each. She sold property X for 20 per cent more than she paid for it and sold property Y for 20 per cent less than she paid for it. If the expenses are disregarded, what was her gain or loss, if any, on the two properties?
 [1] Gain of Rs.2,500.00 [2] Loss of Rs.2,500.00
 [3] Gain of Rs. 1,250.00 [4] There was neither a net gain or a net loss
167. The annual budget of a certain college is to be shown on a circular graph. If the size of each sector of the graph is to be proportional to the amount of the budget it represents, how many degrees of the circle should be used to represent an item that is 15 per cent of the budget?
 [1] 36° [2] 15° [3] 54° [4] 25°
168. If it is true that $x > -2$ and $x < 7$, which of the following MUST be TRUE?
 [1] $x > 2$ [2] $x < 2$ [3] $-7 < x < 2$ [4] $x > -7$
169. Two trains start simultaneously (with uniform speeds) from two stations 270 kms apart, each to the opposite station; they reach their destinations in 6V hours n and 4 hours after they meet. The rate at which the slower train travels is (km/hr).
 [1] 24 [2] 30 [3] 25 [4] 16
170. If the area of circle is 616 sq. cm., then the area of inscribed square will be
 [1] 392 sq.cm [2] 239sq.cm [3] 329 sq.cm [4] 186 sq.cm

Directions (Qs. 171 to 180): In each of the problems, a question is followed by two statements, marked (A) and (B) containing certain data pertaining to die problem. You are to determine whether the data provided by the statements are sufficient to answer the question, From the four answer choices marked [1], [2], [3] and [4], choose the correct answer for each question based upon the statement 's data and then darken the corresponding oval in the answer sheet.

1. Any ONE statement, A or B but NOT the other statement sufficient to answer the question.
2. BOTH statements TOGETHER are sufficient but NEITHER statement ALONE is sufficient.
3. EACH statement ALONE is sufficient.
4. Statements A and B TOGETHER are NOT sufficient.

171. In the fraction $\frac{x}{y}$, where x and y are positive integers, what is the value of x?

A. The least common denominator of $\frac{x}{y}$ and $\frac{1}{3}$ is 6.

B. $x = 1$

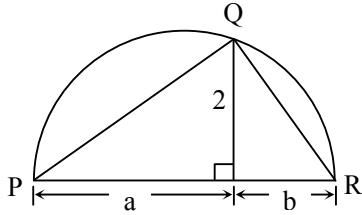
- [1] A alone not B or B alone not A [2] Both together
 [3] Each statement alone [4] Not sufficient

172. If x and y are nonzero integers, is $x^y < y^x$?

A. $x = y^2$ B. $y > 2$

- [1] A alone not B or B alone not [2] Both together
 [3] Each statement alone [4] Not sufficient

173.



If arc PQR above is a semicircle, what is the length of the diameter PR?

A. $a = 4$

B. $b = 1$

[1] A alone not B or B alone not

[2] Both together

[3] Each statement alone

[4] Not sufficient

174. If r and s are nonzero, integers, is $\frac{r}{s}$ an integer?

A. $r - 1 = (s + 1)(s - 1)$.

B. $r - 2 = 20$

[1] A alone not B or B alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

175. Is $2x - 3y < x^2$?

A. $2x - 3y = -2$.

B. $x > 2$ and $y > 0$

[1] A alone not B or B alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

176. If m and n are positive integers, is $\sqrt{n - m}$ an integer?

A. $n > m + 15$

B. $n = m(m - 1)$

[1] A alone not B or alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

177. Veena bought several pencils. If each pencil was either a 23-paise pencil or a 21-paise pencils, how many 23-paise pencils did Veena buy?

A. Veena bought a total of 6 pencils.

B. The total value of the pencils Veena bought was 130 paise.

[1] A alone not B or B alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

178. In the rectangular coordinate system, are the points, (r, u) and (u, v) equidistant from the origin?

A. $r + s = 1$.

B. $u = 1 - r$ and $v = 1 - s$

[1] A alone not B or B alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

179. What is the value of $a^4 - b^4$?

A. $a^2 - b^2 = 16$.

B. $a + b = 8$

[1] A alone not B or B alone not A

[2] Both together

[3] Each statement alone

[4] Not sufficient

180. If x is to be selected at random from set T , what is the probability that $\frac{1}{4}x - 5 \leq 0$?

A. T is a set of 8 integers.

B. T is contained in a set of integers from 1 to 25

[1] A alone not B or B alone not A

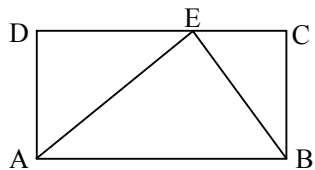
[2] Both together

[3] Each statement alone

[4] Not sufficient

181. What is the 25th digit to the right of the decimal point in the decimal of $\frac{6}{11}$?
 [1] 5 [2] 3 [3] 4 [4] 6
182. If $x = 0.888$, $y = \sqrt{0.888}$, and $z = (0.888)^2$, then which of the following is true?
 [1] $y < x < z$ [2] $y < z < x$ [3] $x < z < y$ [4] $z < x < y$
183. Equal amounts of water were poured into two empty jars of different capacities, which made one jar $\frac{1}{4}$ full and the other jar $\frac{1}{3}$ full. If the water in the jar with lesser capacity is then poured into the jar with the greater capacity, what fraction of the larger jar will be filled with water?
 [1] $\frac{2}{3}$ [2] $\frac{3}{4}$ [3] $\frac{1}{2}$ [4] $\frac{2}{7}$
184. If each side of an equilateral triangle is 6cm, then the radius of the circle inscribed in the equilateral triangle is
 [1] $3\sqrt{3}$ [2] $9\sqrt{3}$ [3] $\frac{\sqrt{3}}{4}$ [4] $\frac{3\sqrt{3}}{2}$
185. A certain junior class has 1000 students and a certain senior class has 800 students. Among these students, there are 60 sibling pairs, each consisting of 1 junior and 1 senior. If 1 student is to be selected at random from each class, what is the probability that the 2 students selected will be a sibling pair?
 [1] $\frac{1}{3600}$ [2] $\frac{1}{15}$ [3] $\frac{3}{40,000}$ [4] $\frac{1}{60}$
186. If $m > 0$ and x is m per cent of y , then, in terms of m , y is what per cent of x ?
 [1] $1/m$ [2] $10/m$ [3] $1/100m$ [4] $10000/m$
187. If n is a positive integer, then $49^n + 2(4^n + 9^n)$ is always divisible by
 [1] I only [2] II only [3] III only [4] I and III only
188. A box contains 100 balls, numbered from 1 to 100. If three balls are selected at random and with replacement from the box, what is the probability that the sum of the three numbers on the balls selected from the box will be odd?
 [1] $\frac{3}{8}$ [2] $\frac{1}{2}$ [3] $\frac{3}{4}$ [4] $\frac{1}{8}$
189. If a number between 0 and $\frac{1}{2}$ is selected at random, which of the following will be the number most likely be between?
 [1] 0 and $\frac{3}{20}$ [2] $\frac{1}{3}$ and $\frac{1}{4}$ [3] $\frac{1}{4}$ and $\frac{3}{10}$ [4] $\frac{3}{10}$ and $\frac{1}{2}$

190.



In the figure above, ABCD is a regular rectangle and its length is twice its width. If the area of DEAB is 144 cm^2 , -what is the length of the rectangle?

- [1] 12 cm [2] 24 cm [3] 36 cm [4] 44 cm
191. If n be a positive integer, the last digit in $3^{2n+1} + 2^{2n+1}$ must be
 [1] 0 [2] 2 [3] 5 [4] 7

