# *THE PRINCETON REVIEW CET SAMPLE PAPER 1*

*INSTRUCTIONS – Please read these carefully before attempting the test*

1. This test is based on pattern of previous years' CET papers.

2. There are four sections.
   - Section 1- English & Reading Comprehension (50 questions)
   - Section 2- Quantitative Ability (20 questions)
   - Section 3- Data Interpretation (22 questions)
   - Section 4 - Data Interpretation & Data Sufficiency (66 questions)

3. ***The total time allotted is 2 hours exactly.*** Please note your start time and end time on the answer sheet. Do not take more than 2 hours, or you will get a wrong assessment.

4. Please fill all the details, as asked on top of the answer sheet.

5. Please try to maximize your attempt overall, ***but you need to do well in all sections.***

6. ***There is 1 mark for every right answer and 0.25 negative mark for every wrong one.***

7. There is no sectional time limit.

8. Since it is a time constrained test and you have 2 hours, and all questions carry equal marks, please do not get stuck on any question, move fast to try and do easier ones.

9. ***Please do all scratch work on paper only, no extra sheets to be used.*** Put all your answers on the answer sheet.

Relax. You are competing against yourself.

**SECTION 1**

**Directions for Q.1 to 5:** Choose from among the given alternatives the one which will be a suitable to fill in the blank in most of the sentences.
1.  A.  Professional studies have become the _____ of the rich.
    B.  Every citizen has the _____ to speak, travel and live as he pleases.
    C.  He has a definite _____ over all his rivals.
    D.  Sheron no longer has the _____ of the company's bungalow and car.
    (a) advantage    (b) privilege    (c) right    (d) concession

2.  A.  People sensed _____.
    B.  A bad _____ case had come in—a person with a smashed arm.
    C.  And then, without warning, _____ struck.
    D.  The dogs were the first to recognise the signs of oncoming _____.
    (a) tragedy    (b) accident    (c) disaster    (d) calamity

3.  A.  The men there have fought _____ and emotional withdrawal, and were more capable of helping Jim.
    B.  But _____ does occasionally inflict all the adults.
    C.  A person who is deeply hurt feels very _____.
    D.  It is hard to survive this feeling of _____.
    (a) dejection    (b) lonely    (c) trouble    (d) depression

4.  A.  I have had a small power of _____.
    B.  Down with a very high fever, he suffers from frequents fits of _____.
    C.  They are now bitter enemies—all because of a small _____.
    (d)  Her _____ is the most creative thing she has ever possessed.
    (a) illusion                    (b) imagination
    (c) hallucination               (d) misunderstanding

5.  A.  Communism states that every individual must live for the _____.
    B.  The _____ of the affairs of the nation is deplorable.
    C.  _____ have been laid down by the United States, states *The Statesman*
    D.  No _____ has succeeded in gaining complete autonomy from the Federal government.
    (a) state    (b) nation    (c) government  (d) condition

**Directions for Q. 6 to 10:** Choose from among the given alternatives the one which will be a suitable substitute for the underlined expression in each of the following.

6.  The body of Macedonian infantry drawn up in close order was like a formidable castle of steel.
    (a) Phalanx    (b) phagocyte    (c) phenomenon (d) phaeton

7.  The thrilling narrative caused the hair on the skin to stand erect.
    (a) tension    (b) horrification (c) terror    (d) horror

8.  The art and science of good eating and drinking is now a lost art.
    (a) Gastronomy (b) Osteopathy  (c) Gluttony    (d) Cooking

9.  The victim's involuntary response to stimulus proved that he was still living.

(a) reactions     (b) reflexes     (c) feedback     (d) communication

10.     The <u>marriage of the princess with the commoner</u> caused a furore among the royalty.
        (a) misalliance    (b) mismatch    (c) elopement    (d) romance

**Directions for questions 11 to 20:** Choose the grammatically correct sentence from among the four options given.

11.     (a)     I am not one of those who believe everything they hear.
        (b)     I am not one of these who believes everything I hear.
        (c)     I am not one of those who believes everything he hears.
        (d)     I am not one of those who believes in everything one hears.

12.     (a)     Cannot one do what one likes with one's own?
        (b)     Cannot one do that one likes to do with his own?
        (c)     Cannot one do that one likes with his own?
        (d)     Cannot one do what he likes with his own

13.     (a)     There's Mr. Som, whom they say is the best singer in the country.
        (b)     There's Mr. Som, who they say is the best singer in the country.
        (c)     There is Mr. Som, whom they say is the best singer in the country.
        (d)     There is Mr. Som who, they say is the best singer in the country.

14.     (a)     Each of the students has done well.
        (b)     Each of the student has done well.
        (c)     Each of the students have done well.
        (d)     Each of the student have done well.

15.     (a)     Today we love, what tomorrow we hate; today we seek, what tomorrow we shun, today we desire, what tomorrow we fear.
        (b)     Today, we love what tomorrow we hate, today, we seek what tomorrow we shun, today, we desire what tomorrow we fear.
        (c)     Today we love what tomorrow we hate, today we seek what tomorrow we shun, today we desire what tomorrow we fear.
        (d)     Today we love what tomorrow we hate; today we seek what tomorrow we shun; today we desire what tomorrow we fear.

16.     I am an entertainer. _____ , I have to keep smiling because in my heart laughter and sorrow have an affinity.
        (a) Even if I have tears in me     (b) Even though I am depressed inside
        (c) While entertaining people     (d) In the entertainment business

17.     Political power is just as permanent as today's newspaper. Ten years down the line, _____, who the most powerful man in any state was today.
        (a)     who cares
        (b)     nobody will remember what was written in today's newspaper or
        (c)     few will know, or care about
        (d)     when a lot of water will have passed under the bridge, who will care

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

19. Although it has been more than 50 years since Satyajit Ray made Pather Panchali, _____ refuse to go away from the mind.
   (a) the haunting images          (b) its haunting images
   (c) its haunted images           (d) the haunt of its images.

20. _____ , the more they remain the same.
   (a) People all over the world change
   (b) There more people change
   (c) The more they are different
   (d) The less people change

21. The stock markets _____ . The state they are in right now speaks volumes about this fact.
   (a) is the barometer of public confidence.
   (b) are the best indicators of public sentiment.
   (c) are used to trade in expensive shares.
   (d) are not used to taking stock of all markets.

**Directions for Q. 22 to 24:** Choose the pair, which does not exhibit the relationship similar to that expressed in the capitalised pair.

22. TEMPERATURE: HEAT
   (a) votes : popularity          (b) IQ : intelligence
   (c) ohms : resistance           (d) speed : distance

23. STUBBORN: ADAPTABLE
   (a) stupid : bright             (b) moral : amoral
   (c) inherent : extraneous       (d) friend : enemy

24. PROGRESS: PROGRESSIVE
   (a) terror : terrorist          (b) sympathy : sympathizer
   (c) revolution : revolutionary  (d) reform : reformist

**Directions Q 25 to 34:** Pick out the most effective words to fill in the blank to make the sentence meaningfully complete.

25. Indications are that the government is …… to the prospect of granting bonus to the striking employees.
   (a) aligned      (b) obliged      (c) reconciled    (d) relieved

26. Shivalal ……. classical music. He always prefers Bhimsen Joshi to Asha Bhonsale, and Pandit Jasraj to Kumar Sanu.
   (a) adores       (b) apprehends  (c) encompasses (d) cultivates

27. As a general rule, politicians do not ……. centre stage
   (a) forward      (b) forbid       (c) forgive       (d) forsake

28. The ……. study on import of natural gas from Iran through a pipeline would be completed shortly.
(a) natural　　(b) calculated　(c) economic　　(d) feasibility

29. His party is solely to be blamed for the political ……. in the country.
(a) devaluation　(b) revival　　(c) advocacy　　(d) stalemate

30. His face was not made up of ………. and ……… but by the sheer force of thinking.
(a) powder, rouge　　　　　(b) mouth, eyebrows
(c) skin, bone　　　　　　　(d) textures, complexion

31. It has been universally ………. that widespread destruction must be necessary….. with modern warfare.
(a) realised, appendage　　　　(b) accepted, antidote
(c) acknowledged, concomitant　(d) understood, threshold

32. For a ………… reader, the author's influence is like a …………
(a) discerning, spell　　　　　(b) cold, force
(c) good, revelation　　　　　(d) perceptive, panorama

33. If you have come to the conference table with such an ……….. attitude, we cannot expect to reach a …………. agreement.
(a) ancillary, lasting　　　　　(b) effervescent, conclusive
(c) indolent, steadfast　　　　　(d) obdurate, harmonious

34. It is true that the kind of specialised knowledge which is required for various kinds of skills, has little to do with wisdom. With every increase of knowledge and skill, knowledge becomes more necessary, for every such increase ………. our capacity for evil.
(a) augments　(b) incites　　(c) excites　　(d) makes

**Directions for Q. 35 to 39:** Each of these questions contains six statements followed by four sets of combinations of three. Choose the set in which the statements are most logically related

35. A. No fishes breathe through lungs.　　B. All fishes have scales.
C. Some fishes breed upstream.　　　D. All whales breathe through lungs.
E. No whales are fishes.　　　　　　F. All whales are mammals.
(a) ABC　　　(b) BCD　　　(c) ADE　　　(d) DEF

36. A.　　All men are men of scientific ability.
B.　　Some women are women of scientific ability.
C.　　All men are men of artistic genius.
D.　　Some men and women are of scientific ability.
E.　　Some men of artistic genius are men of scientific ability.
F.　　Some women of artistic genius are women of scientific ability.
(a) ACD　　　(b) ACE　　　(c) DEF　　　(d) ABC

37. A. Some mammals are carnivores.　　B. All whales are mammals.
C. All whales are aquatic animals.　　D. All whales are carnivores.
E. Some aquatic animals are mammals.　F. Some mammals are whales.
(a) ADF　　　(b) ABC　　　(c) AEF　　　(d) BCE

38.　A. All roses are fragrant.　　　　　　B. All roses are majestic.
　　C. All roses are plants.　　　　　　　D. All roses need air.
　　E. All plants need air.　　　　　　　 F. All plants need water.
　　(a) CED　　　　(b) ACB　　　(c) BDC　　　(d) CFE

39.　A.　　All candid men are persons who acknowledge merit in a rival.
　　B.　　Some learned men are very candid.
　　C.　　Some learned men are not persons who acknowledge merit in a rival.
　　D.　　Some learned men are persons who are very candid.
　　E.　　Some learned men are not candid.
　　F.　　Some persons who recognize merit in a rival are candid.
　　(a) ABE　　　(b) ACF　　　(c) ADE　　　(d) BAF

40.　A.　　All bartenders are wine tasters.
　　B.　　Some bartenders are wine tasters.
　　C.　　No wine tasters die of heart attack.
　　D.　　No bartenders die of heart attack.
　　E.　　Some wine tasters do not die of heart attack.
　　F.　　Some who do not die of heart attack are wine tasters.
　　(a) FDE　　　　(b) CAD　　　(c) BCD　　　(d) BFE

**PASSAGE- 1**

Modern computers are masters of disguise. They have to be. For although technological progress is good at making computer hardware quicker, smaller and cheaper, it often leaves behind the software that made the machines useful, in the first place. Since many people resent having to junk perfectly good programs when they buy the latest computer, a host of tricks has been developed over the past few years to stop software becoming redundant. The idea is to get modern computers to impersonate or emulate older ones, providing the appropriate environment in which to run old-fashioned software.

Emulation, once confined to a few niches of the computer industry, is now widespread. Indeed, it goes on inside many computers all the time, bridging the gap between different processors and operating systems. Intel's Pentium Pro, Pentium II and the new Pentium III chips contain special hardware to provide backwards compatibility with older processors while allowing for improvements in performance. Since 1994, Apple's Macintosh computers have contained software to enable them to emulate older models that used a different microprocessor. And perhaps the best-known example is Sun's cross-platform language, Java. Called a Java virtual machine, something that does not even physically exist, it allows software to run on any device capable of emulating a fictitious computer.

The simplest sort of software emulator, called an interpreter, works by looking up each instruction from the foreign program to find how to carry out the equivalent operation on the host machine. This slow but reliable method allows modern PCs, for example, to emulate arcade-games machines from the 1980s whose microprocessors ran at a fraction of the speed.
More sophisticated are just-in-time compilers, or JITs. After examining each instruction and translating it into the native format of the system that it is running on, JITs keep the translated code around in case it is needed again. And since most software repeats itself and small chunks of code are typically run many times in a program, the chances are high that the translated code will indeed be re-used. That usually makes a JIT faster than an interpreter.

The power of the modern computer means, however, that even cleverer emulators are now being developed. Dynamic Recompiling (DR) emulators do not stop at translating instructions; they go on to analyze how the new code works and translate the clumsiest bits all over again in order to improve efficiency. Connectix, a company based in California, developed one such emulator, the Virtual Game Station (VGS). It emulates Sony's Play Station on a Macintosh personal computer.
Sony, which launched a new Play Station 2, is cross about this, but not because VGS might affect the sales of consoles, which are sold at a loss, and encourage people to buy the games. It is cross, the firm claims, because VGS might not be up to the job and customers might accordingly get an inferior impression of Sony games. The American courts have so far, however, ruled in favour of Connectix.

Connectix is a veteran of the emulator business. It sells also a program that enables a Macintosh to impersonate a PC. But emulation is encouraging entrepreneurs also to start new companies. That is a sure sign that something significant, and possibly lucrative, is happening.
Two of these start-ups—TeraGen and a secretive outfit called Transmeta—are following the hardware route. They have adopted a variation on the approach used by Intel to make its new chips faster while remaining compatible with earlier microprocessors. This involves translating the intricate instructions favoured by earlier chip designers into simpler rudimentary instructions, called micro-operations that can be rearranged by the processor to improve performance. TeraGen's approach builds on this idea, but generalizes it so that the company's

custom-built chips can translate instructions from, and hence emulate, more than one kind of processor at a time.

Although Transmeta has not disclosed its plans, a patent granted to the company in November 1998 suggests that it, too, is working on a processor based on generalized micro-operations. In addition, Transmeta's technology appears to be a hybrid. The original code is translated using software, while the hardware handles the housekeeping associated with emulating multiple chips at once, a trick that could enable computers to don a host of new disguises in the future.

41.    According to the author, modern computers are masters of disguise because
       (a)    computer hardware is ever quicker, smaller and faster
       (b)    some people resent having to junk perfectly good programs
       (c)    modern computers either impersonate or emulate older ones
       (d)    none of the above

42.    The passage is most likely to be
       (a)    the continuation of a preceding passage
       (b)    the continuation of a subsequent passage
       (c)    the last part of a bigger passage
       (d)    none of the above

43.    Emulation
       (a)    goes on inside many computers all the time
       (b)    provides backwards compatibility with older processes
       (c)    bridges the gap between different processors and operating systems
       (d)    all of the above.

44.    The word 'emulate,' as used in the passage, can best be replaced by
       (a) imitate                          (b) work as well or better than
       (c) impersonate                      (d) disguise

45.    What is Java, according to the passage?
       (a)    A software program
       (b)    A language that runs on a fictitious computer
       (c)    A computer language that enables software to run on different processors
       (d)    All of the above

46.    Why is a JIT faster compared to an interpreter?
       (a)    It is the more sophisticated computer
       (b)    It keeps the translated code around in case the latter is needed again
       (c)    It translates each instruction and adapts it to the native format of the system.
       (d)    None of the above

47.    Why is Sony cross about the VGS developed by Connectix?
       (a)    VGS might affect Sony's sales.
       (b)    VGS might be sold at a loss to encourage people to buy it
       (c)    VGS might not be up to customer expectations
       (d)    All of the above

48.    The tone of the authorial voice can best be described as being
       (a) matter-of-fact  (b) laudatory (c) sardonic (d) none of the above

49. Which of the following statements is not true?
    (a) Interpreters have helped to emulate arcade games machines right from the 1980s onwards
    (b) Trans Meta is working on designing a processor based on generalised micro-operations
    (c) The VGS developed by Connectix can be used only on a Macintosh personal computer.
    (d) None of the above

50. An ideal title for the passage would be:
    (a) Connectix vs. Sony          (b) Emulation is the key
    (c) All about modern compilers  (d) None of the above

**SECTION 2**

**Directions Q. 1 to 14:** these questions are independent of each other.

1. A student gets an aggregate of 60% marks in five subjects in the ratio 10 : 9 : 8 : 7 : 6. If the passing marks are 50% of the maximum marks and each subjects has the same maximum marks, in how many subjects did he pass the exam?
   (a) 2            (b) 3            (c) 4            (d) 5

2. In how many ways can the eight directors, the Vice-chairman and the Chairman of a firm be seated at a round-table, if the Chairman has to sit between the Vice-chairman and a director?
   (a) 9! ? 2         (b) 2 ? 8!         (c) 2 ? 7!         (d) None of these

3. If $\log_2[\log_7(x^2 - x + 37)] = 1$, then what could be the value of x?
   (a) 3            (b) 5            (c) 4            (d) None of these

4. After a discount of 11.11%, a trader still makes a gain of 14.28%. At how many percent above the cost price does he mark his goods?
   (a) 28.56%      (b) 35%       (c) 22.22%      (d) None of these

5. An old man has Rs. (1! + 2! + 3! + ...+ 50!), all of which he wants to divide equally (without fractions) among his n children. Then, n may be
   (a) 5            (b) 7            (c) 9            (d) 11

6. A dealer buys dry fruit at Rs.100, Rs. 80 and Rs. 60 per kg. He mixes them in the ratio 3 : 4 : 5 by weight, and sells them at a profit of 50%. At what price does he sell the dry fruit?
   (a) Rs. 80/kg    (b) Rs. 100/kg    (c) Rs. 95/kg    (d) None of these

7. An express train travelling at 80 kmph overtakes a goods train, twice as long and going at 40 kmph on a parallel track, in 54 seconds. How long will the express train take to cross a station 400 m long?
   (a) 36 sec      (b) 45 sec      (c) 27 sec      (d) None of these

8. A student, instead of finding the value of $7/8^{th}$ of a number, found the value of $7/18^{th}$ of the number. If his answer differed from the actual one by 770, find the number.
   (a) 1584       (b) 2520       (c) 1728       (d) 1656

9. P and Q are two integers such that P ? Q = 64. Which of the following cannot be the value of P + Q?
   (a) 20          (b) 65          (c) 16          (d) 35

10. The average marks of a student in ten papers are 80. If the highest and the lowest scores are not considered, the average is 81. If his highest score is 92, find the lowest.
    (a) 55          (b) 60          (c) 62          (d) Cannot be determined.

11. If the roots, $x_1$, and $x_2$, of the quadratic equation $x^2 - 2x + c = 0$ also satisfy the equation $7x_2 - 4x_1 = 47$, then which of the following is true?
    (a) c = - 15               (b) $x_1 = - 5, x_2 = 3$
    (c) $x_1 = 4.5, x_2 = - 2.5$       (d) None of these

12. The sum of the areas of two circles which touch each other externally is 153?. If the sum of their radii is 15, find the ratio of the larger to the smaller radius.
(a) 4          (b) 2          (c) 3          (d) None of these

13. If m and n are integers divisible by 5, which of the following is not necessarily true?
(a) m - n is divisible by 5.          (b) $m^2 - n^2$ is divisible by 25.
(c) m + n is divisible by 10          (d) None of the above.

14. Which of the following is true?
(a) $7^{3^2} = (7^3)^2$      (b) $7^{3^2} > (7^3)^2$      (c) $7^{3^2} < (7^3)^2$      (d) None of these

**Directions Q 15 to 16:** A survey of 200 people in a community who watched at least one of the three channels—BBC, CNN and DD showed that 80% of the people watched DD, 22% watched BBC, and 15% watched CNN.

15. What is the maximum percent of people who can watch all the three channels?
(a) 12.5          (b) 8.5          (c) 17          (d) Insufficient data.

16. If 5% of the people watched DD and CNN, 10% watched DD and BBC, then what percent of the people watched BBC and CNN only?
(a) 1%          (b) 5%          (c) 8.5%          (d) cannot be determined

**Directions Q 17 to 19:** These questions are independent of each other.

17. A man earns x% on the first 2000 rupees and y% on the rest of his income. If he earns Rs 700 from Rs 4000 and Rs 900 from Rs 5000 of income, find x.
(a) 20          (b) 15          (c) 35          (d) None of these

18. AB is the diameter of the given circle, while points C and D lie on the circumference as shown. If AB is 15 cm, AC is 12 cm and BD is 9 cm, find the area of the quadrilateral ACBD.
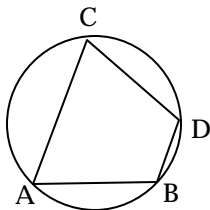


(a) 54?          (b) 216?          (c) 162?          (d) None of these

19. P, Q and R are three consecutive odd numbers in ascending order. If the value of three times P is three less than two times R, find the value of R.
(a) 5          (b) 7          (c) 9          (d) 11

20. ABC is a three-digit number in which A > 0. The value of ABC is equal to the sum of the factorials of its three digits. What is the value of B?
(a) 9          (b) 7          (c) 4          (d) 2

**SECTION 3**

**Directions Q. 1 to 5:** are based on the graph given below:
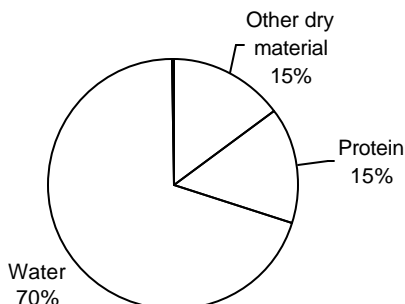Solubility - Temperature relationships for various salts.
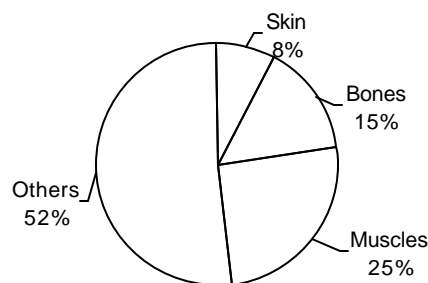(The Y-axis denotes Solubility (kg/litres of water)
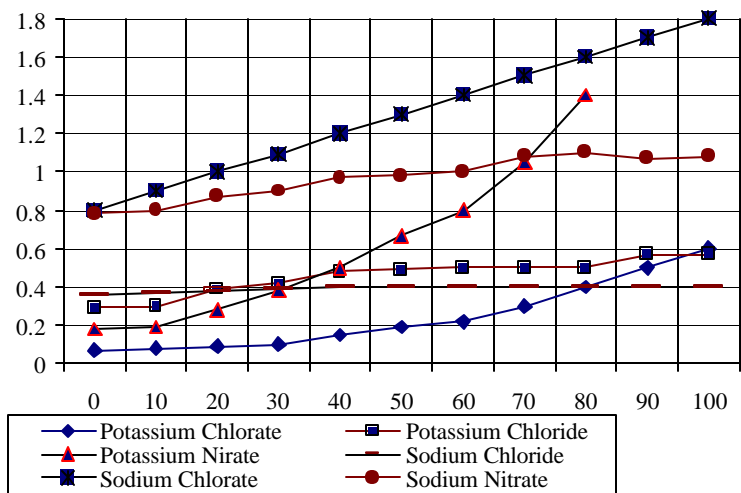


1.      Which of the following salts has greatest solubility?
        (a) Potassium Chlorate at $80^0$C.   (b) Potassium Chloride at $35^0$C.
        (c) Potassium Nitrate at $39^0$C.    (d) Sodium Chloride at $85^0$C.

2.      Approximately, how many kg of Potassium Nitrate can be dissolved in 10 litres of water
        at $30^0$C?
        (a) 0.04          (b) 0.4          (c) 4          (d) 0.35

3.      By what % is the solubility of Potassium Chlorate in water increased as the water is
        heated from $30^0$C to $80^0$C?
        (a) 100          (b) 200          (c) 250          (d) 300

4.      If 1 mole of Potassium Chloride weighs 0.7456 kg, approximately, how many moles of
        Potassium Chloride can be dissolved in 100 litres of water at $36^0$C?
        (a) 70          (b) 60          (c) 48          (d) 54

5.      Which of the salts has greatest change in solubility in kg/litre of water between $15^0$C and
        $25^0$C?
        (a) Potassium Chlorate          (b) Potassium Nitrate
        (c) Sodium Chlorate             (d) Sodium Nitrate

**Directions: For questions 6 to 9:** refer to the pie-chart given below:

Distribution of materials in Ghoshbabu's body (as % of total weight)

Occurrence of proteins in difference organs in Ghoshbabu's

Other dry material 15%

Protein 15%

Water 70%

Skin 8%

Bones 15%

Others 52%

Muscles 25%

6.     What fraction of Ghosh babu's weight consists of muscular and skin proteins?
       (a) 1/13          (b) 1/30          (c) 1/20          (d) Cannot be determined

7.     Ratio of distribution of protein in muscle to the distribution of protein in skin is:
       (a) 3 : 1          (b) 3 : 10          (c) 1 : 3          (d) 3½ : 1

8.     What percent of Ghosh babu's body weight is made up of skin?
       (a) 0.15          (b) 10          (c) 1.2          (d) Cannot be determined

9.     In terms of total body weight, the portion of material other than water and protein is closest to:
       (a) 3/20          (b) 1/15          (c) 85/100          (d) 1/20

**Directions Q. 10 to 13:** are based on the following information:

The following table gives the sales details for text books and reference books at Primary /Secondary/Higher Secondary/Graduate Levels.

| Year | Primary | Secondary | Higher Secondary | Graduate Level |
|------|---------|-----------|------------------|----------------|
| 1975 | 42137 | 8820 | 65303 | 25343 |
| 1976 | 53568 | 10285 | 71602 | 27930 |
| 1977 | 58770 | 16437 | 73667 | 28687 |
| 1978 | 56872 | 15475 | 71668 | 30057 |
| 1979 | 66213 | 17500 | 78697 | 33682 |
| 1980 | 68718 | 20177 | 82175 | 36697 |

10.    What is the growth rate of sales of books at primary school level from 1975 to 1980?
       (a) 29%          (b) 51%          (c) 63%          (d) 163%

11.    Which of the categories shows the lowest growth rate from 1975 to 1980?
       (a) Primary                    (b) Secondary
       (c) Higher secondary           (d) Graduate Level

12. Which category had the highest growth rate in the period?
(a) Primary        (b) Secondary    (c) Higher secondary      (d) Graduate Level

13. Which of the categories had either a consistent growth or  a consistent decline in the period shown?
(a) Primary        (b) Secondary    (c) Higher secondary      (d) Graduate Level

**Directions 14 to 17:** are based on the graph given below:
Number of Engineering Students (in hundreds) at institutions of different kinds
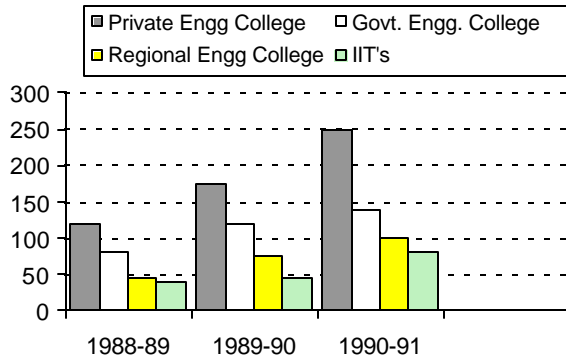


14. What was the total number of engineering students in 1989-90?
(a) 28500        (b) 4400         (c) 4200          (d) 42000

15. The growth rate in students of Govt. Engineering colleges compared to that of Private Engineering colleges between 1988-89 and 1889-90 is:
(a) more         (b) less         (c) almost equal          (d) 3/2

16. The total number of Engineering students in 1991-92, assuming a 10% reduction in the number over the previous year, is:
(a) 5700         (b) 57000        (c) 44800          (d) None of these

17. In 1990-91, what percent of Engineering students were studying at IITs?
(a) 16           (b) 15           (c) 14            (d) 12


Choose ((a):    If the question can be answered by using one of the statements alone, but cannot be answered using the other statement alone.
Choose (b):     If the question can be answered by using either statement alone.
Choose (c):     If the question can be answered by using both statements together, but cannot be answered using either statement alone.
Choose (d):     If the question cannot be answered even by using both statements together.

18. How much time will Mohan take to complete a job?
A.      Suresh is one-and-a-half times as efficient as Mohan.
B.      Radha is ¾ as efficient as Suresh, who completes the work in 20 days.

19. What is the % loss or gain in deal made by Ashish? It is given that Ramesh sold each of the two cows for Rs x, the first one sold at P% profit and the other at L% loss. Q is real number.

A.       PQ = 5                                    B.       QL = 7

20.      What is the present age of the son of Anil? It is given that at present the sum of the age of
         Anil and his son is x years. 't' years ago the product of the ages of Anil and his son was
         'y' times the age of Anil. 'x', 't' and 'y' are natural numbers.
         A.       Value of 'x' is known.              B.       Value of 'y' is known.

21.      What will be the HCF of r and w? It is given that LCM of these two numbers is 't' times
         the HCF of the given numbers and the sum of the LCM and HCF of the numbers is R.
         A.       Value of $(R/(t + y))$ is given.      B.       $t + y = t + y^2 = t + y^3$; y ? 0

22.      What is the slope of line 'p'?
         A.       Slope of the line m is ¾.
         B.       'p' and 'm' are perpendicular to each other.

**SECTION 4**

**Directions for Q. 1 to 5** Refer to the following information and the answer the following questions.

People Power Corporation presently employs three Managers (A, B and C) and five recruitment agents (D, E, F, G and H). The company is planning to open a new office in San Jose to manage placement of software professionals in the US. It is planning to relocate two of the three managers and three of the five recruitment agents to the office at San Jose. As it is an organization which is highly people oriented the management wants to ensure that the individuals who do not function well together should not be made as a part of the team going to the US. The following information was available to the HR department of People Power Corporation.

? Managers A and C are at each others throat and therefore cannot be sent as a team to the new office.
? C and E are excellent performers in their own right. However, they do not function together as a team. They should be separated.
? D and G have had a major misunderstanding during the last office picnic. After the picnic these two have not been in speaking terms and should therefore not be sent as a team.
? D and F are competing for a promotion that is due in another 3 months. They should not be a team.

1. If D goes to the new office which of the following is (are) true?
   I. C cannot go    II. A cannot go   III. H must also go
   (a) I only                       (b) II and III only
   (c) I and III only               (d) I, II and III

2. If A is to be moved as one of the Managers, which of the following cannot be a possible working unit?
   (a) ABDEH       (b) ABFGH       (c) ABEGH       (d) ABDGH

3. If C and F are moved to the new office, how many combinations are possible?
   (a) 4            (b) 1            (c) 3            (d) 5

4. Given the group dynamics of the Managers and the recruitment agents, which of the following is sure to find a berth in the San Jose office?
   (a) B            (b) H            (c) G            (d) E

5. If C is sent to the San Jose office which member of the staff cannot go with C?
   (a) B            (b) D            (c) G            (d) F

**Directions for Q. 6 - 11**: Refer to the following data and answer the following questions.

It is a game based on the position you take in a clock. You are at the 1 O'clock position. You can move one step clockwise, 1 step anti clockwise or to a place that is diametrically opposite yours. For example, from 1 O'clock if you move clockwise you will be at 2 O'clock. As you start the game, you are at 1 O'clock position and your score is 1. If you move a step clockwise, add the value of the time in that position to your score to give you the new score. If you move a step anticlockwise, add the value of the time in that position and subtract 2 from your score. If you move a step diametrically opposite, add the value of the time in that position to your score and subtract 4 from your score to get the new score. You cannot get back to a position that you have already visited.

6.	What will be your minimum score after the third move?
	(a) 10		(b) 7		(c) 11		(d) None of these

7.	What will be your maximu m score after the second move?
	(a) 16		(b) 18		(c) 20		(d) 24

8.	If you had moved a step anticlockwise in the first move, you could not have reached one of the following positions in the third move.
	(a) 10 O'clock	(b) 5 O'clock	(c) 7 O'clock	(d) 6 O'clock

9.	What is the shortest number of moves that you require to reach the 5 O'clock position When you start from 1 O'clock position?
	(a) 4		(b) 3		(c) 5		(d) 2

10.	A man said to a lady, "Your mother's husband's sister is my aunt." How is the lady related to the man?
	(a) Mother	(b) Aunt		(c) Sister	(d) Grandmother

11.	If P + Q means P is the brother of Q; P – Q means P is the mother of Q and P * Q means P is the sister of Q. Which of the following means M is the maternal uncle of R, if you can assume a third person K to be involved in establishing the relationship?
	(a) M-K*P	(b) M+K*R	(c) M+K-R	(d) M+K+R

**Directions for Q. 12 - 13**: Refer to the following information and answer the following questions.

A, B, C and D are four ladies who are friends of Elizabeth. On one Saturday the four of them visited Elizabeth at her weekend getaway.
	I.	The time of each visit was as follows: A at 8 O'clock, B at 9 O'clock, C at 10 O'clock and D at 11 O clock.
	II.	At least one woman visited Elizabeth between A and B.
	III.	At least one of C or D visited Elizabeth before A.
	IV.	C did not visit Elizabeth between B and D.

12.	Who visited Elizabeth first?
	(a) A		(b) B		(c) C		(d) D

13.	Who visited Elizabeth last?
	(a) A		(b) B		(c) C		(d) Insufficient data

**Directions for Q. 14 to 19**: Refer to the following line charts and answer the following questions.

The two line charts provide the fluctuation of three international currencies Dollar, Pound and the Deutche Mark during the six month period July to December of a particular year.

## Dollar/Pound Exchange Rate



## DM/Dolar Exchange Rate
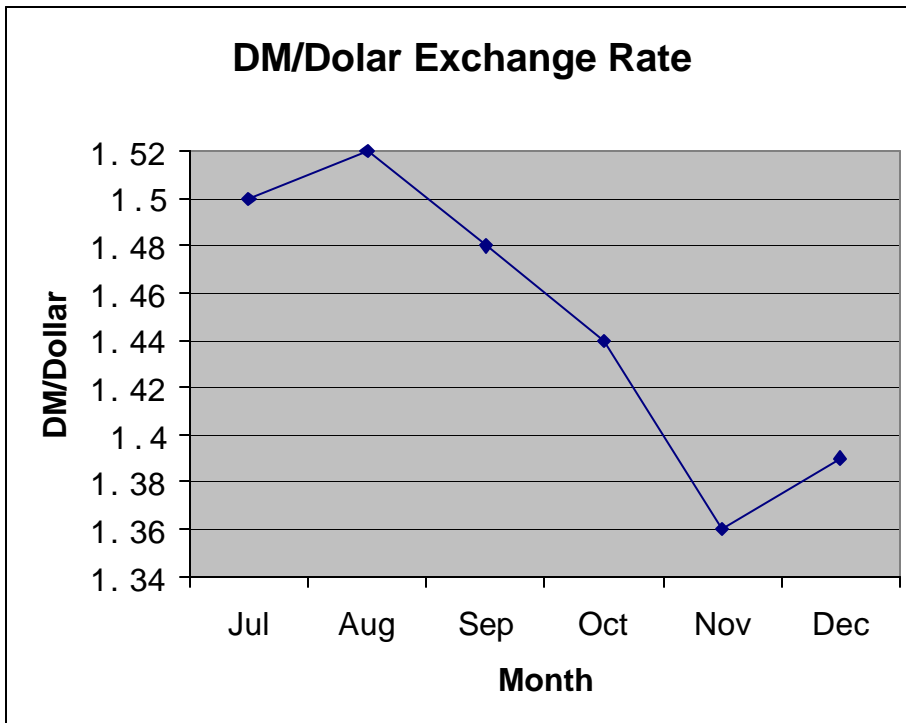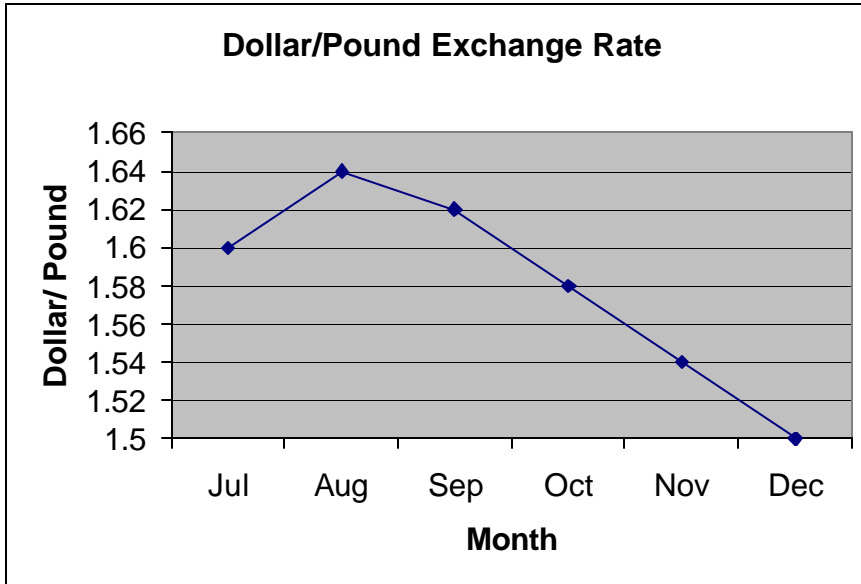


14. In which month was the DMP/Pound exchange rate the highest?
    (a) September   (b) August   (c) December   (d) November

15. Between which two months was the fall in DMP/Pound exchange rate the lowest?
    (a) Nov-Dec   (b) Aug-Sep   (c) Oct-Nov   (d) Jul-Aug

16. If I wanted to purchase Pounds using Deutsche Marks, in which month could I have purchased the maximum number of pounds for DM 120?
    (a) November   (b) August   (c) July   (d) December

17. If one Dollar cost Rs. 48, how many tones of Tea should India export to US to earn an export income of $ 100 mn if the cost per kg of tea is Rs 64?
    (a) 7500 tonnes            (b) 75000 tonnes
    (c) 7.5 lakh tonnes         (d) None of these

18. .If one DM is equal to Rs. 30, how many Rupees would I have got by converting 10 Pounds to dollars and the dollars to DM and DM to Rupees in the month of August?
    (a) Rs. 74.80     (b) Rs. 724     (c) Rs. 747.80     (d) Can't be determined

19. What was the highest % change in the exchange rate fluctuation of Dolalr/Pound in this six month period?
    (a) 2.60%     (b) 2.74%     (c) 1.22%     (d) 1.96%

**Directions for Q. 20 – 21**: Refer to the following information and answer following questions.

Speaker: The great majority of people in this city have access to the best medical care available any where in the world.
        Opposition: There are thousand of poor in this city who cannot afford to pay to see a doctor.

20. Which of the following is true of the opposition's comment?
    (a)      It constitutes a hasty generalization on few examples
    (b)      It cities statistical evidence which tends to corroborate the views of the speaker
    (c)      It tries to compare two unrelated data and draws a contrarian conclusion
    (d)      It is not necessarily inconsistent with the speaker's remarks.

21. A      possible objection that opposition could have fielded to the spearker's comments would be to point to the existence of
    (a)      a city which has more doctors than this city
    (b)      a city in which people are given better medical care than this city
    (c)      a city which has a higher per capita hospital bed than this city

    (d)      the amount spent on medical insurance for people of this city

**Direction for Q. 22 to 25**. Refer to the diagram below and answer the following questions.
Shown below is the number of people working in the various levels of a top secret nuclear plant at Hamshedpur.
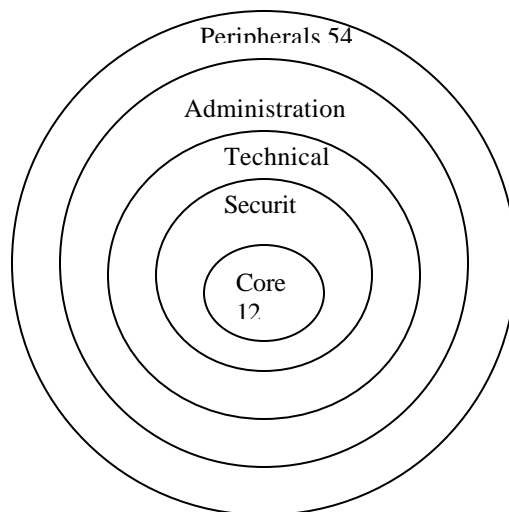
22. If there are 355 people in all working in the plant, only 20% of whom work in and within the technical layer. How many work in the administration layer?
(a) 284 (b) 230 (c) 218 (d) 262

23. Security rules state that there must be at least 3 personnel in and within the security layer for every person in the core group. How many people can there be in and within the security layer, if the total of the peripheral and security personnel must not be more than 110 (for cost purposes)?
(a) 40 (b) 32 (c) 58 (d) 30

24. If the number of people in the plant is slashed by 15%, 50% of which is in the peripheral layer resulting in the number of personnel in that layer dropping to 42, what was the original number of employees in the plant?
(a) 240 (b) 120 (c) 180 (d) 160

25. If only the employees at or outside the administration layer are the ones who do not need an extra security clearance and if there are 360 people in the factory and 48 people work in the administration layer, what percentage of employees need security clearance?
(a) 70% (b) 72% (c) 74% (d) 75%

**Directions for Q. 26 - 28**: These questions are based on the following data:

Mr. and Mrs. Sharma and Mr. and Mrs. Gupta, during a picnic, competed among themselves for the chess crown. Overall 3 games were played on a knock out basis, i.e., after the first game was decided the loser was eliminated and winner played the next game and so on.
Further,
(a) Sharmas won less number of games than Guptas
(b) The women won one game and the men won two games
(c) In only the first game were the two players married to each other.

26. Who did not lose a game?
(a) Mr. Sharma (b) Mrs. Sharma (c) Mr. Gupta (d) Mrs. Gupta

27. Who played & won the first game?
(a) Mr. & Mrs. Sharma – Mr. Sharma
(b) Mr. & Mrs. Gupta – Mr. Gupta
(c) Either (a) or (b) – Mr. Sharma or Mr. Gupta
(d) Either (a) or (b) – Mrs. Sharma or Mrs.

28. Which was a all-men game?
(a) Second (b) Third

(c) Either Second or Third (d) Both Second and Third

**Directions for Q. 29 – 33**: Refer to following passage:
Six participants in the National Billiards Championship, who played in the super six stage of the championship all belonged to different states. The six states are Gujarat, Orissa, Karnataka,

Maharasthra, MP and UP. The six participants are aged 18, 26, 32, 34, 38, 44 years (not necessarily in order).

1.   Pravan is the oldest while Laxman is the youngest player.
2.   Player from MP is aged 32
3.   Minal comes from Orissa but Laxman is not from Gujarat
4.   Pankaj and Kunal belong to Karnataka and UP resp. They are not aged 38 or 18
5.   Asim, 32 is not from Maharashtra or Gujarat
6.   Minal, Laxman and Pankaj are neither the oldest nor in their twenties.

29.   Which of the following statements must be true?
(a) Pravin 44, is from Orissa        (b) Kunal, 26, is from MP
(c) Pankaj, 26, is from Karnakata (d) Laxman, 18, is from Maharashtra

30.   Which of the following statements must not be true?
(a) Pravin 44, belongs to Gujarat (b) Pankaj, 36, belongs to Karnataka
(c) Asim, 32, belongs to Orissa    (d) Laxman, 18, belongs to Maharasthra

31.   Pravin belongs to the state of
(a) Gujarat        (b) Orissa        (c) Maharashtra (d) None of these

32.   Which player is aged 34?
(a) Kunal        (b) Pankaj        (c) Pravin        (d) Kunal or Pankaj

33.   Which player is in his 20s?
(a) Minal        (b) Pankaj        (c) Kunal        (d) Pravin

**Directions for Q. 34 – 36**: *Directions for questions 26 to 32: Read the following information and answer the questions given after that accordingly.*

a.   *There is a group of six persons Angapoora, Bakralu, Chaparganju, Drakula,     Engumakora and Fasoolara from a family. They are Professor, Clerk, Trader,   Tailor, Surgeon and Pilot.*

b.   *The Surgeon is the grandfather of Fasoolara, who is a Professor.*

c.   *The clerk 'Drakula' is married to Angapoora.*

d.   Chaparganju, the Tailor is married to the Trader.

e.   Bakralu is the mother of Engumakora and Fasoolara.

f.   There are two married to couples in the family.

34.   What is the profession of Engumakora?
(a) Surgeon        (b) Clerk.        (c) Professor        (d)Pilot        (e) None of these

35.   How is Angapoora related to Engumakora?
(a) Brother        (b) Uncle        (c) Father        (d) Grandfather   (e) None of these

36.   How many male members are there in the family?
(a) One        (b) Three        (c) Four        (d) Data inadequate        (e) None of these

**Directions for Q. 37 to 40:** Consider the following statements where every person gets exactly one different dish:
1.   Ria will not get soup unless Janet gets hot coffee.
2.   Gia will not get gums unless Veena gets soup.
3.   Veena will not get tea unless Gia gets soup.

4.       Janet will not get gums unless Ria gets hot coffee.
5.       Janet will not get hot coffee unless Veena gets gums.
6.       Gia will not get hot coffee unless Ria gets tea.
7.       Gia will not get tea unless Ria gets hot coffee.
8.       Ria will not get hot coffee unless Gia gets soup.
9.       Veena will not get gums unless Ria gets the hot coffee.
10.     Janet will not get tea unless Ria gets gums.
11.     Gia will not get soup unless Ria gets gums.

37.    Who gets gums?
     (a) Ria        (b) Gia       (c) Janet     (d) Veena

38.    Who gets soup?
     (a) Janet     (b) Veena    (c) Gia      (d) Ria

39.    Who gets hot coffee?
     (a) Gia       (b) Veena    (c) Ria      (d) Janet

40.    Who does Janet get?
     (a) Hot coffee   (b) Soup     (c) Gums     (d) Tea

41.    Dileep, Martin and Salman married Ranjana, Vidisha and Karuna (not necessarily in that order). Each of the couples has a son; their names being Saumitra, Shyam and Subhash. Further
    i.      Ranjana married six months before Karuna did.
    ii.     Salman was first to marry & Dileep, the last. Al the marriages took place in 1998 between February (month of first marriage) and September (month of last marriage).
    iii.    None of the couples had a child within one year of their marriage.
    iv.    Saumitra was born within 16 months of his parents' wedding. He was not born between August & Janauary both months inclusive
    v.     Karuna's son was born within 16 months of her marriage and Vidisha's exactly 24 months after the marriage.
    vi.    Subash was born an American citizen in January.

    Who are Saumitra's parents
    (a) Dileep-Ranjana         (b) Salman-Karuna
    (c) Martin-Ranjana        (d) Martin-Karuna

42.    Sangt Kripalchand had been preaching daily how important it was not to tell a lie. At last, Seth Jhuthamal decided to heed Sant's teaching. So, henceforth, he would not tell a lie on Monday, Wednesday, Thursday and Saturday; on other days he would continue to tell lies only.
    Presently, a customer comes to his jewellery shop and Seth Juthamal ties to close a sales deal.
    "But what is the guarantee that the jewellery is of specified parity" the customer asks.
    For today is Tuesday, the Santji's beloved day, when I don't speak a lie.
    "What if I make purchase tomorrow", the customer enquires.
    "Tomorrow may be too late as being Saturday I may lie that day" insisted Seth ji.
    So, this is how the conversation took place.

    What could be the day of this conversation?

(a) Friday      (b) Tuesday    (c) Sunday    (d) Any one of these

43.    Every month Chess Federation of India publishes ranking of Indian Chess Players. They actually complement the FIDE lists which are brought out at longer intervals. It was seen, observing monthly lists for last tear, that top six players in the list remained same throughout the year but there was considerable mutual change of rankings among these six. Thus ranking for January 2003 as follows:

January 2003 was as follows:
1 P. Harikrishna        2. D. Barua        3. K. Humpy
2. S. Chanda          5. K. Ramesh      6. S.S Ganguli

The list of rankings for Feb 2003 had an entirely different look with each of the six ranked in a position from the previous one. The following facts are known :

1.    No one else had his/her ranking changed by as many places as D. Barua, whose change in ranking was the greatest of the six.
2.    The product of Chanda's ranking for the two months was the same as product of Ganguli's ranking for the two months.

Who was ranked 5th in the list for February 2003.
(a) P. Harikrishna    (b) D. Barua    (c) K. Humpy   (d) None of these

44.    In the following sum
```
 E E  E            EEE
 F F  F            XXX
+ G  G  G         +YYY
 J K LM           JKLM
```

where each of the different letters stand for a different digits, E stands for
(a) 2          (b) 3         (c) 4         (d) None of these


**Directions for Q 45 - 46**: Refer to the following data

There are four bags on a shelf all in a straight horizontal line. Each bag contains a pair of socks and a tie. No bag contains a pair of socks and tie the same colour as the bag or each other. All four bags, pairs of socks and ties are either red, green, blue or yellow. No two bags are the same colour, no two ties are the same colour and no two pairs of socks are the same colour.
The red tie is in the bag next to the bag containing the pair of green socks. The yellow socks are in the bag next to the green bag which is next to the bag containing the green tie. The bag on the far left is red. The blue socks are in the bag next to the bag containing the blue tie. The yellow bag is next to the blue bag which is next to the bag containing the red socks. The green tie is in the blue bag or the yellow bag. The yellow tie is not in the red bag which is not, and is not next to the bag containing the yellow socks.

45.Which bag is the right most?
      (a) Yellow    (b) Green    (c) Blue    (d) Yellow or Blue
46.Which combination of bag tie and socks (in that order) is in the extreme left?
      (a) Red- Blue-Green        (b) Red–Green-Yellow
      (c) Red-Yellow-Red        (d) Red-Yellow-Yellow

**Directions for Q. 47- 48: Refer to the following data**

In a city state, government officials never tell the truth and those who are not government officials always tell the truth. A visitor meets three residents of the city state and asks one of them," Are you a government official?"

The first resident answer the question. The second native then reports that the first resident denied being a government official. The third resident says that the first resident is a government officials.

47.     How many of these three residents are not government officials?
(a) 1              (b) 3              (c) 2              (d) Insufficient data

48.     What is the order in which the three residents statements are true/false
(a) True, True, False              (b) False, False, True
(c) True, True, True              (d) Insufficient data

49.     In a batch of 120 postgraduate History students each student has to select at least one subject out of American History, Ancient Indian History. Modern Indian History and History of Modern Europe. 90 students selected History of Modern Europe and an equal number. American History. 105 students selected Ancient Indian History and an equal number. Modern Indian History. AT least how many students selected all the four subjects.
(a) 75              (b) 45              (c) 30              (d) Insufficient data

**Directions for Question 50 to 51:** Answer the questions on the basis of the information given below. Age Consultants have three consultants Gyani, Medha and Budhi. The sum of the number of projects handled by Gyani, Medha and Budhi individually is equal to the number of projects in which Medha is involved. All three consultants are involved together in 6 projects. Gyani works with Medha in 14 projects. Budhi has 2 projects with Medha but without Gyani, and 3 projects with Gyani but without Medha. The total number of projects for New Age Consultants is one less than twice the number of projects in which more than one consultant is involved.

50.     What is the number of projects in which Medha alone is involved?
(a) Uniquely equal to zero.              (b) Uniquely equal to 1.
(c) Uniquely equal to 4.              (d) Can't be determined uniquely.

51.     What is the number of projects in which Gyani alone is involved?
(a) Uniquely equal to zero.              (b) Uniquely equal to 1.
(c) Uniquely equal to 4.              (d) Can't be determined uniquely.

**Directions for Questions 52 to 56:** Refer to the data below and answer the questions that follows.
All the roads of city Z are either perpendicular or parallel to one another. The roads are all straight. Road, A, B, C, D and E are parallel to one another. Roads G, H, I, H, J, K, L and M are parallel to one another.

i.      Road A is 1 mile east of road B
ii.     Road B is 1/2 mile west of C.
iii.    Road D is 1 mile west of E.
iv.     Road G is 1/2 mile south of H.
v.      Road I is 1 mile north of J
vi.     Road K is 1/2 mile north of L.
vii.    Road K is 1 mile south of M

52.     Which of the following statements is necessarily true?
        (a) I is 1 mile north of L          (b) D is 2 miles west of B
        (c) E and B intersect               (d) M is 1.5 miles north of L

53.     If E is midway between B and C, then which of the following statement is false?
        (a)     D is less than 1 mile from B.
        (b)     C is less than 1.5 miles from D.
        (c)     Distance from E to B added to distance of E to C is 1/2 mile.
        (d)     D is 2 miles west of A

54.     Which of the following possibilities would make two roads coincide?
        (a)     L is 1/2 mile north of I
        (b)     D is 1/2 mile east of A
        (c)     I is 1/2 mile north of K
        (d)     C is 1 mile west of D

55.     If X is parallel to I & X is 1/2 mile south of J & I north of G, then which road would be ½ mile apart?
        (a)     I and X   b              (c) X and H
        (c)     J and G   d              (d) J and H

56.     If road E is midway between B and C, then the distance between A and D is
        (a)     1/2 mile                 (b) 1 mile
        (c)     1.75 miles               (d) 2.5 miles

**Directions for Question 57 to 59:** Refer to the data and answer the questions the follow :
        (i)     A, B, C, D, E and F are six members of a group. Out of these 3 are males and 3 are females.
        (ii)    There are 2 electricians, 2 lumbermen, one television star and one draper in the group
        (iii)   B, E, C and A are two married couples, each one having a different profession.
        (iv)    E, A television star, wear a black gown, is married to a lumberman in a brown suit.
                2 people wear black clothes, 2 wear brown clothes and the remaining people wear blue and gray each.
        (v)     Both husbands and both wives wear the same coloured clothes respectively.
        (vii)   A is a male electrician and D is his twin sister who is also an electrician.
        (viii)  B is a draper

57.     Which of the following are the two married ladies?
        (a) E and C         (b) B and C        (c) B and E        (d)        C and D

58. Who are the married couples?
    (a) AE, BC        (b) AB, EC        (c) AC, BE        (d) None of these

59. What colour dress does the unmarried lady wear?
    (a) Black         (b) Grey          (c) Blue          (d) Grey or Blue

**Directions for Questions 60 to 63**: Answer the questions after reading through the passage.
Six plays, P, Q, R, S, T and U are to be held during the week i.e, from Sunday to Saturday. In the day, only one play can be shown, and the showing of the plays is subject to the following conditions:

    i.      A two day gap should exist between the showing of plays T and S.
    ii.     The showing of U should be followed immediately by the showing of R.
    iii.    P cannot be shown on Thursday.
    iv.    Q should be shown on Tuesday and should not be followed by S.
    v.     These won't be any play on day. Friday or Sunday is not that day and just before this day, S has to be shown.

60. No play is shown on:
    (a) Sunday        (b) Saturday      (c) Monday        (d) Tuesday

61. On which day will the play R be shown?
    (a) Friday        (b) Saturday      (c) Thursday      (d) Monday

62. Which play is the last one to be shown?
    (a) S             (b) R             (c) P             (d) U

63. How many plays are shown between S and U?
    (a) One           (b) Two           (c) Three         (d) None of these

**Directions for Questions 64 to 66**: Refer to the sequence below and answer the questions that follow:

    2 z 5 ? 9 t r 2 × m + 3 b 7 - S

64. How many even numbers are located in even places from left to right?
    (a) Two           (b) Three         (c) One           (d) None of these

65. How many letters in the above sequence are immediately preceded as well as immediately followed by numbers?
    (a) One           (b) (3)           (c) Three         (d) None of these

66. The element located third to the right of the thirteen element from the right is:
    (a) r             (b) t             (c) 2             (d) 9

*SOLUTION*

**SECTION 1**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. (b) | 2. (c) | 3. (d) | 4. (b) | 5. (a) | 6. (a) | 7. (b) | 8. (a) | 9. (b) | 10. (b) |
| 11. (a) | 12. (a) | 13. (b) | 14. (a) | 15. (d) | 16. (a) | 17. (c) | 18. (b) | 19. (b) | 20. (b) |
| 21. (b) | 22. (d) | 23. (b) | 24. (b) | 25. (c) | 26. (a) | 27. (d) | 28. (d) | 29. (d) | 30. (a) |
| 31. (c) | 32. (a) | 33. (d) | 34. (a) | 35. (c) | 36. (b) | 37. (d) | 38. (a) | 39. (d) | 40. (b) |
| 41.(d) | 42. (d) | 43. (d) | 44. (c) | 45. (b) | 46. (c) | 47. (a) | 48. (a) | 49. (d) | 50.(b) |

**SECTION 2**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. (c) | 2. (b) | 3. (c) | 4. (a) | 5. (c) | 6. (d) | 7. (c) | 8. (a) | 9. (d) | 10. (b) |
| 11. (a) | 12. (a) | 13. (c) | 14. (b) | 15. (c) | 16. (b) | 17. (b) | 18. (b) | 19. (c) | 20. (c) |

**SECTION 3**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. (c) | 2. (c) | 3. (d) | 4. (d) | 5. (c) | 6. (c) | 7. (a) | 8. (d) | 9. (a) | 10. (c) |
| 11. (c) | 12. (b) | 13. (d) | 14. (d) | 15. (c) | 16. (d) | 17. (c) | 18. (c) | 19. (c) | 20. (d) |
| 21. (c) | 22. (c) | | | | | | | | |

**SECTION 4**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. (c) | 2. (d) | 3. (b) | 4. (a) | 5. (b) | 6. (d) | 7. (d) | 8. (d) | 9. (b) | 10. (c) |
| 11. (c) | 12. (b) | 13. (c) | 14. (b) | 15. (a) | 16. (d) | 17. (b) | 18. (c) | 19. (a) | 20. (d) |
| 21. (d) | 22. (b) | 23. (b) | 24. (a) | 25. (d) | 26. (b) | 27. (b) | 28. (b) | 29. (a) | 30. (c) |
| 31. (c) | 32. (a) | 33. (c) | 34. (d) | 35. (d) | 36. (d) | 37. (a) | 38. (c) | 39. (b) | 40. (d) |
| 41. (d) | 42. (c) | 43. (b) | 44. (d) | 45. (b) | 46. (a) | 47. (c) | 48. (d) | 49. (c) | 50. (b) |
| 51. (d) | 52. (d) | 53. (d) | 54. (c) | 55. (b) | 56. (c) | 57.(c) | 58.(b) | 59.(d) | 60.(c) |
| 61.(a) | 62.(c) | 63.(b) | 64.(c) | 65.(b) | 66. ( a) | | | | |

**SOLUTION**

**SECTION 4**

1.      c
2.      d
3.      c From clues IV & VI we conclude that F – G – H are the recruitment agents that should be included. Hence only one combination is possible.
4.      a
5.      b From solutions 68 & 69 we know that F, G and B all can go with C, hence right answer should be (b).

**Directions for 6 to 11:** Refer to the following table for the following solutions.
The following table gives the moves that can be made for the mentioned conditions. The underlined positions indicate your position after $n^{th}$ move.

| Move | Minimum Score | Maximum Score | Reaching 5 O'clock |
|------|---------------|---------------|--------------------|
| $0^{th}$ | $1 = 1$ | $1 = 1$ | 1 |
| $1^{st}$ | $7 – 4 = 3$ | $12 – 2 = 10$ | 12 |
| $2^{nd}$ | $1 – 4 = 3$ | $11 – 2 = 9$ | 11 / 6 |
| $3^{rd}$ | $2 = 2$ | - | 5 |
| $4^{th}$ | - | - | - |
| Total | 3 | 20 | - |

6.      d
7.      c
8. d      By moving a step anticlockwise in the first move, you reach at 12 O'clock. From here you can reach
     a 10'O Clock through 12 – 11 - 10
     b 5 'O clock through 12 – 6 – 5
     c 7 'O Clock through 12 – 6 – 7.
     But you cannot reach 6 'O Clock. Hence (4).
9.      b
10. c      Your mother's husband ? your father. Your father's sister ? your aunt. So, the lady's aunt is the man's aunt ? the man and the lady are brother and sister.
11. c      M is the maternal uncle of R means m is the brother of R's mother (say K) i.e., M + K – R.

**Direction for 12 to 13:** Refer to the following information for the following solutions.
We are given that A visited at 8 O'clock. Now from III we conclude that A visited at 8 p.m. Now from I we concluded that B has to visit at 9 a.m. otherwise nobody will be able to visit in between A & B. Now if D were to visit at 11 p.m. then condition IV will get violated hence we concluded that D visited at 11 a.m. and C visited at 10 p.m. From here all the questions are answered.
12.      b
13.      c
**Directions for 14 to 19**: Refer to the following information for the following solutions.
The ratio of the values of Dollar: Pound: DM, for July month are calculated as below. Table of exchange rate fluctuation between DM/Pound during the sex months, can be calculated as,

| Dollar (Do) | Pound (Po) | DM | Month |
|---|---|---|---|
| 1.6 | 1 | | |
| 1 | | 1.5 | |
| 1.6 | 1 | 2.4 | July |

Similar approach is applied to arrive at following table.

| Do | Po | DM | Month |
|---|---|---|---|
| 1.64 | 1 | 2.4928 | Aug. |
| 1.62 | 1 | 2.3976 | Sep. |
| 1.58 | 1 | 2.2752 | Oct. |
| 1.54 | 1 | 2.0944 | Nov. |
| 1.5 | 1 | 2.085 | Dec. |

From this all the questions can be answered.

14. c     Directly looking at the table.
15. a     Directly looking at the table.
16. d     To purchase maximum number of pounds,
          Pounds : DM ratio should be maximum or
          DM : Pounds ratio should be minimum.
17. b     The cost per kg of tea is Rs. 64. Therefore, the cost per tonne of tea is 64 X 1000 = Rs. 64,000.
          100 mn = Rs. 48 X 100 mn = Rs. 4800 mn. Rs. 4800 X 10$^6$
          No. of tones of tea that needs to be exported = $\dfrac{4800000000}{64000}$ = 75000 tonnes.
18. c     From the table it is clear that 10 Pounds = 24.928 DM = Rs. 747.84 ? Rs. 747.80.
19. a     Highest percentage change was in Nov. – Dec. and was equal to $\dfrac{0.04}{1.54}$ X 100 = 2.60%
20. d     Because the minority might consist of thousand of people, the opposition might not be inconsistent with the speaker's remarks.
21.       b
22. b     If 20% work in the technical level and within, that means 80% are in the outer two layers.
          ? 8% of 355 = 284.
          From this, subtract the number of people in the peripheral layer (54), to get the answer = 230.
23. a     The number must be equal to or more than 36 considering the 3 security personnel rule.
          ? Choices b and d are invalid.
          Out of the 110 people there are already 54 in the peripheral level, thus there cannot be more than 56 in the security level. This eliminates choice c of 58, leaving one choice a
24. d     A drop of 12 people in peripheral is equivalent to 50% of the complete lay-offs, which then must be 12 x 2 = 24, which is 15% of the original population, which must be:
          24/0.5 = 160. Hence, d
25. b     The total number of people who do not need security clearance are 54 + 48 = 102.

? Percentage of people who do need security clearance = $\dfrac{360\ ?\ 102}{360}$ = 100% ? 72%.

Hence b

**Q. 26 – 28.** From condition # 1 and # 2, either

I.       Mr. Gupta won one game, Mrs. Gupta won one game, and Mr. Sharma won one game; or

II.      Mr. Gupta won two games and Mrs. Gupta won one game; or

III.     Mr. Gupta won two games and Mrs. Sharma won one game.

If I is correct, then : Form (3), Mr. Sharma beat Mrs. Sharma in the first game. Then, only Mr. Sharma could have lost to Mr. Gupta or Mrs. Gupta in the second game. Then, from (3), no one could have played against the last winner in the last game. So, I is not correct.

II cannot be correct from (3).

So, III is correct. If Mrs. Sharma won the first game, then she beat Mr. Sharma in that game, from (3). But then, from (3), no one could have played against Mr. Gupta in the second game. So, Mr Gupta won the first game against Mrs. Gupta, from (1). Then, Mr. Gupta beat Mr. Sharma in the second game. The Mrs. Sharma beat Mr. Gupta in the third game. So, only Mrs. Sharma did not lose a game.

26. b    27. b           28. a

**Qs. 29 – 33**

29. d    30. c           31. a           32. b           33. c

**Qs. 34 – 36**

34. b    35. b           36. d           37. a           38. c           39.b    40. d

41.      42. c           43. b           44. d           45.c           46. a

47-48.   The second resident always speaks truth (so, not a govt. official) First speaker may speak truth (IS not & denies being a govt. official) or may tell a lie (is a govt. official but denies being one) – in either case denying being a govt. official. If first resident speaks truth the third one tells a lie and vice-versa.

47. c    48. d

49.      (3) History of Modern Europe (HME) + American History (AH) = 90 + 90 = 180, but there are only 120 students. Thus, at least 60 students selected both of the above subjects. HME and AM + Ancient Indian History (AIH) = 60 + 105 = 165. Thus, again, as there are only 120 students, at least 45 would have taken all three of above. Using the same logic, (45 + 105) – 120 = 30 students at least would select all the four subjects.

50. b    51. d

52.d     By conditions (vi) and (vii) together, (4) is necessarily true. Hence, (d).

53.d     If E is midway between B and C, then the distance between B and E is ¼ mile and between E and C is ¼ mile. Then: (a) is true by condition (iii); (b) is true by conditions and (ii) and (iii); (c) is true by condition (ii); (d) is false, as the distance from D to E is 1 mile, E to C is ¼ mile and C to A is ½ mile, which is less than 2 miles. Hence (d).

54.c     By conditions (vi) and (vii), option (b) will make two roads coincide

55.b     Diagrammatically, representing data in question and conditions (iv) and (v), J and H will be ½ mile apart. Hence (b).
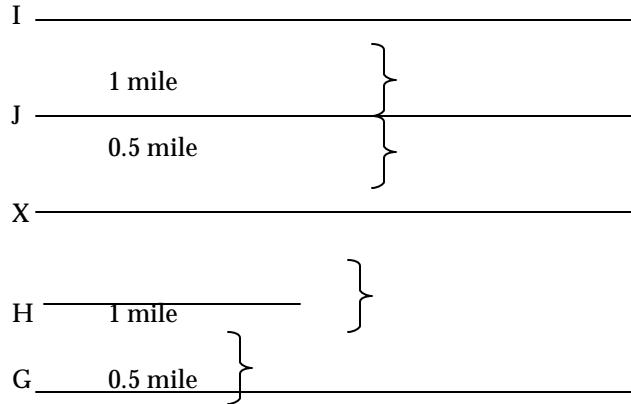
56.c    As explained in !. 117,

**For answers to questions 57 to 59:** The given information can be tabulated as follows:

| Males | | | | Females | | |
|---|---|---|---|---|---|---|
| Name | Profession | Dress colour | | Name | Profession | Dress colour |
| A | Electrician | Brown | Married to | B | Draper | Black |
| C | Lumberman | Brown | Married to | E | Television star | Black |
| F | Lumberman | Grey/blue | - | D | Electrician | Blue/gray |

Now, all the questions can be answered.
57.c        The married ladies are B and E.
58.b        The married couples are AB and CE.
59.d        The unmarried lady i.e., D wears a gray/blue coloured dress

**For Questions 60**

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
| S | No Play | Q | T | U | R | P |

Now, we can answer all the questions.
60.c        No play is shown on Monday. Hence, (3)
61.a        Play R is shown on Friday.
62.c        The last play to be shown is P
63.b        Two plays are shown between S and U
64.c        '2' is located on the 8th position.
65.b        'a' and 'b' are the 2 letters that are immediately preceded as well as followed by numbers
66.c        The 13th element from the right is '9'. Third to the right or '9' is (2).