

**Directions (1-5):** Read the passage given below and answer the questions based on the information provided in the passage.

Look back through time and you'll notice that communication has been the deciding factor in different spheres of influence.

When the Romans would go out and conquer entire countries, they built roads so they could quickly exchange goods and communicate with their armies.

The Rothschilds were able to establish their financial empire due, in large part, to an intricate communication network.

There are countless examples but the conclusion remains the same. Proper communication is not an option, it's essential to your business success. This article makes the case for why it's so important.

Even if you have a successful business and a unique product, it doesn't mean you're secure forever. The more popular and profitable your business, the more competitors will spring up.

They'll copy what you have and build on top of it. To stay alive in such a competitive landscape, you'll need to create products and services that are one step ahead. Communication makes this possible.

You and your team should be able to understand the business landscape and communicate the changes they see to all the stakeholders involved. Not only that, it's necessary for them to distill that information, create a plan, then clearly communicate it to the right people.

This gives you the ability to move faster than everyone else in your field. You observe new trends, adapt, and move beyond them before your competitors know what's happening. Communication best practices make this entire process simple and effective.

**Q1.** What was the motive behind building of roads before a battle by Romans?

- (a) To enable exchange of goods and communication with their armies
- (b) To send elephants to destroy the forts
- (c) Leave no place to hide for the enemies
- (d) None of the above

**Q2.** What is the secret behind Rothschilds success?

- (a) Extensive communication network
- (b) Monopoly over various countries in the financial sector
- (c) Shell companies to allow transfer of cash easily for clients who wanted anonymity in financial exchanges
- (d) (a) and (c)

**Q3.** What is essential to the success of a business?

- (a) Knowledge of managing human resources
- (b) Articulate communication
- (c) Technical expertise
- (d) All of the above

**Q4.** How does one maintain their relevance in a highly competitive business environment?

- (a) Have proper insights regarding the current business scenario
- (b) Communicate changes observed to all stakeholders
- (c) Focus on only innovative products
- (d) (a) and (b)

**Q5.** Which of the following word is similar to **trend** as mentioned in the passage given?

- (a) vision
- (b) impose
- (c) familiar
- (d) tendency



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Directions (6-10): **Answer the following questions.**

**Q6.** Who decodes and attaches some meaning to the message?

- (a) receiver
- (b) driver
- (c) sender
- (d) channel

**Q7.** \_\_\_\_\_ context refers to the relationship between the sender and the receiver.

- (a) social
- (b) physical
- (c) cultural
- (d) chronological

**Q8.** What is the prerequisite in oral presentation outside the organisation?

- (a) Flash back for audience
- (b) Background for audience
- (c) Front view for audience
- (d) Forward view for audience

**Q9.** Four conditions influence the effectiveness of an encoded message, such as the skills, attitudes, knowledge of the sender and \_\_\_\_\_.

- (a) Social-cultural system
- (b) Knowledge of the receiver
- (c) Age of the sender
- (d) Environmental issues

**Q10.** When is the communication process begin?

- (a) When the sender transmits the message
- (b) When the message enters the channel
- (c) When the message leaves the channel
- (d) When the sender thinks of a message

**Q11.** Direction: In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

**Statement:**

A. There are many people interested to step into journalism, writing blogs, books, columns and so on.

B. Writing is an art and to write better, reading is necessary.

**Conclusion:**

A. Reading should include all kind of styles as journalism involves multi fold facets of writing and expressing.

B. Reading should be thorough and absorbing. Recording all those observations while reading is necessary.

- (a) Only conclusion B follows
- (b) Both conclusion A and B follow
- (c) Neither A nor B follow
- (d) Only conclusion A follows

**Q12.** Direction: A statement is given & then two conclusions – 1 & 2 are given. You have to take the given statement to be true even if it seems to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the given statement disregarding commonly known facts.

Statement: The people with religious thoughts & afraid of God will not betray.

Conclusion:

1. Betraying people are atheists
2. The religion develops virtues

- (a) Only 1 is followed
- (b) Only 2 is followed
- (c) 1 & 2 – both are followed
- (d) Neither 1 nor 2 is followed

**Q13.** Direction: Given below are two statements. One is labelled as Assertion (A) and other is labelled as Reason (R). Choose the correct alternative from the following options:

Assertion (A) Graphite is not used to make electric wires.  
Reason(R) Graphite is a bad conductor.

- (a) If both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.
- (b) If both 'A' and 'R' are true but 'R' is not the correct explanation of 'A'
- (c) If 'A' is true but 'R' is false
- (d) If 'A' is false but 'R' is true.

**Q14.** Direction: Given below are two statements. One is labelled as Assertion (A) and other is labelled as Reason (R). Choose the correct alternative from the following options:

Assertion (A) In India, people elect their own representatives.

Reason (R) India is a democratic country.

- (a) If both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.
- (b) If both 'A' and 'R' are true but 'R' is not the correct explanation of 'A'
- (c) If 'A' is true but 'R' is false
- (d) If 'A' is false but 'R' is true.

Q15. Blood : Heart :: Air : ?

- (a) Nostrils
- (b) Lungs
- (c) Breathing
- (d) Nose

Q16. If VCNG means TALE, then the last letter the word got by decoding JGCF is

- (a) D
- (b) E
- (c) A
- (d) L

Q17. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

-1, 1, 4, 9, 16, ?

- (a) 24
- (b) 27
- (c) 26
- (d) 36

Q18. In a marriage party, 32% are women, 54% are men and there are 196 children. How many men are there in the party?

- (a) 756
- (b) 448
- (c) 332
- (d) 324

Q19. A train is running at a speed of 116 km/hr. The distance covered by the train in metres in 18 seconds is-

- (a) 900 m
- (b) 1160 m
- (c) 508 m
- (d) 580 m

Q20. What some of money lent at compound Interest will amount to Rs. 968 in 2 years at 10% pa interest being charged annually?

- (a) Rs. 720
- (b) Rs. 800
- (c) Rs. 840
- (d) Rs. 680

**Directions (21-25): Study the following table chart carefully and answer the questions given below:**

The chart shows the number of employees in various department in five mobile companies.

	Oppo	Samsung	Vivo	Oneplus	Apple
Marketing	400	250	175	250	230
Finance	200	100	200	150	150
Operation	250	120	250	200	200
HR	75	55	20	30	70

Q21. Find the ratio of employees of HR, Operations and Finance between Apple and Oneplus companies?

- (a) 6 : 7
- (b) 7 : 6
- (c) 3 : 2
- (d) 2 : 3

Q22. What percentage of total employees are in Marketing from Samsung to the total employees working in marketing from all companies?

- (a) 19.15%
- (b) 20.25%
- (c) 27.48%
- (d) 28.82%

Q23. Find the average number of employees from the HR department hired by all companies taken together.

- (a) 70
- (b) 85
- (c) 50
- (d) 55

Q24. What is the percentage of Finance and Operations employees in Oppo as compared to Operations and HR employees in Samsung? ( Approximately)

- (a) 157%
- (b) 260%
- (c) 257%
- (d) 196%

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**Q25.** What is the total number of employees in Oneplus?

- (a) 540%
- (b) 640%
- (c) 530%
- (d) 630%

**Q26.** The Sardar Sarovar dam is spread over on which of the three states-

- (a) Tamil Nadu, Maharashtra, Gujarat
- (b) Maharashtra, Gujarat, Madhya Pradesh
- (c) Gujarat, Madhya Pradesh, Jharkhand
- (d) Jharkhand, Orissa, Madhya Pradesh

**Q27.** Which protocol was signed in 1997 to reduce the emission of greenhouse gases-

- (a) Kyoto protocol
- (b) Environment fixation
- (c) Stockholm declaration
- (d) Nairobi declaration

**Q28.**

Match properly -

- |             |             |
|-------------|-------------|
| A- malaria  | 1. Protozoa |
| B- typhoid  | 2. Mosquito |
| C- rabies   | 3. Virus    |
| D- diarrhea | 4. Bacteria |
- (a) A-1,B-4,C-3,D-2
  - (b) A-2,B-4,C-3,D-1
  - (c) A-3,B-1,C-4,D-2
  - (d) A-4,B-1,C-2,D-3

**Q29.** Density of water is maximum at

- (a) Six degree celsius
- (b) Four degree celsius
- (c) Five degree celsius
- (d) None of the above

**Q30.** Where is the National Bureau of Plant Genetic Resources located?

- (a) Mumbai
- (b) New delhi
- (c) Kolkata
- (d) Chennai

**Q31.** The Law of Probability is applied in -

- (a) Random sampling
- (b) Non - random sampling
- (c) Geometry
- (d) None of the above

**Q32.** A research problem is feasible only when -

- (a) it is new adds something to knowledge
- (b) It is researchable
- (c) It has utility and relevance
- (d) All of these

**Q33.** The difference between the frequency polygon and the histogram is that -

- (a) In a histogram the measures internal are represented by a rectangle whereas in a frequency polygon all the measures are represented by the mid - point of the internal
- (b) The histogram represents cumulative frequencies of measures whereas the frequency polygon represents the percentile ranks of measures
- (c) The frequency polygon represents all the measures of an interval while the histogram shows the curve joining all midpoint of an interval
- (d) The frequency polygon represents the percentile ranks while the histogram represents the measures in an interval in the form of rectangles.

**Q34.** Where informants are literate and are spread over a vast area, the most suitable method of collecting data is

- (a) direct personal interview
- (b) mailed questionnaire method
- (c) interview by investigator
- (d) any of these

**Q35.** Which of the following is a primary source of data?

- (a) Official records - governments documents, information preserved by social - religious organizations etc.
- (b) Personal records, letters, diaries, auto biographies, wills, etc.
- (c) Oral testimony of traditions and customs
- (d) All of the above

**Q36.** The problem solving method is the teaching of any subject is best adopted when

- (a) The problem is selected out of the initiative of the teachers
- (b) The students can solve the problem by his previous knowledge
- (c) The problem is presented in the form of an assignment by the teacher
- (d) The student's previous knowledge is insufficient and the solution is possible only after acquiring new knowledge

**Q37.** A researcher divides the populations into PG, graduates and 10 + 2 students and using the random digit table he selects some of them from each. This is technically called.

- (a) stratified sampling
- (b) stratified random sampling
- (c) representative sampling
- (d) none of these

**Q38.** Which of the following approaches could be considered as progressive in the construction of curriculum ?

- (a) Creating provision for promoting children to exert their potentialities for learning
- (b) Providing knowledge from the past culture and achievements of the nation for inheritance
- (c) Selecting the contents of the curriculum from the disciplinary and cultural values point of view.
- (d) Arranging the subject matter required for compulsory acquisition by students in the interest of the society.

**Q39.** There was movement called negative education recommended by a well known naturalist called Rousseau. What do you think would be the correct interpretation ?

- (a) Nature is god while the society is full of voices. So keep the child away from the society and have him to nature.
- (b) The world is a mixture of right and wrong qualities so education should negate the wrong and teach what is right.
- (c) The purpose of education is to prevent children from doing wrong things, so check them from the beginning.
- (d) Human beings are born with wrong tendencies to commit sins from the Biblical point of view. So education must adopt a negative approach to check.

**Q40.** Moral values can be effectively inculcated among the students when the teacher

- (a) Frequently talks about values.
- (b) Himself practices them.
- (c) Tells stories of great people.
- (d) Talks of gods and goddesses.

**Q41.** The report of central advisory board of education on post war educational development in India is also termed as

- (a) Sargent report
- (b) Nehru report
- (c) Wardha report
- (d) None of the above

**Q42.** Which section of the UGC Act provides for the promotion and coordination of university education and for the maintenance of standards of teaching, examination and research?

- (a) Section 12
- (b) Section 15
- (c) Section 25
- (d) Section 28

**Q43.** Which of the following is regarded as the first policy measure regarding higher education in India?

- (a) Wood's dispatch
- (b) Macaulay's minutes
- (c) Elphinstone report
- (d) None of the above

**Q44.** Match List - I with List - II and select the correct answer from the codes given below.

List - I (Schedules)	List - II (Matters)
A. First	I. Territory States and Union Territories
B. Eighth	II. Languages
C. Ninth	III. Acts passed by Legislature
D. Tenth	IV. Disqualification of MPs/ MLAs on defection.

**Codes:**

- (a) A - II, B - I, C - III and D - IV
- (b) A - II, B - I, C - IV and D - III
- (c) A - I, B - II, C - IV and D - III
- (d) A - I, B - II, C - III and D - IV

**Q45.** Which among the following is not guaranteed by the Constitution of India?

- (a) Freedom to own, acquire, and dispose of property anywhere in the country.
- (b) Freedom to move freely throughout the country.
- (c) Freedom to assemble peacefully without arms.
- (d) Freedom to practise any trade or profession.

**Q46.** \_\_\_\_\_ are the gates that can be used to implement any type of Boolean logic.

- (a) OR gates
- (b) Universal gates
- (c) NAND gates
- (d) Exclusive-NOR gates

**Q47.** The hexadecimal number system represents symbols \_\_\_\_\_ and \_\_\_\_\_.

- (a) 0-9, A-E
- (b) 0-9, A-F
- (c) 1-10, A-E
- (d) 1-10, A-F

**Q48.** What acts as master software that works as a mediator between a computer user and the hardware of a computer?

- (a) Application Program
- (b) Motherboard
- (c) Antivirus
- (d) Operating System

**Q49.** A \_\_\_\_\_ is a component of motherboard which absorbs the heat produced by the processor and other components of a computer.

- (a) Heat sink
- (b) Northbridge
- (c) CPU socket
- (d) CMOS battery

**Q50.** Which of the following is generally used for selecting or highlighting?

- (a) Icon
- (b) Keyboard
- (c) Mouse
- (d) Floppy Disk

## Solutions

**S1. Ans.(a)**

**Sol.** Reading the 2<sup>nd</sup> paragraph of the passage it can be deduced that the correct answer is option (a).

The relevant sentences of the mentioned sentences have been quoted below:

“When the Romans would go out and conquer entire countries, they built roads so they could quickly exchange goods and communicate with their armies.”

**S2. Ans.(a)**

**Sol.** Reading the third paragraph of the passage it can be deduced that the correct answer is option (a). The sentences of the passage which substantiate this are given below:

“The Rothschilds were able to establish their financial empire due, in large part, to an intricate communication network.”

**S3. Ans.(b)**

**Sol.** Reading the fourth paragraph of the passage it can be deduced that the correct answer is option (b). The relevant sentences of the mentioned sentences have been quoted below:

“There are countless examples but the conclusion remains the same. Proper communication is not an option, it’s essential to your business success. This article makes the case for why it’s so important.”

**S4. Ans.(d)**

**Sol.** Reading the passage carefully we can see the answer can be verified from the 6<sup>th</sup> and 7<sup>th</sup> paragraph of the passage. The lines have been quoted here – “They’ll copy what you have and build on top of it. To stay alive in such a competitive landscape, you’ll need to create products and services that are one step ahead. Communication makes this possible.

You and your team should be able to understand the business landscape and communicate the changes they see to all the stakeholders involved. Not only that, it’s

necessary for them to distill that information, create a plan, then clearly communicate it to the right people.” Hence the correct answer will be option (d).

**S5. Ans.(d)**

**Sol.** Among the given words, ‘tendency’ is the synonym of ‘trend’. Hence, option (d) is the most suitable answer choice.

**Tendency:** an inclination towards a particular characteristic or type of behaviour.

**Familiar:** well-known from long or close association.

**Impose:** force (an unwelcome decision or ruling) on someone.

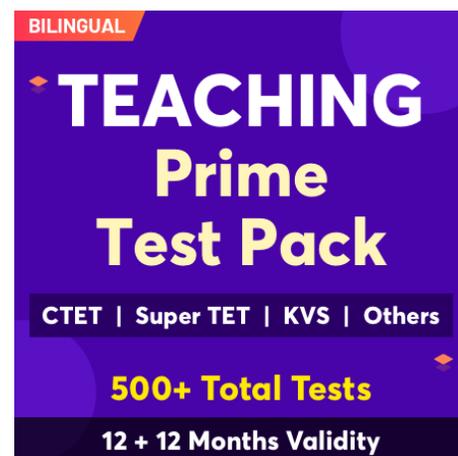
**Trend:** a general direction in which something is developing or changing.

**S6. Ans.(a)**

**Sol.** **Receiver:** the recipient of the message from the sender. He usually gives feedback to the sender in order to make sure that the message was properly received.

**S7. Ans.(a)**

**Sol.** **Social context** is a personal matter. It involves the relationship of the speaker and the audience and the expectations involved in that relationship.



**S8. Ans.(b)**

**Sol.** Oral presentation makes you focus on the audience, their reasons for listening to you, and their interests and background.

**S9. Ans.(a)**

**Sol.** Apart from very good listening skill of receiver. Other effective factors to that of the sender are Communication skills, Attitudes, Knowledge, Social Systems, Culture

**S10. Ans.(a)**

**Sol.** The first step the sender is faced with involves the encoding process. In order to convey meaning, the sender must begin encoding, which means translating information into a message in the form of symbols that represent ideas or concepts.

**S11. Ans.(c)**

**Sol.** Neither I nor II follow. Given statement is about writing skill and art of writing, But the conclusion is regarding reading skill and how to improve it.

**S12. Ans.(d)**

Neither 1 nor 2 followed

**S13. Ans.(c)**

**Sol.** Graphite is not used to make wires. Hence, Assertion is true but Graphite is not a bad conductor, it is a good conductor. Hence, Reason is false.

**S14. Ans.(a)**

**Sol.** India is a democratic country and people here elect their own representatives. Therefore, both the Assertion and Reason are correct.

Since, India is a democratic country. Hence, people elect their own representatives. Therefore, Reason is the correct explanation of the assertion.

**S15. Ans.(b)**

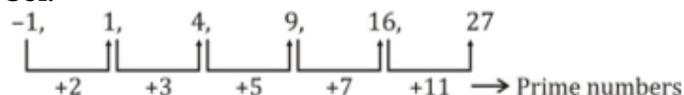
**Sol.** Heart supplies blood to the body parts, similarly, Lung supplies air to the body parts.

**S16. Ans.(a)**

**Sol.** (-2, -2, -2, -2) pattern

**S17. Ans.(b)**

**Sol.**



**S18. Ans.(a)**

**Sol.**

$$14\% = 196$$

$$\Rightarrow 100\% = 1400$$

$$\text{Men} = 54\% = \frac{1400 \times 54}{100} = 540 + 216 = 756$$

**S19. Ans.(d)**

**Sol.**

$$\text{Distance} = 18 \times \frac{116 \times 5}{18} = 580 \text{ m}$$

**S20. Ans(b)**

**Sol.**

$$A = P \left[ 1 + \frac{R}{100} \right]^t$$

$$968 = P \left[ 1 + \frac{10}{100} \right]^2$$

$$P = \text{Rs. } 800$$

**S21. Ans.(c)**

**Sol.**

$$\text{Employees in Apple in required department} = 70 + 200 + 150 = 420$$

$$\text{Employees in Oneplus in required department} = 30 + 200 + 150 = 280$$

$$\text{Required ratio} = 3 : 2$$

**S22. Ans.(a)**

**Sol.** Employees in Marketing of Samsung = 250

Total employees in Marketing from all the companies = 1305

$$\text{Required percentage} = 19.15\%$$

**S23. Ans.(c)**

**Sol.** Total HR employees hired by five companies = 250

$$\text{Average} = 250 / 5 = 50$$

**S24. Ans.(c)**

**Sol.** Finance and Operations employees in Oppo = 450

Operation and HR employees in Samsung = 175

$$\text{Required percentage} = 450 \times 100 / 175 = 257\%$$

**S25. Ans.(d)**

$$\text{Sol. Total employee in Oneplus} = 250 + 150 + 200 + 30 = 630$$

**S26. Ans.(b)**

**Sol.** The sardar sarovar dam is situated on river Narmada and is spread over three states of Gujarat, Maharashtra and Madhya Pradesh

**S27. Ans.(a)**

**Sol.** The Kyoto protocol is an international treaty to reduce greenhouse gas emissions.

Nairobi declaration was for achieving sustainable development

Stockholm declaration is for international protection of the environment

**S28. Ans.(b)**

**Sol.** Option b is the correctly matched sequence.

**S29. Ans.(b)**

**Sol.** As the temperature of warm water decreases the water molecules slowdown and the density increases. At 4 degree Celsius the clusters start forming. The molecules are still slowing down and coming close together but the formation of clusters makes the molecules be further apart. Thus, the density of water is maximum at 4 degree Celsius

**S30. Ans.(b)**

**Sol.** It is a research unit in the plant breeding and acclimatization institute-National research institute. It collects populations and cultivated varieties of crop and wild plants threatened with genetic erosion.

**S31. Ans.(a)**

**Sol.** The law of probability tells us about the probability of specific events occurring. The law of large numbers states that the more trials you have in an experiment, then the closer you get to an accurate probability. The addition rule deals with the case of or in the probability of events occurring.

Probability sampling involves random selection, allowing you to make strong statistical inferences about the whole group. It is mainly used in quantitative research. There are four main types of probability sample.

1. Simple random sampling- In a simple random sample, every member of the population has an equal chance of being selected. Your sampling frame should include the whole population.

2. Systematic sampling- Systematic sampling is similar to simple random sampling, but it is usually slightly easier to conduct. Every member of the population is listed with a number, but instead of randomly generating numbers, individuals are chosen at regular intervals.

3. Stratified sampling- Stratified sampling involves dividing the population into subpopulations that may differ in important ways. It allows you draw more

precise conclusions by ensuring that every subgroup is properly represented in the sample.

4. Cluster sampling- Cluster sampling also involves dividing the population into subgroups, but each subgroup should have similar characteristics to the whole sample. Instead of sampling individuals from each subgroup, you randomly select entire subgroups.

**S32. Ans.(d)****S33. Ans.(a)**

**Sol.** Frequency polygons are analogous to line graphs, and just as line graphs make continuous data visually easy to interpret, so too do frequency polygons.

A histogram consists of contiguous (adjoining) boxes. It has both a horizontal axis and a vertical axis. The horizontal axis is labeled with what the data represents (for instance, distance from your home to school). The vertical axis is labeled either frequency or relative frequency (or percent frequency or probability). The graph will have the same shape with either label. The histogram (like the stemplot) can give you the shape of the data, the center, and the spread of the data.

The difference between the frequency polygon and the histogram is that in a histogram the measures internal are represented by a rectangle whereas in a frequency polygon all the measures are represented by the mid - point of the internal

**S34. Ans.(c)**

**Sol.** Where informants are literate and are spread over a vast area, the most suitable method of collecting data is interview by investigator

**S35. Ans.(d)**

**Sol.** Primary sources provide raw information and first-hand evidence. Examples include interview transcripts, statistical data, and works of art. A primary source gives you direct access to the subject of your research.

Secondary sources provide second-hand information and commentary from other researchers. Examples include journal articles, reviews, and academic books. A secondary source describes, interprets, or synthesizes primary sources.

**S36. Ans.(d)**

**Sol.** The problem solving method is the teaching of any subject is best adopted when the student's previous knowledge is insufficient and the solution is possible only after acquiring new knowledge

**S37. Ans.(b)**

**Sol.** Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling, or stratification, the strata are formed based on members' shared attributes or characteristics such as income or educational attainment.

Stratified sampling is a type of sampling method in which the total population is divided into smaller groups or strata to complete the sampling process. The strata is formed based on some common characteristics in the population data.

**S38. Ans.(b)**

**Sol.** Providing knowledge from the past culture and achievements of the nation for inheritance

**S39. Ans.(a)**

**Sol.** Nature is god while the society is full of voices. So keep the child away from the society and have him to nature

**S40. Ans.(b)**

**Sol.** Moral values can be effectively inculcated among the students when the teacher himself practices them.

**S41. Ans.(a)**

**Sol.** Sargent Scheme of Education- The scheme was known as 'Sargent Scheme of Education' as it was prepared by John Sargent. It is also known as 'Report by the Central Advisory Board of Education' and also as the plan for post-war educational reconstruction in India.

**S42. Ans.(a)**

**Sol.** Under Section 12, UGC Act provides for the promotion and coordination of university education and for the maintenance of standards of teaching, examination and research

**S43. Ans.(a)**

**Sol.** The Wood's Despatch (1854) and Hunter Commission (1882-83) were the first policy measures regarding higher education. The Wood Despatch recommended constitution of three universities namely Madras, Calcutta and Bombay (1857) on the model of London University, by an Act of the Legislative Council of India.

**S44. Ans.(d)**

**Sol.**

- |             |   |
|-------------|---|
| A. First -  | I. Territory States and Union Territories       |
| B. Eighth - | II. Languages                                   |
| C. Ninth -  | III. Acts passed by Legislature                 |
| D. Tenth -  | IV. Disqualification of MPs/ MLAs on defection. |

**S45. Ans.(a)**

**Sol.** Freedom to own, acquire, and dispose of property anywhere in the country

**S46. Ans.(b)**

**Sol.** Universal gates are the gates that can be used to implement any type of Boolean logic or circuit. There are two universal gates, namely, NAND gate and NOR gate, which can be used to implement any of the basic logic gates.

**S47. Ans.(b)**

**Sol.** The hexadecimal number system has 16 possible digits represented by the symbols 0 to 9 and the alphabets A, B, C, D, E and F.

**S48. Ans.(d)**

**Sol.** Operating system provided an interface between a user and computer hardware. It enables a user to utilize hardware resources efficiently.

**S49. Ans.(a)**

**Sol.** A heat sink is a component of a motherboard which absorbs the heat produced by the processor and other components of a computer.

**S50. Ans.(c)**

**Sol.** Generally, we can use mouse for selecting or highlighting object.

