

**BPS TRE 3.0 and 4.0 Computer Science for Class 11 to 12 Mock 01**

**Directions (1-2):** Fill in the blanks with suitable articles like 'a', 'an' and 'the' :

**Q1.** \_\_\_ old man whom you met yesterday wanted to see you in the morning.

- (a) The
- (b) A
- (c) An
- (d) More than one of the above
- (e) None of the above

**Q2.** John built \_\_\_ yard for his cattle

- (a) The
- (b) A
- (c) An
- (d) More than one of the above
- (e) None of the above

**Q3.** Which of the following is not a type of cloud?

- (a) Cumulus
- (b) Stratus
- (c) Granite
- (d) More than one of the above
- (e) None of the above

**Q4.** Which among the following is not a part of the human body?

- (a) Femur
- (b) Stamen
- (c) Tibia
- (d) More than one of the above
- (e) None of the above

**Q5.** A triangle has:

- (a) Three sides
- (b) Four sides
- (c) Six sides
- (d) More than one of the above
- (e) None of the above

**Q6.** Look there are \_\_\_ in the water.

- (a) birds
- (b) butterflies
- (c) tadpoles
- (d) More than one of the above
- (e) None of the above

**Q7.** Father's brother is known as:

- (a) Uncle
- (b) Brother-in-law
- (c) Cousin
- (d) More than one of the above
- (e) None of the above

**Q8.** Mother's sister is known as:

- (a) Aunt
- (b) Sister-in-law
- (c) Cousin
- (d) More than one of the above
- (e) None of the above

**Q9.** 'निर्वाह' शब्द में प्रयुक्त उपसर्ग है?

- (a) नि
- (b) निः
- (c) निर्
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q10.** 'झगड़ालू' शब्द में मूल शब्द व प्रत्यय को अलग-अलग कीजिए-

- (a) झगड़ + आलू
- (b) झगड़ा + लू
- (c) झग + डालू
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q11.** निम्नलिखित में से किस शब्द में प्रत्यय का सही प्रयोग नहीं हुआ है?

- (a) लिख् + अक = लेखक
- (b) घट + इया = घटिया
- (c) मीठा + स = मिठास
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q12.** निम्नलिखित में से शुद्ध वाक्य है-

- (a) दंड देने योग्य तो वह है ही
- (b) आप चुनाव जीत गए हैं, अतः हमारी श्रद्धांजलि स्वीकार कीजिए
- (c) आज पिताजी ने मुझे एक रुपया दिया
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q13.** निम्नलिखित में से अशुद्ध वाक्य है-

- (a) मैंने आपसे कहा था कि वह बदमाश नहीं है
- (b) उन्होंने जीवन में बहुत-सा उतार-चढ़ाव देखा है
- (c) थोड़ी देर में मुखिया और उसका नौकर आ पहुंचा
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q14.** निम्नलिखित में से किस विकल्प में दिये गये शब्द परस्पर पर्यायवाची हैं?

- (a) मीन, मद
- (b) प्रजा, सहचर
- (c) घट, कुंभ
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q15.** निम्नलिखित में से किस विकल्प में दिये गये शब्द परस्पर पर्यायवाची नहीं हैं?

- (a) क्षणप्रिया, चपला, अशनि
- (b) मयूर, केकी, कलापी
- (c) रोष, भूप, त्रास
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q16.** निम्नलिखित में से कौन सा शब्द 'सोना' का पर्यायवाची नहीं है?

- (a) वपु
- (b) हाटक
- (c) हेम
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q17.** निम्नलिखित शब्दों में से 'पुलिंग' शब्द का चयन कीजिए?

- (a) किताब
- (b) सूची-पत्र
- (c) गंगा
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q18.** निम्नलिखित में से किस सामासिक शब्द का विग्रह सही है?

- (a) अत्याधुनिक = आधुनिक से भी आधुनिक
- (b) यज्ञशाला = यज्ञ में जो है शाला
- (c) धर्मवीर = धर्म के लिए वीर
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q19.** निम्नलिखित में से किस सामासिक पद का विग्रह गलत है?

- (a) विद्यालय = विद्या के लिए आलय
- (b) ग्रामोत्थान = ग्राम का उत्थान
- (c) वक्रतुण्ड - वक्र के लिए तुण्ड
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q20.** निम्नलिखित में से कौन सा सामासिक पद सही नहीं है?

- (a) लोकनायक = लोक का नायक है जो
- (b) कमलनयन = कमल के नयन
- (c) त्रिशूल = तीन शूलों का समाहार
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q21.** 'स्वर्ग', 'पृथ्वी' और सूर्य किस शब्द के अनेकार्थी हैं:

- (a) गोचर
- (b) गो
- (c) खेचर
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q22.** निम्नलिखित में से किस शब्द के सभी शब्द अशुद्ध हैं?

- (a) षट्कोण, सप्तर्षि
- (b) त्रिवेणी, अतिवृष्टि
- (c) विहगम, शादुल
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q23.** निम्नलिखित में से शुद्ध वर्तनी वाले शब्द का चयन कीजिए-

- (a) नैसर्गिक
- (b) नेसर्गिक
- (c) नैसरगिक
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q24.** निम्नलिखित में से किस विकल्प के सभी शब्द शुद्ध हैं?

- (a) आजीवीका, अनूग्रहित, परिमारजित
- (b) आजिविका, अनुगरहित, परीमार्जित
- (c) आजीविका, अनुगृहीत, परिमार्जित
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q25.** वर्तनी की दृष्टि से कौन-सा शब्द अशुद्ध है?

- (a) चरमोत्कर्ष
- (b) तिलांजली
- (c) लब्धप्रतिष्ठि
- (d) उपर्युक्त में से एक से अधिक
- (e) उपर्युक्त में से कोई नहीं

**Q26.** इनमें से किस विकल्प में विलोम-युग्म सही नहीं है?

- (a) अतिवृष्टि - अनावृष्टि  
(b) आविर्भाव - तिरोभाव  
(c) नश्वर - यथार्थ  
(d) उपर्युक्त में से एक से अधिक  
(e) उपर्युक्त में से कोई नहीं

**Q27.** 'निषिद्ध' का विलोम शब्द क्या है?

- (a) सापेक्ष  
(b) निवृत्ति  
(c) विहित  
(d) उपर्युक्त में से एक से अधिक  
(e) उपर्युक्त में से कोई नहीं

**Q28.** इनमें से कौन सा विलोम-युग्म सही नहीं है?

- (a) तीव्र - लघु  
(b) विज्ञ - अविज्ञ  
(c) मूक - वाचाल  
(d) उपर्युक्त में से एक से अधिक  
(e) उपर्युक्त में से कोई नहीं

**Q29.** 'उन्मूलन' का विलोम शब्द है-

- (a) आमूलन  
(b) निमीलन  
(c) रोपण  
(d) उपर्युक्त में से एक से अधिक  
(e) उपर्युक्त में से कोई नहीं

**Q30.** निम्नलिखित में से किस विकल्प में समश्रुत शब्द-युग्म का अर्थ-भेद सही नहीं है?

- (a) अम्बुज- अम्बुद = कमल - बादल  
(b) अविराम- अभिराम = लगातार - सुन्दर  
(c) अवदान- अवधान = व्यवधान - योगदान  
(d) उपर्युक्त में से एक से अधिक  
(e) उपर्युक्त में से कोई नहीं

**Q31.** Two inlet pipes A and B can fill empty cistern in 6 and 10 hrs respectively. They are switched on together but pipe B had to be closed 1 hour before the cistern was full. How many hours did they take to fill the cistern?

- (a)  $4\frac{1}{2}$ hr  
(b)  $5\frac{3}{4}$  hr  
(c)  $3\frac{1}{3}$  hr  
(d) More than one of the above  
(e) None of the above

**Q32.**  $81 \div 3^3 \times 4 - 10 = ?$

- (a) 1  
(b) 2  
(c) 0  
(d) More than one of the above  
(e) None of the above

**Q33.** Sum of a two digit number and number obtained by reversing digits is 66. Sum of digits of the number is?

- (a) 5  
(b) 6  
(c) 12  
(d) More than one of the above  
(e) None of the above

**Q34.** A dealer marks a washing machine for Rs. 7500 and allows a discount of 6% on it. Find the selling price

- (a) 6850  
(b) 7050  
(c) 7250  
(d) More than one of above  
(e) None of above

**Q35.** The sum of the cubes of two number in the ratio 3:4 is 5824. Find the sum of these two numbers.

- (a)  $(5824)^{1/3}$   
(b) 28  
(c) 24  
(d) More than one of above  
(e) None of above

**Q36.** Loss of 20% on selling price is equal to x% loss in cost price. what is x?

- (a) 20%  
(b) 30%  
(c)  $16\frac{2}{3}\%$   
(d) More than one of above  
(e) None of above

**Q37.** In a motor 1, out of 120 machine parts, 5% parts were defective. In motor 2, out of 80 machine parts, 10% were defective. For the two motors considered together, the percentage of defective machine parts were

- (a) 7  
(b) 6.5  
(c) 7.5  
(d) More than one of above  
(e) None of above

**Q38.** If  $(2^3)^2 = 4^x$ , then  $3^x$ , is equal to

- (a) 3
- (b) 6
- (c) 9
- (d) More than one of above
- (e) None of above

**Q39.** Tropic of Cancer passes through:

- (a) Chhattisgarh, Gujarat, Jharkhand
- (b) Uttar Pradesh, Kerala, Tamil Nādu
- (c) Odisha, Andhra Pradesh, Jharkhand
- (d) More than one of the above
- (e) None of the above

**Q40.** Which of the following is an example of a behavioral method for controlling air pollution?

- (a) Carpooling
- (b) Installing air filters
- (c) Upgrading to electric vehicles
- (d) More than one of the above
- (e) None of the above

**Q41.** When was "Bihar Bandhu" Newspaper started in Bihar?

- (a) 1872
- (b) 1855
- (c) 1845
- (d) More than one of the above
- (e) None of the above

**Q42.** Which of the following is a primary treatment process in wastewater treatment?

- (a) Aeration
- (b) Sedimentation
- (c) Filtration
- (d) More than one of the above
- (e) None of the above

**Q43.** How does noise pollution affect mental health?

- (a) It causes anxiety
- (b) It leads to depression
- (c) It increases stress levels
- (d) More than one of the above
- (e) None of the above

**Q44.** Which of the following is an example of biomedical solid waste?

- (a) Food waste from a restaurant
- (b) Hazardous waste from a factory
- (c) Sharps waste from a hospital
- (d) More than one of the above
- (e) None of the above

**Q45.** Who composed the songs of Phaag Raag in Bihar?

- (a) Naval kishor Singh
- (b) Kavi Vidyapith
- (c) Rajashah
- (d) More than one of the above
- (e) None of the above

**Q46.** When was the Times of India published in Bihar?

- (a) 1986
- (b) 1988
- (c) 1955
- (d) More than one of the above
- (e) None of the above

**Q47.** When was the Gaya Museum established in Bihar?

- (a) 1980
- (b) 1988
- (c) 1970
- (d) More than one of the above
- (e) None of the above

**Q48.** When was Kameshwar Singh Darbhanga Sanskrit University established in Bihar?

- (a) 1959
- (b) 1962
- (c) 1961
- (d) More than one of the above
- (e) None of the above

**Q49.** Former Indian cricketer Mahendra Singh Dhoni has launched the made-in-India camera drone named 'Droni'. Droni is manufactured by \_\_\_\_\_?

- (a) Horizon Aerospace
- (b) HaveUs Aerotech
- (c) Garuda Aerospace
- (d) More than one of the above
- (e) None of the above

**Q50.** Union Minister of Road Transport and Highways Nitin Gadkari inaugurated the 81st annual session of the Indian roads Congress in \_\_\_\_\_.

- (a) Bhopal
- (b) Lucknow
- (c) Indore
- (d) More than one of the above
- (e) None of the above

**Q51.** Which team won the Women's T20 World Cup for the sixth time when they beat South Africa?

- (a) Australia
- (b) India
- (c) Pakistan
- (d) More than one of the above
- (e) None of the above

**Q52.** Which team was named the winner of the 13th Hockey India Senior Women National Championship in 2023?

- (a) Kerala
- (b) Odisha
- (c) Madhya Pradesh
- (d) More than one of the above
- (e) None of the above

**Q53.** Ellora Ajanta International Festival 2023 is held in which state in India?

- (a) Maharashtra
- (b) Tamil Nadu
- (c) Madhya Pradesh
- (d) More than one of the above
- (e) None of the above

**Q54.** The World's largest island is -

- (a) Greenland
- (b) Iceland
- (c) New Guinea
- (d) More than one of the above
- (e) None of the above

**Q55.** The longest sea beach in India is -

- (a) Chapora beach
- (b) Diu beach
- (c) Marina beach
- (d) More than one of the above
- (e) None of the above

**Q56.** Which one of the following regions is most rich in coal deposits?

- (a) Brahmaputra Valley
- (b) Damodar Valley
- (c) Mahanadi Valley
- (d) More than one of the above
- (e) None of the above

**Q57.** The layer where the decrease in temperature with increasing altitude is totally absent is -

- (a) Troposphere
- (b) Ionosphere
- (c) Stratosphere
- (d) More than one of the above
- (e) None of the above

**Q58.** The term "Doab" means -

- (a) a land between two mountains
- (b) a land between two lakes
- (c) a land between two rivers
- (d) More than one of the above
- (e) None of the above

**Q59.** Who was the first Governor General of India?

- (a) Lord William Bentick
- (b) Lord Dalhousie
- (c) Lord Cornwallis
- (d) More than one of the above
- (e) None of the above

**Q60.** Which act ended the "Trade Monopoly" of the East India Company?

- (a) Regulating Act of 1773
- (b) Pitt's India Act of 1784
- (c) The Charter Act of 1813
- (d) More than one of the above
- (e) None of the above

**Q61.** Which among the following was also known as the Bandobast system?

- (a) Zabti
- (b) parukh
- (c) Nasaq
- (d) More than one of the above
- (e) None of the above

**Q62.** Which one of the following began with the Dandi March?

- (a) Home Rule Movement
- (b) Non-Cooperation Movement
- (c) Civil Disobedience Movement
- (d) More than one of the above
- (e) None of the above

**Q63.** Which of the following statements is not correct?

- (a) Swami Dayananda Saraswati founded the Arya Samaj.
- (b) Dr Annie Besant was a theosophist.
- (c) Mahatma Gandhi was born in Gandhinagar
- (d) More than one of the above
- (e) None of the above

**Q64.** During India's freedom struggle, which one of the following led to the first 'All India Hartal'?

- (a) Protest against the Rowlatt Act
- (b) Protest against Jallianwalla Bagh Massacre
- (c) Trial of Mahatma Gandhi
- (d) More than one of the above
- (e) None of the above

**Q65.** A law passed by a state on a concurrent subject gets precedence over the law of the center-

- (a) if it was passed earlier than the central law
- (b) if it was passed by the state legislature and approved by the President before enactment of the central law
- (c) if the Supreme Court so decides
- (d) More than one of the above
- (e) None of the above

**Q66.** The Constitution of India has created-

- (a) A very weak center
- (b) A very strong center
- (c) A Centre which is weak during normal times but very strong during emergencies
- (d) More than one of the above
- (e) None of the above

**Q67.** Recommendations to the President of India on the specific Union-State fiscal relations are made by the

- (a) Finance Minister
- (b) Reserve Bank of India
- (c) Finance Commission
- (d) More than one of the above
- (e) None of the above

**Q68.** What is the composition of Nitrogen and Oxygen in the Atmosphere?

- (a) 78% and 21%
- (b) 72% and 21%
- (c) 72% and 27%
- (d) More than one of the above
- (e) None of the above

**Q69.** Which of the following is an example of terrestrial food chain?

- (a) Phyto-planktons → small fish → large fish → egret
- (b) Grass → insects → frog → snake → hawk/otter
- (c) Bull kelp → sea urchin → gray whale → killer whale
- (d) More than one of the above
- (e) None of the above

**Q70.** The over-lapping network of food-chains in an ecosystem is called:

- (a) Ecosystem
- (b) Trophic Level
- (c) Food web
- (d) More than one of the above
- (e) None of the above

**Q71.** Which network type provides communication within a confined space like a room or an office?

- (a) Virtual Private Network (VPN)
- (b) Local Area Network (LAN)
- (c) Wide Area Network (WAN)
- (d) Storage Area Network (SAN)
- (e) None of the above

**Q72.** Which data type in C is used to store whole numbers?

- (a) int
- (b) char
- (c) float
- (d) double
- (e) None of the above

**Q73.** IP Address 168.2.7.6 belong to \_\_\_\_\_

- (a) Class A
- (b) Class B
- (c) Class C
- (d) Class D
- (e) None of the above

**Q74.** A piece of data from a website that is stored within a web browser that the website can retrieve at a later time is called?

- (a) Cyber bullying
- (b) cache
- (c) cookies
- (d) add ons
- (e) None of the above

**Q75.** An online service that allows you to publish your website files onto the internet is called?

- (a) Web server
- (b) Web Hosting
- (c) Website
- (d) Web page
- (e) None of the above

**Q76.** \_\_\_\_\_ is a network configuration where devices are interconnected in a decentralized manner.

- (a) Mesh
- (b) Star
- (c) Ring
- (d) More than one
- (e) None of the above

**Q77.** Function who performs a calculation on a set of values, and returns a single value is called in SQL?

- (a) Math Functions
- (b) Aggregate Functions
- (c) Date Functions
- (d) Text Functions
- (e) None of the above

**Q78.** Which of the following is syntactically correct?

- (a) for [];
- (b) for (;);
- (c) for (,);
- (d) for (;);
- (e) None of the above

**Q79.** What is the technique used to ensure that only one thread can access a shared resource at a time, preventing concurrent access?

- (a) Thread synchronization
- (b) Thread affinity
- (c) Thread preemption
- (d) Context switching
- (e) None of the above

**Q80.** Which of the following is true about RuntimeException and its subclasses?

- (a) If a method throws a RuntimeException, the use of the try/catch block is optional.
- (b) The IOException class is a subclass of RuntimeException.
- (c) In general, handling of RuntimeException should be done at compile time.
- (d) In general, RuntimeException must be caught with a try/catch block.
- (e) None of the above

**Q81.** Which expression is the distributive law of Boolean algebra?

- (a)  $A \cdot (B + C) = A \cdot B + A \cdot C$
- (b)  $(A + B) + C = A + (B + C)$
- (c)  $A \cdot (B \cdot C) = (A \cdot B) + C$
- (d)  $A \cdot (B \cdot C) = (A \cdot B) \cdot (A \cdot C)$
- (e) None of the above

**Q82.** Which of the following is/are the universal logic gate(s)?

- (a) AND and OR
- (b) AND, OR and NOT
- (c) NAND and NOR
- (d) NOT
- (e) None of the above

**Q83.** A clause checks the condition on a group of rows is called?

- (a) WHERE
- (b) ORDER BY
- (c) HAVING
- (d) GROUP BY
- (e) None of the above

**Q84.** Talking to other people who are using the internet at the same time you are. It is called?

- (a) Web browsing
- (b) VoIP
- (c) SMS
- (d) Chat
- (e) None of the above

**Q85.** Which of the following is not true about Information Technology Act, 2000 ?

- (a) It shall extend to the whole of India
- (b) it does not apply to any offence or contravention thereunder committed outside India by any person
- (c) it is an act to provide legal recognition for transactions carried out by means of electronic data
- (d) It is the primary law in India dealing with cybercrime and electronic commerce
- (e) None of the above

**Q86.** "Digital signature" comes under which of the following section of IT Act,2000?

- (a) Section 2
- (b) Section 8
- (c) Section 1
- (d) Section 6
- (e) None of the above

**Q87.** Which global firm has developed a new Artificial Intelligence (AI) model to protect an endangered whale species?

- (a) Facebook
- (b) Amazon
- (c) Google
- (d) Microsoft
- (e) None of the above

**Q88.** What law introduced Section 66A, which penalizes sending "offensive messages", into the IT Act 2000?

- (a) Information Technology (Amendment) Act, 2008
- (b) Information Technology (Amendment) Act, 2003
- (c) Information Technology (Amendment) Act, 2015
- (d) Information Technology (Amendment) Act, 2005
- (e) None of the above

**Q89.** What C declaration is invalid:

- (a) `_x = 2;`
- (b) `$x = 3;`
- (c) `xyz = 5;`
- (d) more than one
- (e) None of the above

**Q90.** In IPv6, how many bits are used to represent an individual group of hexadecimal digits separated by colons in an IP address?

- (a) 8 bits
- (b) 16 bits
- (c) 32 bits
- (d) 64 bits
- (e) None of the above

**Q91.** Which one of the following is an instance of e-waste?

- (a) Plastic bags, cardboard boxes, corroded metals, etc.
- (b) Sensors, alarms, sirens, TV etc.
- (c) Nuclear wastes, medical wastes, toxic industrial wastes, etc.
- (d) Beverage cans, packaged boxes, plastic bottles, etc.
- (e) None of the above

**Q92.** How can you create a dropdown list (select element) in HTML?

- (a) `<input type="dropdown">`
- (b) `<select>`
- (c) `<dropdown>`
- (d) `<input type="select">`
- (e) None of the above

**Q93.** Minimum number of fields in each node of a doubly linked list is \_\_\_\_\_.

- (a) 2
- (b) 3
- (c) 4
- (d) 5
- (e) None of the above

**Q94.** A graph in which all vertices have equal degree is known as \_\_\_\_.

- (a) Complete graph
- (b) Regular graph
- (c) Multi graph
- (d) Simple graph
- (e) None of the above

**Q95.** A compiler is preferable to an interpreter because

- (a) Debugging can be faster and easier
- (b) If one changes a statement, only that statement needs re-compilation
- (c) It is much helpful in the initial stages of program development
- (d) It can generate stand alone programs that often take less time for execution
- (e) None of the above

**Q96.** What device works at the physical layer and regenerates weakened signals to extend the network's transmission distance?

- (a) Repeater
- (b) Switch
- (c) Bridge
- (d) Modem
- (e) None of the above

**Q97.** What device enables wireless communication by converting digital signals from a computer to analog signals for transmission over telephone lines?

- (a) Modem
- (b) Router
- (c) Bridge
- (d) Repeater
- (e) None of the above

**Q98.** In the world of data transmission, which medium resembles a treasure map guiding signals through its intricate pathways?

- (a) Coaxial cable, the data labyrinth.
- (b) Fiber optic cable, the light navigator.
- (c) Twisted pair cable, the signal maze.
- (d) Optical fibers, the data GPS.
- (e) None of the above

**Q99.** What serves as a distributed database that maintains a mapping of domain names and their corresponding IP addresses?

- (a) IP Protocol
- (b) ARP Protocol
- (c) DNS System
- (d) MAC Address
- (e) None of the above



**Q100.** For short-distance data transmission within a building or home network, which medium is commonly used due to its cost-effectiveness and ease of installation?

- (a) Fiber Optic Cable
- (b) Twisted Pair Cable
- (c) Coaxial Cable
- (d) Wireless Medium
- (e) None of the above

**Q101.** \_\_\_\_\_ is a virtual table that draws its data from the result of an SQL SELECT statement.

- (a) Transaction
- (b) Sequence
- (c) Synonym
- (d) View
- (e) None of the above

**Q102.** In SQL, which of the following is not a data definition language command?

- (a) UPDATE
- (b) GRANT
- (c) REVOKE
- (d) RENAME
- (e) None of the above

**Q103.** The HTTP response message leaves out the requested object when \_\_\_\_ method is used

- (a) GET
- (b) POST
- (c) HEAD
- (d) PUT
- (e) None of the above

**Q104.** Which of the following clause is used with SELECT command in MySQL to avoid duplication of output rows.

- (a) NO DUPLICATE
- (b) UNIQUE
- (c) DISTINCT
- (d) NO REPEAT
- (e) None of the above

**Q105.** Computer Network is \_\_\_\_\_.

- (a) Sharing of resources and information
- (b) Interconnected by communication channels
- (c) Collection of hardware components and computers
- (d) All of the Above
- (e) None of the above

**Q106.** The cout is a predefined object of \_\_\_\_\_ class

- (a) ostream
- (b) stdio
- (c) fstream
- (d) More than one of the above
- (e) None of the above

**Q107.** Each IP packet must contain:

- (a) Only Destination address
- (b) Only Source address
- (c) Source and Destination address
- (d) More than one of the above
- (e) None of the above

**Q108.** Which of this is not a guided media?

- (a) Copper wire
- (b) Wireless LAN
- (c) Coaxial cable
- (d) Fiber optical cable
- (e) None of the above

**Q109.** A piece of icon or image on a web page associated with another webpage is called \_\_\_\_\_.

- (a) plugin
- (b) hyperlink
- (c) url
- (d) action center
- (e) None of the above

**Q110.** The shortcut key to open a task manager is \_\_\_\_\_.

- (a) Shift + F1
- (b) Alt + Tab
- (c) Alt + Ctrl + Delete
- (d) Alt + F1
- (e) None of the above

**Q111.** Which of the following is/are part of operating system?

- (a) Application-level services
- (b) Library services
- (c) Kernal services
- (d) All of the above
- (e) None of the above

**Q112.** The first batch operating system was developed in the ..... by General Motors for use on an IBM 701.

- (a) mid 1970's
- (b) mid 1950's
- (c) mid 1960's
- (d) mid 1940's
- (e) None of the above

**Q113.** ..... involves treating main memory as a resource to be allocated to and shared among a number of active processes.

- (a) Disk management
- (b) Memory management
- (c) Partition management
- (d) All of the above
- (e) None of the above

**Q114.** Which of the following malware type targets entire networks of devices, hopping from PC to PC.

- (a) Spyware
- (b) Ransomware
- (c) Adware
- (d) Worms
- (e) None of the above

**Q115.** A computer \_\_\_\_\_ is a malicious code which self-replicates by copying itself to other programs.

- (a) program
- (b) virus
- (c) application
- (d) worm
- (e) None of the above

**Q116.** \_\_\_\_\_ gets installed & stays hidden in your computer's memory. It stays involved to the specific type of files which it infects.

- (a) Boot Sector Virus
- (b) Direct Action Virus
- (c) Polymorphic Virus
- (d) Multipartite Virus
- (e) None of the above

**Q117.** How do you initialize an array in C?

- (a) `int arr[3] = {1,2,3};`
- (b) `int arr[3] = {1,2,3};`
- (c) `int arr[3] = {1,2,3};`
- (d) `int arr[3] = {1,2,3};`
- (e) None of the above

**Q118.** Which allows you to create a derived class that inherits properties from more than one base class?

- (a) Multilevel inheritance
- (b) Multiple inheritance
- (c) Hybrid inheritance
- (d) Hierarchical inheritance
- (e) None of the above

**Q119.** Process of inserting an element in stack is called \_\_\_\_\_.

- (a) Create
- (b) Push
- (c) Evaluation
- (d) Pop
- (e) None of the above

**Q120.** The postfix form of the expression  $(A + B) * (C * D - E) * F / G$  is?

- (a)  $AB + CD * E - FG / **$
- (b)  $AB + CD * E - F ** G /$
- (c)  $AB + CD * E - * F * G /$
- (d)  $AB + CDE * - * F * G /$
- (e) None of the above

**Q121.** Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called:

- (a) fragmentation
- (b) paging
- (c) mapping
- (d) Sequencing
- (e) None of the above

**Q122.** The ASCII value 65 is equivalent in Binary?

- (a) 100010
- (b) 100001
- (c) 110000
- (d) 1010010
- (e) None of the above

**Q123.** A microprocessor is the heart of the microcomputer.

- (a) Receiving input
- (b) Performing computations.
- (c) Storing data & instructions
- (d) All of the above
- (e) None of the above

**Q124.** The process of drawing a flowchart for an algorithm is called \_\_\_\_\_.

- (a) Performance
- (b) Evaluation
- (c) Algorithmic Representation
- (d) Flowcharting
- (e) None of the above

**Q125.** Which of the following type of class allows only one object of it to be created?

- (a) Friend class
- (b) Singleton class
- (c) Abstract class
- (d) Virtual class
- (e) None of the above

**Q126.** A function that changes the state of cout object is called a(n) \_\_\_\_\_.

- (a) member
- (b) adjuster
- (c) manipulator
- (d) operator
- (e) None of the above

**Q127.** Which of the following is not an operator overloaded by the C++ language?

- (a) <<
- (b) +
- (c) >>
- (d) pow
- (e) None of the above

**Q128.** The keyword used to transfer control from a function back to the calling function is \_\_\_\_\_.

- (a) switch
- (b) goto
- (c) go back
- (d) return
- (e) None of the above

**Q129.** \_\_\_\_\_ means 'one name, multiple forms.'

- (a) Encapsulation
- (b) Inheritance
- (c) Polymorphism
- (d) Message passing
- (e) None of the above

**Q130.** The address of a variable temp of type float is :

- (a) float temp&
- (b) float& temp
- (c) &temp
- (d) \*temp
- (e) None of the above

**Q131.** What is the output of the following code

```
char symbol[3]={'a','b','c'};
    for (int index=0; index<3; index++)
        cout << symbol [index];
```

- (a) 'abc'
- (b) abc
- (c) "abc"
- (d) a b c
- (e) None of the above

**Q132.** IMAP protocol is used by which of the following layer of network model?

- (a) Datalink layer
- (b) Transport layer
- (c) Application layer
- (d) Network layer
- (e) None of the above

**Q133.** The process of building new classes from existing one is called \_\_\_\_\_.

- (a) Cascading
- (b) Inheritance
- (c) Structure
- (d) Polymorphism
- (e) None of the above

**Q134.** If a class C is derived from class B, which is derived from class A, all through public inheritance, then a class C member function can access:

- (a) protected and public data only in C.
- (b) protected data in A & B.
- (c) protected and public data only in C & B.
- (d) private data in A & B.
- (e) None of the above

**Q135.** If the variable count exceeds 100, a single statement that prints "Too many" is:

- (a) if (count>100) cout << "Too many";
- (b) if (count<100) cout << "Too many"
- (c) if (count>100) cout >> "Too many";
- (d) if (count>100) cout << "Too many"
- (e) None of the above

**Q136.** Usually a pure virtual function:

- (a) is defined only in derived class
- (b) will be called only to delete an object
- (c) will never be called.
- (d) has complete function body
- (e) None of the above

**Q137.** To perform stream I/O with disk files in C++, you should:

- (a) include the IOSTREAM.H header file
- (b) use C language library functions to read and write data
- (c) use classes derived from ios
- (d) open and close files as in procedural languages
- (e) None of the above

**Q138.** Actual instructions in flowcharting are represented in \_\_\_\_\_.

- (a) Circles
- (b) Boxes
- (c) Arrows
- (d) Lines
- (e) None of the above

**Q139.** Mechanism of deriving a class from another derived class is known as\_\_\_\_\_.

- (a) Single Inheritance
- (b) Message Passing
- (c) Polymorphism
- (d) Multilevel Inheritance
- (e) None of the above

**Q140.** Runtime Polymorphism is achieved by \_\_\_\_\_.

- (a) function overloading
- (b) friend function
- (c) virtual function
- (d) operator overloading
- (e) None of the above

**Q141.** What is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers.?

- (a) Phishing
- (b) Hacking
- (c) Virus
- (d) Authentication
- (e) None of the above

**Q142.** What does a constant pointer in C signify?

- (a) A pointer that can only point to constants
- (b) A pointer that cannot be changed
- (c) A pointer with a constant address
- (d) A pointer with constant data
- (e) None of the above

**Q143.** Which keyword is used to define a symbolic constant in C?

- (a) @final
- (b) #define
- (c) ^symbolic
- (d) \*const
- (e) None of the above

**Q144.** Which multithreading programming concept refers to a condition where multiple threads access shared resources simultaneously, leading to unpredictable outcomes?

- (a) Deadlock
- (b) Thread starvation
- (c) Race condition
- (d) Thread affinity
- (e) None of the above

**Q145.** Which file system property involves encrypting data within a file to protect it from unauthorized access?

- (a) File hashing
- (b) File encryption
- (c) File linking
- (d) File journaling
- (e) None of the above

**Q146.** Which statement takes an expression and compares its value to successive patterns given as one or more case blocks?

- (a) Break Statement
- (b) Continue Statement
- (c) Pass Statement
- (d) Match Statement
- (e) None of the above

**Q147.** Which view combines multiple tables into a single virtual table, making it easier to query and manipulate data?

- (a) Joined view
- (b) Unified view
- (c) Integrated view
- (d) Merged view
- (e) None of the above

**Q148.** In an ER diagram, what does a straight line between two entities signify?

- (a) Inheritance
- (b) Weak Entity Association
- (c) Mandatory Participation
- (d) Weak Relationship
- (e) None of the above

**Q149.** You are transferring a file over a local network from one computer to another. Before sending the data, your computer checks if the receiving computer is ready to receive the data. Which layer of the OSI model is responsible for this flow control and error checking?

- (a) Data Link Layer
- (b) Physical Layer
- (c) Transport Layer
- (d) Network Layer
- (e) None of the above

**Q150.** What is meant of this equation  $x \cdot y = y \cdot x$ ?

- (a) associative law
- (b) identity law
- (c) commutative law
- (d) inverse property
- (e) None of the above

## Solutions

**S1. Ans.(a)**

**Sol.** "The" is used before a singular noun when it refers to a specific person or thing that both the speaker and listener know about. Since the old man was met yesterday, he is a specific person already known to the listener, making "the" the appropriate article.

**S2. Ans.(b)**

**Sol.** "A" is used to introduce a singular, countable noun that is mentioned for the first time and is not specifically known to the listener. John building "a yard" refers to any yard, not a specific one previously known.

**S3. Ans.(c)**

**Sol.** Granite is not a type of cloud; it is a type of igneous rock. Cumulus and Stratus are types of clouds, making granite the correct answer.

**S4. Ans.(b)**

**Sol.** The stamen is not a part of the human body; it is a part of a flower, responsible for producing pollen. Femur and Tibia are bones in the human body, making stamen the correct choice for not being a part of the human body.

**S5. Ans.(a)**

**Sol.** A triangle is defined as a polygon with three sides and three angles. This fundamental property distinguishes it from other shapes, making "three sides" the correct characteristic of a triangle.

**S6. Ans.(c)**

**Sol.** Tadpoles are aquatic larval stage of frogs and toads, commonly found in water. Birds and butterflies are not typically found living in water, making tadpoles the correct choice for what you can find in water.

**S7. Ans.(a)**

**Sol.** Your father's brother is also referred to as your uncle. The term "uncle" specifically identifies the brother of either parent.

**S8. Ans.(a)**

**Sol.** Your mother's sister is your aunt. This term is used specifically for the sister of one's mother or father.

**S9. Ans.(c):**

**Sol.** 'निर्वाह' शब्द में 'निर्' उपसर्ग है। 'निर्' उपसर्ग का अर्थ अभाव, बिना, बाहर, निषेध है, इसके उदाहरण हैं- निरपराध, निर्जन, निराकार, निर्गुण।

**S10. Ans.(a):**

**Sol.** प्रत्यय= प्रति (साथ में पर बाद में)+ अय (चलनेवाला) शब्द का अर्थ है, पीछे चलना। जो शब्दांश शब्दों के अंत में विशेषता या परिवर्तन ला देते हैं, वे प्रत्यय कहलाते हैं। जैसे- दयालु= दया शब्द के अंत में आलु जुड़ने से अर्थ में विशेषता आ गई है। अतः यहाँ 'आलु' शब्दांश प्रत्यय है। प्रत्ययों का अपना अर्थ कुछ भी नहीं होता और न ही इनका प्रयोग स्वतंत्र रूप से किया जाता है। झगड़ालू शब्द में आलू प्रत्यय का प्रयोग हुआ है, जिसका अर्थ है 'करने वाला' अर्थात् झगड़ालू शब्द में प्रत्यय का अर्थ है झगड़ा करने वाला। 'आलू' प्रत्यय के उदाहरण हैं - दयालु, लजालू, रतालू, सियालू।

**S11. Ans.(c):**

**Sol.** सही प्रत्यय प्रयोग इस प्रकार है - 'मीठा + आस = मिठास'।

**S12. Ans.(c):**

**Sol.** आज पिताजी ने मुझे एक रुपया दिया  
अन्य शुद्ध वाक्य इस प्रकार हैं - दंड पाने के योग्य तो वह है ही। आप चुनाव जीत गए हैं, अतः हमारी बधाई स्वीकार कीजिए।

**S13. Ans.(b):**

**Sol.** शुद्ध वाक्य है- 'उन्होंने जीवन में बहुत-से उतार-चढ़ाव देखे हैं। इस वाक्य में बहुत के बाद 'सा' के स्थान पर 'से' का प्रयोग उचित है।

**S14. Ans.(c):**

**Sol.** घट और कुंभ, घड़े के पर्यायवाची शब्द हैं। अन्य शब्दों के पर्यायवाची युग्म इस प्रकार हैं- 'मीन-मछली', 'मद-मदिरा', 'प्रज्ञा-बुद्धि', 'सहचर-मित्र',

**S15. Ans.(c):**

**Sol.** क्षणप्रिया, चपला, अशनि, 'विद्युत्' के पर्यायवाची शब्द हैं। मयूर, केकी, कलापी, 'मोर' के पर्यायवाची शब्द हैं। रोष, भूप, त्रास, परस्पर पर्यायवाची शब्द नहीं हैं, रोष, क्रोध का पर्यायवाची है। भूप, राजा का पर्यायवाची है। त्रास, भय का पर्यायवाची है।

**S16. Ans.(a):**

**Sol.** हाटक, हेम, कनक, 'सोना' के पर्यायवाची शब्द हैं। वपु, शरीर का पर्यायवाची शब्द है।

**S17. Ans.(b):**

**Sol.** 'सूची-पत्र' पुलिंग शब्द है। शेष सभी स्त्रीलिंग शब्द है।

**S18. Ans.(a):**

**Sol.** सामासिक शब्द का सही विग्रह इस प्रकार है - अत्याधुनिक = आधुनिक से भी आधुनिक। यज्ञशाला = यज्ञ के लिए शाला। धर्मवीर = घर्म में वीर।

**S19. Ans.(c):**

**Sol.** वक्रतुण्ड = वक्र है तुण्ड जिसकी, अर्थात गणेश। तुण्ड का सामान्य अर्थ मुख या चोंच होता है, किंतु यह हाथी की सूंड को भी व्यक्त करता है। गणेश यानी टेढ़ीमेढ़ी सूंड वाले।

**S20. Ans.(b):**

**Sol.** सही सामासिक विग्रह है - 'कमलनयन = कमल के समान नयन'।

**S21. Ans.(b):**

**Sol.** 'स्वर्ग', 'पृथ्वी' और 'सूर्य', 'गो' के अनेकार्थी शब्द हैं।

**S22. Ans.(c):**

**Sol.** शब्दों की शुद्ध वर्तनी है - विहंगम, शार्दूल

**S23. Ans.(a):**

**Sol.** शुद्ध वर्तनी वाला शब्द है - नैसर्गिक।

**S24. Ans.(c):**

**Sol.** शब्दों की शुद्ध वर्तनी है - आजीविका, अनुगृहीत, परिमार्जित।

**S25. Ans.(c):**

**Sol.** शुद्ध वर्तनी है - लब्धप्रतिष्ठ, जिसका अर्थ है - प्रसिद्ध, प्रतिष्ठित, यशस्वी।

**S26. Ans.(c):**

**Sol.** नश्वर का विलोम शब्द 'शाश्वत' है।

**S27. Ans.(c):**

**Sol.** 'निषिद्ध' का विलोम शब्द 'विहित' है।

**S28. Ans.(a):**

**Sol.** सही विलोम युग्म है - तीव्र - मन्थर।

**S29. Ans.(c):**

**Sol.** 'उन्मूलन' का विलोम शब्द है- रोपण।

**S30. Ans.(c):**

**Sol.** सही समश्रुत शब्द-युग्म है, 'अवदान- अवधान = योगदान - ध्यान देना'।

**S31. Ans.(e)**

**Sol.**

$$\begin{array}{l} A(6) \quad \diagdown \quad 30 \quad \diagup \quad 5 \\ B(10) \quad \diagup \quad 30 \quad \diagdown \quad 3 \\ (5+3) \times t + 5 \times 1 = 30 \\ t = \frac{25}{8} \\ \text{Total time} = \frac{33}{8} = 4\frac{1}{8} \text{ hr.} \end{array}$$

**S32. Ans.(b)**

**Sol.**

$$81 \div 27 \times 4 - 10 = 2$$

**S33. Ans.(b)**

**Sol.**

Let the number be  $10a+b$

ATQ,

$$(10a+b) + (10b+a) = 66$$

$$\Rightarrow 11(a+b) = 66$$

$$\Rightarrow a+b = 6$$

**S34. Ans.(b)**

**Sol.**

$$SP = 7500 \times \frac{(100-6)}{100}$$

$$= \frac{7500 \times 94}{100} = 75 \times 94 = 7050$$

**S35. Ans.(b)**

**Sol.**

$$(3x)^3 + (4x)^3 = 5824$$

$$27x^3 + 64x^3 = 5824$$

$$81x^3 = 5824$$

$$x = 4$$

$$\text{sum} = 3x + 4x = 28$$

**S36. Ans.(c)**

**Sol.**

$$\text{Loss} = CP - SP$$

$$\text{ATQ, } \frac{CP - SP}{SP} = \frac{20}{100} = \frac{1}{5}$$

$$SP = 5 CP - 5SP$$

$$6 SP = 6 CP$$

$$\frac{SP}{CP} = \frac{5}{6} = \frac{5x}{6x}$$

$$\text{Thus, } \frac{CP - CP}{CP} = \frac{6x - 5x}{6x} = \frac{1}{6} \times 100$$

$$= 16\frac{2}{3} \%$$

**S37. Ans.(a)**

**Sol.**

In type I machine parts.

$$\text{No. of defective parts} = \frac{5}{100} \times 120 = 6$$

$$\text{In type II, no of defective} = \frac{10}{100} \times 80 = 8$$

$$\text{In total defective} = \frac{8+6}{200} = \frac{7}{100} = 7\%$$

**S38. Ans.(e)****Sol.**

$$\text{ATQ, } (2^3)^2 = 4^x$$

$$\Rightarrow 4^x = 64$$

Therefore;  $x = 3$ 

$$3^x = 3^3 = 27$$

**S39. Ans.(a)****Sol.** The correct answer is a, Chhattisgarh, Gujarat, Jharkhand.

The Tropic of Cancer passes through Chhattisgarh, Gujarat and Jharkhand, At the time of its naming, the sun was positioned in the Cancer constellation during the June solstice.

Information booster-

- The Tropic of cancer is an imaginary line that is at an angle of 23.50° to the equator which passes through the middle of India.
- There are 17 countries through which the tropic of cancer passes.

**S40. Ans.(a)****Sol.** Behavioral methods involve changes in individual or collective behavior that can reduce air pollution. Carpooling, for example, reduces the number of vehicles on the road, thereby reducing emissions. Other examples of behavioral methods include using public transportation, biking or walking, and reducing energy consumption at home or in the workplace**S41. Ans.(a)****Sol.** In 1872, Bihar Bandhu, a Hindu newspaper founded by Balakrishna Bhatt and Keshavram Bhatt, started publication from Calcutta but its press to Patna in 1874.**S42. Ans.(b)****Sol.** The correct answer is (b) Sedimentation. Sedimentation is a primary treatment process in wastewater treatment, where solid particles in the wastewater settle down due to gravity, separating them from the liquid. This process helps remove larger particles and some suspended solids from the wastewater before further treatment.**S43. Ans.(d)****Sol.** The correct answer is (d) More than one of the above. Noise pollution can indeed affect mental health in multiple ways. It can cause anxiety, lead to depression, and increase stress levels. Prolonged exposure to high levels of noise can have a detrimental impact on one's psychological well-being, making it important to address and mitigate noise pollution for the sake of mental health.**S44. Ans.(c)****Sol.** Biomedical solid waste refers to waste generated by healthcare facilities, including hospitals, clinics, and laboratories. This can include items such as used needles, syringes, and other sharps, as well as medical equipment, infectious waste, and pharmaceuticals. Proper management and disposal of biomedical waste is important to prevent the spread of disease and protect public health.**S45. Ans.(a)****Sol.** Navalkishor Singh composed the songs of Phaag Raag in Bihar.**S46. Ans.(a)****Sol.** In 1986 was the Times of India published in Bihar.**S47. Ans.(c)****Sol.** In 1970 was the Gaya Museum established in Bihar.**S48. Ans.(c)****Sol.** Kameshwar Singh Darbhanga Sanskrit University established in 1961 in Bihar.**S49. Ans.(c)****Sol.** Former Indian cricketer **Mahendra Singh Dhoni** has launched the **made-in-India camera drone** named 'Droni' with advanced features manufactured by **Garuda Aerospace**.**More Details:**

- ☑ Dhoni is the brand ambassador of Garuda Aerospace, a company which has attempted to offer drone solutions for agricultural pesticide spraying, solar panel cleaning, industrial pipeline inspections, mapping, surveying, public announcements, and delivery services.
- ☑ It has ventured into the consumer drone market with 'Droni'.

**S50. Ans.(b)****Sol.** Union Minister of Road Transport and Highways **Nitin Gadkari** inaugurated the 81st annual session of the Indian roads Congress in **Lucknow**.**More Details:**

- ☑ He was accompanied by the Chief Minister of Uttar Pradesh Yogi Adityanath.
- ☑ In the inaugural ceremony of the Indian Roads Congress, the Union Minister of Road Transport and Highways said that by 2024 projects worth rupees five lakh crore will start in Uttar Pradesh.
- ☑ The road projects worth rupees eight crores have been approved for Uttar Pradesh.
- ☑ India will reduce the use of Fossil fuel-run transport systems in the next five years.

**S51. Ans.(a)**

**Sol.** ICC Women's T20 World Cup Final: Australia won the Women's T20 World Cup for the sixth time when they beat South Africa by 19 runs in the final at Newlands.

**S52. Ans.(c)**

**Sol.** Hockey Madhya Pradesh was named the winner of the 13th Hockey India Senior Women National Championship in 2023.

**S53. Ans.(a)**

**Sol.** Ellora Ajanta International Festival 2023 was held in Maharashtra.

**Additional Info-**

☑ The Ajanta Ellora International Festival 2023 festival is a celebration of the cultural heritage and diversity of the region and promises to be a feast for the senses.

☑ The festival showcases the Ellora and Ajanta caves 'artwork and architecture, as well as performances by local and international artists.

☑ Ellora is a UNESCO World Heritage Site located in the Aurangabad district of Maharashtra, India.

☑ The Ajanta Ellora International Festival was first launched in 1985.

**S54. Ans.(a)**

**Sol.** Greenland is the world's largest island with a total area of 836,109 sq mi (2,166,086 sq km).

An island or isle is any piece of subcontinental land that is surrounded by water. Very small islands such as emergent land features on atolls can be called islets, skerries, cays, or keys and very large islands are like Greenland, Madagascar, etc.

☑ Greenland, the world's largest island, lying in the North Atlantic Ocean.

☑ It covers an area of 2,130,800 km<sup>2</sup> (970 sq mi)

☑ Greenland is noted for its vast tundra and immense glaciers.

☑ Although Greenland remains a part of the Kingdom of Denmark, the island's home-rule government is responsible for most domestic affairs.

☑ The Greenlandic people are primarily Inuit (Eskimo).

☑ The capital of Greenland is Nuuk (Godthåb).

**S55. Ans.(c)**

**Sol.** Marina Beach in Chennai is the longest natural beach in India.

☑ Marina Beach is the longest beach in India.

☑ Marina beach is located in Chennai, Tamil Nadu.

☑ It lies along the Bay of Bengal.

☑ Marina Beach is also the world's second-longest beach.

☑ The beach was renovated by Governor Mountstuart Elphinstone Grant Duff in the 1880s.

☑ Two prominent statues of Mahatma Gandhi is situated on the Marina beach.

☑ Marina Beach is one of the most crowded beaches in India.

**S56. Ans.(b)**

**Sol.** Damodar Valley region is most rich in coal deposits.

☑ The most important Gondwana coal fields in India are located in Damodar Valley. Over 97 per cent of coal reserves occur in the valleys of Damodar, Sone, Mahanadi and Godavari. They lie in the Jharkhand-Bengal coal belt and the important coal fields in this region are Raniganj, Jharia, Bokaro, Giridih, and Karanpura.

**S57. Ans.(c)**

**Sol.** The Stratosphere is the layer where the decrease in temperature with increasing altitude is totally absent. Temperature rises as one moves upward through the stratosphere.

☑ The stratosphere defines a layer in which temperatures rises with increasing altitude. At the top of the stratosphere the thin air may attain temperatures close to 0oC. This rise in temperature is caused by the absorption of ultraviolet (UV) radiation from the Sun by the ozone layer. Such a temperature profile creates very stable atmospheric conditions. Consequently, the stratosphere is almost completely free of clouds or other forms of weather.

**S58. Ans.(c)**

**Sol.** Doab is a term used for a tract of land lying between two rivers.

☑ This term is mainly used in South Asia and particularly in Pakistan and India.

☑ For example, Indus and its tributaries formed doab in the northern plains.

☑ Doab is made from 'do' which means two and 'ab' means water or river.

**S59. Ans.(a)**

**Sol.** Lord William Bentinck (1828-35) was the 1st Governor-General of British India. His tenure is known for the social reforms such as Abolition of Sati in 1829, Suppression of Thugi, and Suppression of Infanticide etc. English was introduced as a medium of higher education, Charter act 1833 was passed by which East India Company ceased to be a trading company. Some corrective measures in civil services were taken. This seven years period was an epoch for administrative reforms in India.



**S60. Ans.(c)**

**Sol.** Charter act of 1813 ended the monopoly of the East India Company in India, however, the company's monopoly in trade with China and trade in tea with India was kept intact.

☐ The Charter Act of 1813 ended the commercial trade monopoly of the East India Company except for trade in tea and trade with China.

☐ Salient features of the charter:

☐ The East India Company was, however, allowed to enjoy the monopoly of China trade and trade in tea.

☐ From 1793 to 1813 the company did not permit the Christian missionaries to work for the Indian people due to fear of hurting religious sentiments of Indians.

☐ But the Charter act of 1813 opened India to Christian Missionaries and permitted them to propagate English and preach their religion.

☐ A sum of rupees one lakh annually was provided for the revival and improvement of literature and promotion of knowledge of the sciences among the inhabitants of the British territories in India.

☐ Thus, through the Act, the British government assumed the responsibility of Indian people's education.

☐ This was the first step towards the idea of state responsibility for education.

**S61. Ans.(a)**

**Sol.** Akbar introduced the Dahasala or Zabati system of land revenue collection in 1580-82 to alleviate the problems arising due to fixing prices every year and doing settlements of revenues of previous years. In this system, average produce of ten years was derived. One third of this average produce was fixed in Rupees per Bigha and fixed as share of the state (Mal). Rest two third share was left to the cultivators (Kharaj).

☐ There were various methods of land revenue assessment during the Mughal period. Let us see the salient features of each one by one:

☐ **Zabti-**

☐ It was the most important method of land revenue assessment during the Mughal era and was also known as the Bandobast System.

☐ The practice was introduced by Sher Shah.

☐ Akbar appointed karoris (officers for assessment and collection of tax) all over North India.

☐ Under this system, the land was measured and according to the productivity and price prevailing in the area, the revenue known as dastur ul Amal was fixed.

☐ All the revenue collection was done in cash.

☐ This system was prevalent in Delhi, Allahabad, Awadh, Agra, Lahore, and Multan.

**S62. Ans.(c)**

**Sol.** The Salt March, also known as the Dandi March and the Dandi Satyagraha, was an act of non violent civil disobedience in colonial India initiated by Mohandas Karamchand Gandhi to produce salt from the seawater in the coastal village of Dandi, as was the practice of the local populace until British officials introduced taxation on salt production, deemed their sea-salt reclamation activities illegal, and then repeatedly used force to stop it.

☐ M. K. Gandhi on March 12, 1930, started March his from the Sabarmati Ashram with 72 people and reached Dandi coastal Gujarat on April 6, 1930.

☐ He broke the salt law by picking up a handful of salt at Dandi and announced the commencement of the Civil Disobedience Movement.

☐ On March 12, 1930, Indian independence leader Mohandas Gandhi begins a defiant march to the sea in protest of the British salt monopoly.

☐ Britain's Salt Acts prohibited Indians from collecting or selling salt, a staple in the Indian diet.

☐ Citizens were forced to buy the vital mineral from the British.

☐ The Salt March was a 24-day Salt March, which was non-violent in nature.

**S63. Ans.(c)**

**Sol.** Mahatma Gandhi was born in Porbandar.

☐ Arya Samaj was founded by Swami Dayanand Saraswati in 1875. The organisation voiced for causes like widow remarriage and education of girl children.

☐ Annie Besant as President of the Theosophical Society After joining the society in 1889, she started writing and giving lectures about theosophy. She moved to India in 1893 to continue her social work after her guru, Madame Blavatsky, passed away.

**S64. Ans.(a)**

**Sol.** First, all India hartal on April 6, was a "hartal" organised where Indians would suspend all business and fast as a sign of their opposition and civil disobedience would be offered against specific law. This event is known as the Rowlatt Satyagraha.

☐ The Anarchical and Revolutionary Crimes Act of 1919, popularly known as the Rowlatt Act, was a law, applied during the British India period.

☐ It was a legislative council act passed by the Imperial Legislative Council in Delhi on 18 March 1919, indefinitely extending the emergency measures of preventive indefinite detention, imprisonment without trial and judicial review enacted in the Defence of India Act 1915 during the First World War.

☐ It was enacted in the light of a perceived threat from revolutionary nationalists of re-engaging in similar conspiracies as had occurred during the war which the Government felt the lapse of the Defence of India Act would enable.

**S65. Ans.(b)**

**Sol.** In case of a conflict between the Central law and the state law on a subject enumerated in the Concurrent List, the Central law prevails over the state law. But, there is an exception. If the state law has been reserved for the consideration of the president and has received his assent, then the state law prevails in that state.

**S66. Ans.(b)**

**Sol.** The Central law and the state law on a subject enumerated in the Concurrent List, the Central law prevails over the state law it represent strong center.

☐ Indian Constitution is quasi-federal i.e., it comprises of a strong centre and state wherein parliament is empowered to legislate on subjects not specifically mentioned in Constitution (residuary subjects). Where state and centre both legislate on the same subject the central law shall prevail. During an emergency, it acquires unitary form. Due to this reason, it is called "Quasi federal". So, the Constitution made arrangements for the strong centre.

**S67. Ans.(c)**

**Sol.** The correct answer is Finance Commission.

Finance Commission

☐ Article 280 of the Constitution provides for the Finance commission.

☐ It is constituted by the President of India every fifth year or at a such earlier time, as he thinks of it.

☐ It consists of a chairman and four other members to be appointed by the President.

☐ Functions of Finance Commission-

☐ The distribution of the net proceeds of taxes to be shared between the Centre and the states, and the allocation between the states of the respective shares of such proceeds.

☐ The principles that should govern the grants-in-aid (under Article 275 of the Constitution) to the states by Centre out of Consolidated Fund of India.

☐ The recommendations made by the Finance Commission are only of advisory nature and hence not binding on the government.

☐ Recommendations to the President of India on the specific Union-State fiscal relations are made by Finance Commission.

**S68. Ans.(a)**

**Sol.** The correct option is 78% and 21%. The composition of the atmosphere is comprises of 78% of Nitrogen, 21% of Nitrogen and 1% of other gases like Neon, Argon, Helium, Carbon dioxide etc.

**S69. Ans.(b)**

**Sol.** The correct answer is option b i.e., Grass → insects → frog → snake → hawk/otter. The transfer of food materials from producers to consumers of different levels in an ecosystem, in a cyclic pathway, is called a food chain.

**S70. Ans.(c)**

**Sol.** The over-lapping network of food-chains in an ecosystem is called a food-web. So many food chains often operate in an ecosystem having more than one type of producers and consumers in common. Under such conditions food – transfer in the ecosystem takes place through many routes.

**S71. Ans.(b)**

**Sol.** A **Local Area Network (LAN)** is used to connect devices within a limited area like an office or a room, allowing users to share resources and data.

**S72. Ans.(a)**

**Sol.** The data type **int** in C is used to store whole numbers (integers).

**S73. Ans.(b)**

**Sol.** The IP address 168.2.7.6 belongs to **Class B**. Class B addresses use the first 16 bits for the network portion, and the range for Class B addresses is from 128.0.0.0 to 191.255.255.255.

**S74. Ans.(c)**

**Sol.** A **cookie** is a piece of data from a website that is stored within a web browser that the website can retrieve at a later time. Cookies are used to tell the server that users have returned to a particular website.

**S75. Ans.(b)**

**Sol.** **Web hosting** is an online service that allows you to publish your website files onto the internet.

**S76. Ans.(a)**

**Sol.** **Mesh topology** is a network configuration where devices are interconnected in a decentralized manner, allowing for multiple pathways for data to traverse the network, enhancing reliability and redundancy.

**S77. Ans.(b)**

**Sol.** An **aggregate function** performs a calculation on a set of values, and returns a single value.

**S78. Ans.(d)**

**Sol.** The syntax of a for loop: **for ( ; );**, with empty initialization, always-true condition, empty increment, and empty body.

**S79. Ans.(a)**

**Sol.** **Thread synchronization** ensures that only one thread can access a shared resource at a time, preventing data corruption and race conditions.

**S80. Ans.(a)**

**Sol.** RuntimeExceptions in Java, including their subclasses, are unchecked exceptions. This means they do not need to be declared in a method's throws clause, and **it's optional to catch them with a try/catch block**. These exceptions usually indicate programming errors that could be avoided by changing the code.

**S81. Ans.(a)**

**Sol.**  $A \cdot (B + C) = A \cdot B + A \cdot C$  expression represents the distributive law of Boolean algebra.

**S82. Ans.(c)**

**Sol.** **NAND and NOR gates** are considered universal logic gates because they can be used to implement any Boolean function.

**S83. Ans.(c)**

**Sol.** The **HAVING clause** checks the condition on a group of rows. The HAVING is used with aggregate functions.

**S84. Ans.(d)**

**Sol.** **Chat** refers to talking to other people who are using the internet at the same time you are.

**S85. Ans.(b)**

**Sol.** **It does not apply to any offence or contravention thereunder committed outside India by any person** is not true about Information Technology Act, 2000.

**S86. Ans.(a)**

**Sol.** "Digital signature" comes under **Section 2** of IT Act, 2000.

**S87. Ans.(c)**

**Sol.** The artificial intelligence (AI) division of global tech giant **Google** recently devised a new model for protecting endangered killer whales. Whales, also known as killer whales, have been sighted in very small numbers in the Salish Sea. Google has partnered with the Canadian Fisheries and Ocean Service to monitor conditions and alert experts in the event of whale disease or incidents. A trained AI model listens to and locates whales using underwater audio and labels.

**S88. Ans.(a)**

**Sol.** **Information Technology (Amendment) Act, 2008.**

**S89. Ans.(b)**

**Sol.** In C, variable names cannot start with a **dollar sign (\$)**, making this declaration invalid.

**S90. Ans.(b)**

**Sol.** In IPv6, each group of hexadecimal digits separated by colons represents **16 bits**.

**S91. Ans.(b)**

**Sol.** **Sensors, alarms, sirens, TV** etc. are instance of e-waste.

**S92. Ans.(b)**

**Sol.** To create a dropdown list (select element) in HTML, use the `<select>` tag. The dropdown options are defined using `<option>` tags inside the `<select>` element.

**S93. Ans.(b)**

**Sol.** Each node in a doubly linked list requires at least **three** fields:

- ☑ **Data field:** Stores the actual data element.
- ☑ **Next pointer:** Points to the next node in the list.
- ☑ **Previous pointer:** Points to the previous node in the list.

**S94. Ans.(b)**

**Sol.** A graph in which all vertices have equal degree is known as a **Regular graph**. In a regular graph, each vertex has the same number of adjacent edges.

**S95. Ans.(d)**

**Sol.** A compiler is preferable to an interpreter because **it translates the entire source code into machine code or an intermediate representation, creating a standalone executable file**. This compiled code typically executes faster than interpreted code.

**S96. Ans.(a)**

**Sol.** A **repeater** is a network device that operates at the physical layer, amplifying and regenerating signals to extend the transmission distance in a network.

**S97. Ans.(a)**

**Sol.** A **modem** facilitates wireless communication by converting digital signals from a computer to analog signals suitable for transmission over telephone lines.

**S98. Ans.(b)**

**Sol.** **Fiber optic cable** is like a **light navigator**, guiding data signals through its internal pathways using total internal reflection, ensuring accurate and efficient transmission.

**S99. Ans.(c)**

**Sol.** The **DNS (Domain Name System) system** is a distributed database that translates user-friendly domain names into IP addresses, enabling efficient communication over the internet.

**S100. Ans.(b)**

**Sol.** **Twisted Pair Cable** is commonly used for short-distance data transmission within buildings or home networks due to its cost-effectiveness and easy installation.

**S101. Ans.(d)**

**Sol.** A **view** is a virtual table that is based on the results of an SQL SELECT statement. It doesn't store any data on its own; instead, it provides a dynamic view of the data from one or more underlying tables.

**S102. Ans.(a)**

**Sol.** **UPDATE** is a data manipulation language (DML) command, not a data definition language (DDL) command. DDL commands are used to define the structure of a database, while DML commands are used to manipulate the data within the database.

**S103. Ans.(c)**

**Sol.** The **HEAD** method is used to request the headers that a GET request would get, but without the body of the response. This is useful for retrieving meta-information written in response headers, without having to transport the entire content.

**S104. Ans.(c)**

**Sol.** The **DISTINCT** clause is used with the SELECT command in MySQL to avoid duplication of output rows, ensuring that only unique rows are retrieved from the result set.

**S105. Ans.(d)**

**Sol.** A computer network is a group of **interconnected computers that can communicate** with each other and share resources. It is a **collection of hardware components** (such as computers, routers, switches, cables, and modems) and **software components** (such as operating systems, network protocols, and application software) that are connected together to enable the exchange of data and information.

**S106. Ans.(a)**

**Sol.** The cout is a predefined object of **ostream** class. It is connected with the standard output device, which is usually a display screen.

**S107. Ans.(c)**

**Sol.** Each IP packet must contain both a **source IP address and a destination IP address**. The source IP address is the address of the computer that sent the packet, and the destination IP address is the address of the computer that is supposed to receive the packet. The IP addresses are used to route the packet through the internet so that it reaches the correct destination.

**S108. Ans.(b)**

**Sol.** **Wireless LAN** is not a guided medium. Guided media, such as copper wire, coaxial cable, and fiber optical cable, use physical paths for signal transmission.

**S109. Ans.(b)**

**Sol.** A **hyperlink** is a piece of icon or text on a web page that, when clicked, directs the user to another webpage or resource. It enables navigation and connectivity on the internet.

**S110. Ans.(c)**

**Sol.** The keyboard shortcut to open the Task Manager is **Alt + Ctrl + Delete**. This will open a menu with several options, including Task Manager.

**S111. Ans.(d)**

**Sol.** An operating system comprises **application-level services** (like file management, printing), **library services** (for developers), and most importantly, **kernel services** (fundamental tasks like memory management, process management).

**S112. Ans.(b)**

**Sol.** The first batch operating system was developed in the **mid-1950s** by General Motors for use on an IBM 701 computer. It allowed multiple jobs to be processed in a sequence, paving the way for modern operating systems.

**S113. Ans.(b)**

**Sol. Memory management** in operating systems involves treating main memory (RAM) as a resource to be allocated to and shared among active processes. It includes tasks like allocation, deallocation, and protection to ensure efficient and secure memory utilization.

**S114. Ans.(d)**

**Sol. Worms** are a type of malware that target entire networks of devices, replicating themselves to spread from one computer to another across the network without human interaction.

**S115. Ans.(b)**

**Sol.** A computer **virus** is malicious code designed to replicate itself and spread to other programs.

**S116. Ans.(b)**

**Sol. Direct Action Viruses** get installed and stay hidden in your computer's memory. They are involved with the specific type of files they infect, typically executing when the infected file is executed, making them active only when their specific conditions are met.

**S117. Ans.(b)**

**Sol.** Syntax `int arr[3] = {1,2,3};` declares an array named "arr" of size 3 and initializes it with elements {1, 2, 3}.

**S118. Ans.(b)**

**Sol. Multiple inheritance** is a feature of some object-oriented programming languages in which a class can inherit behaviors and attributes from more than one parent class.

**S119. Ans.(b)**

**Sol.** In a stack data structure, the process of adding a new element to the top is called pushing. **Push** is the specific term used to describe this operation.

**S120. Ans.(c)**

**Sol.** In postfix notation, also known as Reverse Polish Notation (RPN), operators come after their operands. To convert the given expression to postfix, follow the order of operations while moving operators to the right. The final result is  $AB + CD * E - * F * G /$ .

**S121. Ans.(b)**

**Sol. Paging** divides data into fixed-size pages and swaps them between secondary storage and main memory as needed. This allows storing larger data sets than available physical memory.

**S122. Ans.(b)**

**Sol.** The ASCII value 65 is equivalent in binary= **1000001**.

**S123. Ans.(d)**

**Sol.** The microprocessor is the central processing unit (CPU) of a microcomputer. It is responsible for all three functions:

- ☑ **Receiving input:** It receives input from various devices like keyboard, mouse, etc.
- ☑ **Performing computations:** It performs arithmetic and logical operations on the data.
- ☑ **Storing data & instructions:** It stores data and instructions in its internal memory.

**S124. Ans.(d)**

**Sol.** Input devices like the **keyboard, mouse, and toggle switches** enable a microcomputer to receive input from various sources, allowing users to interact with the system.

**S125. Ans.(b)**

**Sol.** A **Singleton class** is designed to allow only one instance (object) of itself to be created throughout the program's execution, ensuring that there is a single point of access to that instance.

**S126. Ans.(c)**

**Sol. Manipulators** are functions that can modify the input/output behavior of the cout object in C++. They are used to change formatting properties, such as the precision of floating-point numbers, alignment of output, and more.

**S127. Ans.(d)**

**Sol.** The **pow function** is not an operator, and it's not typically overloaded; instead, it's a standard library function for calculating exponentiation.

**S128. Ans.(d)**

**Sol.** The **return** keyword is used to transfer control from a function back to the calling function in many programming languages. It can also be used to return a value from a function to its caller.

**S129. Ans.(c)**

**Sol. Polymorphism** in object-oriented programming means "one name, multiple forms."

**S130. Ans.(c)**

**Sol.** The address of a variable is the memory location where the variable's value is stored. To get the address of a variable, we use the unary ampersand operator (&). So, **&temp** represents the address of the variable temp.

**S131. Ans.(b)**

**Sol.** The given code iterates through the elements of the "symbol" array and prints them without any spaces or quotes. The output is **abc**.

**S132. Ans.(c)**

**Sol.** IMAP (Internet Message Access Protocol) is a standard email protocol that stores email messages on a mail server, but allows the end user to view and manipulate the messages as though they were stored locally on the end user's computing device(s). IMAP protocol is used by **Application layer** of network model.

**S133. Ans.(b)**

**Sol.** The process of building new classes from existing ones, where the new class inherits properties and behaviors from the existing class, is called **inheritance** in object-oriented programming.

**S134. Ans.(b)**

**Sol.** In public inheritance, a class C member function can access **protected data in class B and its base class A**.

**S135. Ans.(a)**

**Sol.** **if (count > 100) cout << "Too many";** statement checks if the variable "count" exceeds 100 and, if true, prints "Too many" to the console.

**S136. Ans.(a)**

**Sol.** A pure virtual function is declared in the base class but has no implementation (no function body). It must be implemented **in derived classes** to avoid making them abstract.

**S137. Ans.(c)**

**Sol.** To perform stream I/O with disk files in C++, you should **use classes derived from the ios** class, such as ifstream and ofstream, for input and output operations.

**S138. Ans.(b)**

**Sol.** In flowcharting, actual instructions or steps in the process are typically represented in **boxes (or rectangles)**. These boxes contain the specific actions to be taken or operations to be performed.

**S139. Ans.(d)**

**Sol.** The mechanism of deriving a class from another derived class is known as **Multilevel Inheritance**.

**S140. Ans.(c)**

**Sol.** Runtime Polymorphism in C++ is achieved by using **virtual functions**. Virtual functions allow a base class pointer to invoke the appropriate derived class function at runtime, enabling dynamic binding and polymorphic behavior.

**S141. Ans.(a)**

**Sol. Phishing** is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers.

**S142. Ans.(a)**

**Sol.** In C, a constant pointer is a **pointer that points to a constant value**, meaning it can only point to memory locations holding constants. The pointer itself can be changed.

**S143. Ans.(b)**

**Sol.** To define a symbolic constant in C, the **#define** preprocessor directive is used. For example, "#define MAX\_VALUE 100" creates a symbolic constant MAX\_VALUE with the value 100.

**S144. Ans.(c)**

**Sol.** A **race condition** occurs when multiple threads access shared resources without proper synchronization, leading to unexpected and undesirable results.

**S145. Ans.(b)**

**Sol.** **File encryption** secures data within a file using cryptographic algorithms, ensuring that only authorized users can access the content.

**S146. Ans.(d)**

**Sol.** **Match Statement** takes an expression and compares its value to successive patterns given as one or more case blocks.

**S147. Ans.(a)**

**Sol.** A **Joined view** is a virtual table formed by combining rows from two or more tables using a common field to establish relationships.

**S148. Ans.(c)**

**Sol.** A straight line denotes **mandatory participation**, indicating that an entity on one side of the relationship must have a corresponding entity on the other side, creating a mandatory relationship between them.

**S149. Ans.(c)**

**Sol.** In the OSI model, **the Transport Layer** handles flow control and error checking during data transfer. It ensures the receiving computer's readiness, enabling reliable and orderly communication between sender and receiver over a local network.

**S150. Ans.(c)**

**Sol.** The equation  $x \cdot y = y \cdot x$  illustrates the **commutative law**, indicating that the order of the operands does not change the result.