



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

सी ई एन आर आर बी - ०२/२०२४ - CEN RRB - 02/2024



Test Date	19/12/2024
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technicians Grade I

* Note
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : RRB Technicians Grade I

Q.1	The estimated rate of unemployment for the year 2018–19 in urban areas was _____%.
Ans	✓ 1. 7.7 ✗ 2. 5.2 ✗ 3. 6.8 ✗ 4. 9
Q.2	Tamper Protection is a feature that prevents unauthorised apps from changing your security settings. Which of the following Operating Systems supports the same?
Ans	✓ 1. Windows 10 ✗ 2. Windows XP ✗ 3. Linux ✗ 4. Windows Vista
Q.3	Which of the following forces does NOT conserve mechanical energy?
Ans	✗ 1. Gravitational force ✓ 2. Frictional force ✗ 3. Spring force ✗ 4. Electrostatic force
Q.4	In an isosceles triangle, the vertex angle measures 132°. What is the measure of each of the base angles?
Ans	✗ 1. 11° and 8° ✓ 2. 24° and 24° ✗ 3. 27° and 21° ✗ 4. 4° and 10°
Q.5	Select the most appropriate option to fill in the blank. Intel 8051 microcontroller has _____ 16-bit timer/counter registers.
Ans	✗ 1. three ✗ 2. one ✓ 3. two ✗ 4. four

Q.6	When multiplying 3.24 by 0.006, how many significant figures should the result have?
Ans	✖ 1. 2
	✖ 2. 3
	✔ 3. 1
	✖ 4. 4
Q.7	A 5 kg object is pushed with a constant horizontal force of 20 N across a rough surface with a coefficient of kinetic friction $\mu_k = 0.2$ for a distance of 10 m. What is the net work done on the object? (Given: acceleration due to gravity $g = 10 \text{ m/s}^2$)
Ans	✖ 1. 60 J
	✖ 2. 160 J
	✔ 3. 100 J
	✖ 4. 120 J
Q.8	Identify the correct order of steps to configure your web browser. I. Enable cookies in your web browser II. Enable scripts to disable or replace context menus (Mozilla Firefox only) III. Enable file download on IE 11 running on Windows 2012 IV. Enable JavaScript for your web browser
Ans	✖ 1. IV, III, II, I '
	✖ 2. III, II, IV, I
	✔ 3. IV, I, III, II
	✖ 4. I, II, III, IV
Q.9	What is the full form of PCB?
Ans	✖ 1. Picture Circuit Board
	✔ 2. Printed Circuit Board
	✖ 3. Printed Control Board
	✖ 4. Picture Control Board
Q.10	The distance of the point P(2, 3) from the x-axis is
Ans	✖ 1. 1
	✔ 2. 3
	✖ 3. 5
	✖ 4. 2
Q.11	The most common topologies used in LAN networks are _____.
Ans	✔ 1. bus, ring, and star
	✖ 2. mesh and ring only
	✖ 3. wired, wireless, and virtual
	✖ 4. insider threats, LAN sockets, viruses and malware
Q.12	An open water drum is in the form of a cylinder. The height of the drum is 79 m and its internal diameter is 78 m. Find the area (in m^2 , rounded off to one decimal place) that needs to be painted if one wants to paint the inside of the drum. $Take \pi = \frac{22}{7}$
Ans	✖ 1. 24130.8
	✖ 2. 24155.7
	✖ 3. 24126.7
	✔ 4. 24146.6

Q.13	If the voltage across a conductor is doubled while keeping the resistance constant, what happens to the current through the conductor?	
Ans	✔ 1. It doubles	
	✘ 2. It remains constant	
	✘ 3. It increases four times	
	✘ 4. It halves	

Q.14	What is the purpose of the 'grep' command in the Linux operating system?	
Ans	✘ 1. To rename files	
	✘ 2. To display the calendar	
	✘ 3. To display system processes	
	✔ 4. To search for a specific pattern in a file	

Q.15	The p-type material is formed by doping a pure germanium or silicon crystal with impurity atoms having _____ valence electrons. The element most frequently used for this purpose is _____.	
Ans	✔ 1. three; gallium	
	✘ 2. five; antimony	
	✘ 3. five; arsenic	
	✘ 4. three; phosphorus	

Q.16	What should come in place of the question mark (?) in the given series? 901 903 ? 913 921 931	
Ans	✘ 1. 909	
	✘ 2. 906	
	✔ 3. 907	
	✘ 4. 905	

Q.17	If $\frac{18 \cos \theta + 5 \sin \theta}{5 \cos \theta + 4 \sin \theta} = 2$, then find the value of $\cot\theta$.	
Ans	✘ 1. $\frac{1}{3}$	
	✘ 2. $\frac{3}{5}$	
	✔ 3. $\frac{3}{8}$	
	✘ 4. $\frac{1}{7}$	

Q.18	Which rule is commonly used to determine the direction of the induced EMF in a conductor moving in a magnetic field?	
Ans	✘ 1. Ampere's Law	
	✘ 2. Fleming's Left-Hand Rule	
	✘ 3. Lenz's Law	
	✔ 4. Fleming's Right-Hand Rule	

Q.19	Which Article of the Indian Constitution provides that the state shall take steps, to secure the participation of workers in the management of industry?	
Ans	✖ 1. Article 45B	
	✖ 2. Article 44C	
	✖ 3. Article 42A	
	✔ 4. Article 43A	
Q.20	The quality factor Q of a series RLC circuit at resonance is a measure of the _____.	
Ans	✖ 1. total impedance of the circuit	
	✖ 2. energy stored in the circuit	
	✖ 3. resonance frequency	
	✔ 4. rate of energy loss relative to energy stored	
Q.21	In SI units, what is the unit of angular momentum?	
Ans	✔ 1. $\text{kg m}^2 \text{s}^{-1}$	
	✖ 2. $\text{kg m}^{-1} \text{s}$	
	✖ 3. $\text{kg m}^2 \text{s}^{-2}$	
	✖ 4. kg m s^{-1}	
Q.22	Match the word templates from group A with their types in group B. Group A Group B I. Planners and trackers A. Questionnaire II. Marketing assets B. Flyers III. Surveys C. Planning sheets	
Ans	✖ 1. I-A, II-C, III-B	
	✖ 2. I-A, II-B, III-C	
	✖ 3. I-B, II-C, III-A	
	✔ 4. I-C, II-B, III-A	
Q.23	In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is same as that on the right side of ::? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.) X : 16.2 :: 23 : Y	
Ans	✖ 1. X=19, Y=22.2	
	✔ 2. X=17, Y=22.2	
	✖ 3. X=19, Y=21.2	
	✖ 4. X=17, Y=21.2	
Q.24	In microprocessor 8085, which of the following is a 16-bit register?	
Ans	✖ 1. Z register	
	✖ 2. W register	
	✖ 3. Flag register	
	✔ 4. Stack pointer	

Q.25	Which of the following statements is correct for p-n junction diode?
Ans	✔ 1. There is less barrier potential at higher junction temperature.
	✘ 2. There is no relation between barrier potential and junction temperature.
	✘ 3. When diode is conducting, junction temperature is lower than ambient temperature.
	✘ 4. There is higher barrier potential at higher junction temperature.
Q.26	What is the purpose of the 'Subject line' in an email?
Ans	✘ 1. To include attachments with the email
	✘ 2. To provide a detailed explanation of the email content
	✔ 3. To give a brief summary of the email's topic
	✘ 4. To list the recipients of the email
Q.27	The odds against an event is 7 : 4 and the odds in favour of another event is 8 : 5. If both the events are independent, then the probability that at least one of the event will happen is:
Ans	✘ 1. $\frac{88}{143}$
	✘ 2. $\frac{76}{143}$
	✘ 3. $\frac{35}{143}$
	✔ 4. $\frac{108}{143}$
Q.28	What does the clock speed of a CPU measure?
Ans	✘ 1. The temperature of the CPU
	✘ 2. The amount of cache memory
	✔ 3. The number of instructions executed per second
	✘ 4. The amount of data processed per second

Q.29	Study the given pie-chart and answer the question that follows. Monthly percentage expenditure of a Sultan is given in the pie-chart. Expenditure of Sultan <table><caption>Expenditure of Sultan</caption><tr><th>Category</th><th>Percentage</th></tr><tr><td>Education</td><td>27%</td></tr><tr><td>Food</td><td>25%</td></tr><tr><td>Rent</td><td>16%</td></tr><tr><td>Bills</td><td>32%</td></tr></table> What is the monthly expenditure on Food by the Sultan (in ₹) if the total monthly expenditure of the Sultan is ₹10,000?	Category	Percentage	Education	27%	Food	25%	Rent	16%	Bills	32%	
Category	Percentage											
Education	27%											
Food	25%											
Rent	16%											
Bills	32%											
Ans	✖ 1. 2000 ✖ 2. 7700 ✔ 3. 2500 ✖ 4. 1700											
Q.30	Which of the following statements about the accuracy or precision of electronic instruments is correct?											
Ans	✔ 1. The precision is the degree to which the repeated measurement gives the same result. ✖ 2. The accuracy and precision are the degree to which the measurement gives the same value. ✖ 3. The accuracy of the measurement is getting the same value for respective measurements. ✖ 4. The precision is the degree to which the repeated measurement gives quoted value.											
Q.31	UDVA is related to CLDI in a certain way based on the English alphabetical order. In the same way, AJBG is related to IRJO. To which of the following options is YHZE related, following the same logic?											
Ans	✔ 1. GPHM ✖ 2. GTFY ✖ 3. GHYT ✖ 4. GBHY											
Q.32	If you need to attach a large file that exceeds the email provider's limit, what is a common solution?											
Ans	✖ 1. Reduce the file's resolution. ✖ 2. Break the file into smaller parts and send multiple emails. ✔ 3. Use a cloud storage service and share the link. ✖ 4. Compress the file into a .zip format.											
Q.33	The value of $\sqrt{144} + \sqrt{0.04} - \sqrt{9} =$											
Ans	✖ 1. 6.96 ✖ 2. 11.42 ✔ 3. 9.2 ✖ 4. 8.82											

Q.34	Which feature is commonly found in modern anti-virus software to help with real-time threat detection?	
Ans	☒ 1. Manual updates	
	☒ 2. Cloud-based detection	
	☒ 3. Offline scanning	
	☒ 4. Passive scanning	
Q.35	The product of two consecutive positive integers is 277. If the smaller of these two integers is represented by x, which of the options below will correspond to the equation for finding out the value of x?	
Ans	☒ 1. $x^2 + x + 277 = 0$	
	☒ 2. $x^2 - x + 277 = 0$	
	☒ 3. $x^2 - x - 277 = 0$	
	☒ 4. $x^2 + x - 277 = 0$	
Q.36	Which SI base unit is directly derived from the definition of ampere?	
Ans	☒ 1. Watt	
	☒ 2. Volt	
	☒ 3. Ohm	
	☒ 4. Coulomb	
Q.37	If 16th and 20th terms of an A.P. be 385 and 441 respectively, then its 90th term is:	
Ans	☒ 1. 1419	
	☒ 2. 1423	
	☒ 3. 1421	
	☒ 4. 1420	
Q.38	M, S, A, F, J, H and D are seven family members living in the same apartment. M is S's husband. H is J's wife. S is the mother of J and daughter of A. D is the brother of H. F is the wife of A. How is D related to J?	
Ans	☒ 1. Wife's brother	
	☒ 2. Father	
	☒ 3. Husband	
	☒ 4. Brother	
Q.39	The HCF and the LCM of two numbers are 12 and 300, respectively. If one of the numbers is $\frac{4}{9}$ times of the other, what is the smaller number?	
Ans	☒ 1. 88	
	☒ 2. 49	
	☒ 3. 40	
	☒ 4. 69	
Q.40	Read the given statement and conclusions carefully and decide which of the given conclusions follow(s) from the statement. Statement: Book-reading is a very healthy habit because it keeps our learning process alive even after our college or school education. Conclusions: I. Nowadays, e-books are gaining far more popularity than hardcovers. II. Students gain a lot of knowledge and improve language by keeping the habit of book-reading alive.	
Ans	☒ 1. Only conclusion I follows	
	☒ 2. Neither conclusion I nor II follows	
	☒ 3. Only conclusion II follows	
	☒ 4. Both the conclusions follow	

Q.41	By which of the following Acts did the rule of the East India Company end in India, and the rule of the crown begin?	
Ans	✔ 1. Government of India Act of 1858	
	✘ 2. Regulating Act of 1813	
	✘ 3. Pitt’s India Act of 1784	
	✘ 4. Government of India Act of 1853	
Q.42	The derived unit for electrical conductance, the Siemens (S), can be expressed in terms of SI base units as _____.	
Ans	✔ 1. $\text{kg}^{-1}\cdot\text{m}^{-2}\cdot\text{s}^3\cdot\text{A}^2$	
	✘ 2. $\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}\cdot\text{A}^{-1}$	
	✘ 3. $\text{kg}\cdot\text{m}^2\cdot\text{s}^{-3}\cdot\text{A}^{-2}$	
	✘ 4. $\text{kg}^{-1}\cdot\text{m}^2\cdot\text{s}^3\cdot\text{A}^2$	
Q.43	In a certain code language, ‘R + S’ means ‘R is the mother of S’, ‘R @ S’ means ‘R is the husband of S’, ‘R # S’ means ‘R is the sister of S’ and ‘R % S’ means ‘R is the father of S’. How is N related to P if ‘M # N + O % P @ Q # T’?	
Ans	✘ 1. Father's sister	
	✘ 2. Mother	
	✘ 3. Sister	
	✔ 4. Father's mother	
Q.44	In this question, a question is followed by two statements numbered (I) and (II). You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and decide the appropriate answer. Question: A, B, C, D and E are sitting around a circular table facing the centre. Who sits to the immediate right of A? Statement (I): Only one person sits between D and C. E sits to the immediate right of D. Statement (II): B sits to the immediate left of D. Only one person sits between B and E. Only one person sits between E and C.	
Ans	✘ 1. Data in statements I and II together are sufficient to answer the question.	
	✘ 2. Data in Statement I alone is sufficient to answer the question while data in statement II is not.	
	✘ 3. Data in statements I and II together are NOT sufficient to answer the question.	
	✔ 4. Data in Statement II alone is sufficient to answer the question while data in statement I is not.	
Q.45	If the height of a tower is $\sqrt{3}$ times its shadow, then the angle of the elevation of the top of the tower is equal to:	
Ans	✘ 1. 30°	
	✘ 2. 90°	
	✔ 3. 60°	
	✘ 4. 45°	
Q.46	What is the role of chemically inactive gases in a light bulb?	
Ans	✘ 1. To cool the filament	
	✘ 2. To reduce the bulb's light output	
	✔ 3. To prolong the life of the filament	
	✘ 4. To increase the filament's temperature	

Q.47	Who has been honoured with the Goldman Environmental Prize 2024?
Ans	✖ 1. Jadav Payeng
	✔ 2. Alok Shukla
	✖ 3. Maneka Gandhi
	✖ 4. Medha Patkar
Q.48	Which of the following statements correctly describes the static characteristics of transistors in common emitter configuration?
Ans	✖ 1. There is a phase shift of $\frac{\pi}{2}$ between the input and output voltage.
	✔ 2. There is a phase shift of π between the input and output voltage.
	✖ 3. There is a phase shift of $\frac{3\pi}{2}$ between the input and output voltage.
	✖ 4. There is no phase shift between the input and output voltage.
Q.49	When dividing 0.00456 by 0.12, how many significant figures should the result be reported with?
Ans	✖ 1. 1
	✔ 2. 2
	✖ 3. 3
	✖ 4. 4
Q.50	The mean and the standard deviation of 25 observations were given as 42 and 5, respectively. Later it was found that one of the observations was incorrectly entered as 10, when its correct value was 210. What would have been the correct standard deviation?
Ans	✔ 1. $\sqrt{1049}$
	✖ 2. $\sqrt{1050}$
	✖ 3. $\sqrt{1048}$
	✖ 4. $\sqrt{1047}$
Q.51	Which of the following options is used to search for help topics in MS-Word 2021?
Ans	✖ 1. Access 'Help' from the 'View' tab.
	✖ 2. Go to the 'File' tab and select 'Help'.
	✖ 3. Click the 'Help' button in the Ribbon.
	✔ 4. Use the 'Tell me what you want to do' search box.
Q.52	The quadratic equation whose roots are 9 and 11 is:
Ans	✔ 1. $x^2 - 20x + 99 = 0$
	✖ 2. $x^2 + 20x + 100 = 0$
	✖ 3. $x^2 - 20x + 98 = 0$
	✖ 4. $x^2 + 20x - 99 = 0$

Q.53	Which of the following options is NOT used to perform the next animation or advance to the next slide in MS PowerPoint?	
Ans	✗ 1. Enter	
	✗ 2. Shift+F5	
	✓ 3. N	
	✗ 4. Page Down	

Q.54	Convert binary number 1101.1101 into decimal equivalent.	
Ans	✗ 1. 12.8125	
	✓ 2. 13.8125	
	✗ 3. 12.625	
	✗ 4. 13.625	

Q.55	Evaluate: $\frac{1}{\left(\frac{5}{6}\right) + \left(\frac{2}{4}\right)} \div \frac{4}{29}$	
Ans	✗ 1. $5\frac{5}{16}$	
	✓ 2. $5\frac{7}{16}$	
	✗ 3. $5\frac{1}{2}$	
	✗ 4. $5\frac{9}{16}$	

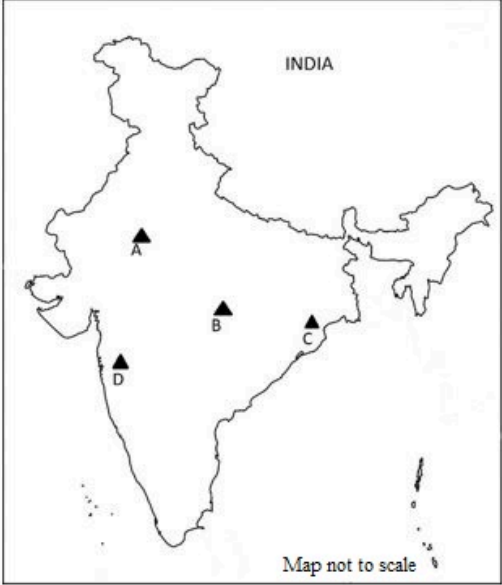
Q.56	What is the formula for the heat produced in a conductor due to the electric current flowing through it?	
Ans	✗ 1. $H = IR^2t$	
	✗ 2. $H = I^2R/t$	
	✗ 3. $H = IRt$	
	✓ 4. $H = I^2Rt$	

Q.57	The Mozilla Firefox/Google Chrome/Microsoft Edge requires support for the _____ protocol.	
Ans	✗ 1. HTTP 2.1	
	✗ 2. HTTP 3.1	
	✓ 3. HTTP 1.1	
	✗ 4. HTTP 1.2	

Q.58	Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)	
Ans	✓ 1. EIRV	
	✗ 2. XBIO	
	✗ 3. KOVB	
	✗ 4. AELR	

Q.59	What is the form of the emf produced in thermocouple? (where Δt =difference in temperature between the hot thermocouple junction and the reference junction of the thermocouple and a, b are constants)
Ans	✖ 1. $E = \frac{a}{(\Delta t)^2}$ ✖ 2. $E = b e^{-a\Delta t}$ ✖ 3. $E = a(\Delta t)$ ✔ 4. $E = a(\Delta t) + b(\Delta t)^2$
Q.60	How do you view hidden files and folders in File Explorer in the Windows OS?
Ans	✔ 1. Go to 'View' -> Select 'Show hidden items' ✖ 2. Right-click -> Select 'View hidden files' ✖ 3. Go to 'Settings' -> Select 'Hidden files' ✖ 4. Go to 'Edit' -> Select 'Show hidden items'
Q.61	What is the name of the astronaut who was selected for the Axiom-4 mission to the International Space Station (ISS) in August 2024?
Ans	✖ 1. Sharmila Bhattacharya ✖ 2. Ashwin Vasavada ✖ 3. Kamlesh Lulla ✔ 4. Shubhanshu Shukla
Q.62	Select the set in which the numbers are related in the same way as are the numbers of the following sets. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g., 13 – Operations on 13 such as adding/deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed) (5, 9, 52) (11, 7, 90)
Ans	✖ 1. (7, 13, 98) ✖ 2. (14, 4, 63) ✖ 3. (8, 11, 95) ✔ 4. (9, 6, 65)
Q.63	What does the middle finger represent in Fleming's Left-Hand Rule?
Ans	✖ 1. Direction of magnetic field ✖ 2. Direction of induced EMF ✔ 3. Direction of current ✖ 4. Direction of force
Q.64	After Indian Hockey Federation was dismissed in 2008 by IOA, _____ was formed.
Ans	✖ 1. Indian Hockey ✔ 2. Hockey India ✖ 3. Hockey Association ✖ 4. National Hockey Federation
Q.65	Which of the following statements regarding the microprocessor 8085 is NOT correct?
Ans	✖ 1. It has serial I/O control, which allows serial communication. ✖ 2. It has a mechanism by which it is possible to increase its interrupt handling capacity. ✖ 3. It can be used to implement three chip microcomputers with supporting I/O devices like IC 8155 and IC 8355. ✔ 4. It does not provide control signal ($IO/\overline{M}$, $\overline{RW}$, $\overline{WR}$) to control the bus cycles, hence external bus controller is required.

Q.66	What is the function of the 'AutoFit' feature in MS PowerPoint?
Ans	✔ 1. Automatically adjusts the size of the text to fit the text box ✘ 2. Automatically adds bullet points to text ✘ 3. Changes the text colour based on the slide background ✘ 4. Aligns text to the centre of the text box

Q.67	In the given map, the location of the Simlipal National Park is shown at: 
Ans	✘ 1. D ✘ 2. B ✔ 3. C ✘ 4. A

Q.68	In an AC circuit, if the power factor is 1, it means that _____.
Ans	✘ 1. all power is reactive power ✔ 2. the circuit is purely resistive ✘ 3. the circuit is purely inductive ✘ 4. the circuit is purely capacitive

Q.69	In an electric motor, what is the purpose of the commutator?
Ans	✘ 1. To increase the motor speed ✔ 2. To reverse the direction of current in the armature ✘ 3. To decrease the motor speed ✘ 4. To supply current to the armature

Q.70	If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', then what will come in place of the question mark (?) in the following equation? 18 A 6 B 11 C 8 D 6 = ?
Ans	✔ 1. 35 ✘ 2. 33 ✘ 3. 36 ✘ 4. 34

Q.71	What was the unemployment rate (UR) in urban areas as of January – March 2024 for persons of age 15 years and above?	
Ans	☒ 1. 67.18%	
	☒ 2. 6.7%	
	☒ 3. 48.35%	
	☒ 4. 53.25%	
Q.72	Which option in the Print dialog box allows you to specify the range of pages to print in Microsoft Word 2010?	
Ans	☒ 1. Printer	
	☒ 2. Pages	
	☒ 3. Orientation	
	☒ 4. Copies	
Q.73	Which of the following terms will replace the question mark (?) in the given series to make it logically complete? PU16 QV18 RW22 SX28 ?	
Ans	☒ 1. TZ36	
	☒ 2. TZ37	
	☒ 3. TY36	
	☒ 4. TY37	
Q.74	A car engine generates a force of 10000 N to move the car 1.2 km in 2 minutes. What is the power of the engine?	
Ans	☒ 1. 1000 kW	
	☒ 2. 100 kW	
	☒ 3. 10 kW	
	☒ 4. 200 kW	
Q.75	When the displacement of a spring is reduced to half its original value, and the spring constant remains unchanged, what happens to the spring's potential energy?	
Ans	☒ 1. It decreases to 1/2 of its original value	
	☒ 2. It decreases to 1/4 of its original value	
	☒ 3. It increases to 2 times its original value	
	☒ 4. It remains unchanged	
Q.76	The points (-5, 1), (1, k) and (4, -2) are collinear if the value of k is	
Ans	☒ 1. -1	
	☒ 2. 2	
	☒ 3. 3	
	☒ 4. 1	
Q.77	If $U = \{ 1, 2, 3, 4, 5, 6, 7, 8, 9 \}$, and $B = \{ 2, 4, 6, 8 \}$, then the number of elements in the set B' is:	
Ans	☒ 1. 5	
	☒ 2. 9	
	☒ 3. 8	
	☒ 4. 4	

Q.78	A and B are two independent events. If $P(A) = 0.4$ and $P(B) = 0.6$, then the $P(A \text{ or } B)$ is equal to:	
Ans	 1. 0.66	
	 2. 0.78	
	 3. 0.68	
	 4. 0.76	
Q.79	Which menu option allows you to change the height and width of cells in MS-Excel?	
Ans	 1. Format	
	 2. Review	
	 3. Insert	
	 4. Page Layout	
Q.80	If the heights of two cones are in the ratio 11 : 9 and their diameters are in the ratio 6 : 11, what is the ratio of their volumes?	
Ans	 1. 11 : 3	
	 2. 11 : 4	
	 3. 3 : 11	
	 4. 4 : 11	
Q.81	A voltmeter has a uniform scale with 100 divisions; the full-scale reading is 300 V and 1/10 of a scale division can be estimated with a fair degree of certainty. Determine the resolution of the instrument in volt.	
Ans	 1. 0.1 V	
	 2. 0.5 V	
	 3. 0.2 V	
	 4. 0.3 V	
Q.82	The first and last terms of an A.P. are 28 and 31. If the sum of its terms is 236, then the number of terms will be?	
Ans	 1. 8	
	 2. 11	
	 3. 6	
	 4. 5	
Q.83	Refer to the following letter, number and symbol series and answer the question that follows. (Left) 6 2 8 # 7 \ 2 L % 9 3 3 \ / + H 2 \$ S P # H (Right) How many such symbols are there that are immediately preceded by a letter and immediately followed by a number?	
Ans	 1. One	
	 2. Two	
	 3. Four	
	 4. Three	

Q.84	Six people P, Q, R, S, T and U live on six different floors of the same building. The bottom-most floor of the building is numbered as 1; the floor above it is numbered as 2 and so on. The topmost floor is numbered as 6. P lives on an even-numbered floor but not on floor number 4. Only two people live between S and P. R lives immediately below T. U lives on an even-numbered floor. Q does not live on the bottom-most floor. How many people live between Q and S?	
Ans	1. Three 2. One 3. Four 4. Two	
Q.85	How can a user define cell address in an MS Excel sheet?	
Ans	1. Column letter plus row number 2. Column letter plus row letter 3. Column number plus row letter 4. Column number plus row number	
Q.86	In a school there are 26 teachers who teach mathematics or physics. Of these, 14 teach mathematics and 6 teach both physics and mathematics. How many teach physics ?	
Ans	1. 8 2. 12 3. 10 4. 14	
Q.87	In the case of a conservative force, the potential energy _____.	
Ans	1. can be defined for any configuration of the system 2. depends on the work done by friction 3. is zero 4. is path dependent	
Q.88	A metal rod of length 1.5 m moves with a velocity of 10 m/s through a uniform magnetic field of 2 T. What is the magnitude of the induced EMF if the rod moves at an angle of 60° to the magnetic field?	
Ans	1. 30 volts 2. 36 volts 3. 18 volts 4. 26 volts	
Q.89	Which of the following is an ancient Jain text written by Acharya Umaswami that explains the Jain philosophy in the most systematic form acceptable to all sects of Jainism?	
Ans	1. Svayambhu Stotra 2. Atthapahuda 3. Tattvarthasutra 4. Pravacanasara	
Q.90	Which of the following household appliances uses the principle of electromagnetic induction?	
Ans	1. Toaster 2. Refrigerator 3. Electric Fan 4. Electric Iron	

Q.91	Which of the following will NOT produce an induced current in a coil?
Ans	✖ 1. Moving the coil towards a stationary magnet
	✖ 2. Rotating the coil within a magnetic field
	✖ 3. Increasing the number of turns in the coil while changing the magnetic flux
	✔ 4. Moving the coil parallel to the magnetic field lines
Q.92	Which of the following correctly describes the most useful biasing conditions of the emitter-base and base-collector junctions (common base configuration) for a Bipolar Junction Transistor (BJT) among its different modes of operation?
Ans	✖ 1. Active Mode: Emitter-base junction is reverse-biased, and base-collector junction is forward-biased.
	✔ 2. Active Mode: Emitter-base junction is forward-biased, and base-collector junction is reverse-biased.
	✖ 3. Cut-off Mode: Both emitter-base and base-collector junctions are forward-biased.
	✖ 4. Saturation Mode: Both emitter-base and base-collector junctions are reverse-biased.
Q.93	Choose the correct statement related to government expenditure.
Ans	✖ 1. Revenue expenditure directly contributes to GDP growth.
	✖ 2. Revenue expenditure impacts assets liability of the government.
	✖ 3. Revenue expenditure does not impact assets liability of the government.
	✔ 4. Capital expenditure directly contributes to GDP growth.
Q.94	Which of the following statements is true about the accuracy of an analog to digital (A/D) converter?
Ans	✖ 1. A dual-slope integrating-type A/D converter has the same accuracy as a single-slope integrating-type A/D converter.
	✖ 2. A dual-slope integrating-type A/D converter has a very small accuracy than a single-slope integrating-type A/D converter.
	✔ 3. A dual-slope integrating-type A/D converter has a higher accuracy than a single-slope integrating-type A/D converter.
	✖ 4. A dual-slope integrating-type A/D converter has a small accuracy than a single-slope integrating-type A/D converter.
Q.95	$\triangle ABC$ is such that $AB = 5$ cm, $BC = 4$ cm and $CA = 4.5$ cm. $\triangle XYZ$ is similar to $\triangle ABC$. If $YZ = 8$ cm, then find the perimeter of $\triangle XYZ$.
Ans	✖ 1. 28 cm
	✔ 2. 27 cm
	✖ 3. 26 cm
	✖ 4. 25 cm
Q.96	The voltage range of resistance-voltage divider is limited to a few:
Ans	✖ 1. Micro volts
	✖ 2. Milli Volts
	✖ 3. Volts
	✔ 4. Kilo Volts
Q.97	Match the options from Group A with Group B regarding Auto Fill Options in MS-Excel sheets. Group A Group B 1. Copy Cells. I. Copy only the cell formatting 2. Fill Formatting Only II. Copy the entire contents of the cell, including the formulas and the formatting 3. Fill Without Formatting III. Copy the contents of the cell, including the formulas but not the formatting
Ans	✖ 1. 1-II, 2-III, 3-I
	✖ 2. 1-III, 2-I, 3-II
	✔ 3. 1-II, 2-I, 3-III
	✖ 4. 1-I, 2-II, 3-III

Q.98	Select the most appropriate option to fill in the blank. For a given accelerating voltage E_a and for particular dimensions of CRT, the deflection of the electron beam is _____ to the deflecting voltage.	
Ans	☒ 1. independent	
	☒ 2. directly proportional	
	☒ 3. inversely proportional	
	☒ 4. square proportional	
Q.99	A statement is given followed by two arguments. Decide which of the arguments is/are strong with respect to the statement. Statement: The Government of State A is planning to shut down all markets by 7 pm. Arguments: I. Incidents of shoplifting and attempted robberies have increased especially during night time. II. Many people get time to shop only after office hours.	
Ans	☒ 1. Both I and II strengthen the statement.	
	☒ 2. I weakens while II strengthens the statement.	
	☒ 3. Both I and II weaken the statement.	
	☒ 4. II weakens while I strengthens the statement.	
Q.100	What is the purpose of the 'Sleep' option in the Windows OS?	
Ans	☒ 1. To shut down the system	
	☒ 2. To restart the system	
	☒ 3. To save all open documents and programs while reducing power consumption	
	☒ 4. To delete temporary files	