रेलवे भर्ती बोर्ड | RAILWAY RECRUITMENT BOARD

सीईएन ०१/२०२६ सहायक लोको पायलट (एएलपी) के पद पर भर्ती

CEN 01/2026 Recruitment of Assistant Loco Pilot (ALP)

सत्यमेव जयते

Test Date	04/11/2026
Test Time	12:30 PM - 1:30 PM
Subject	RRB ALP 2026 CBT 1

*** 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 ALP**

Q.1 **Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.**

TRT−WUW
IGI−LJL

Ans A). DAB−FDF B). DBD−GEG C). DBD−FEF D). DAB−GEG

Correct Answer: B

Q.2 **S, T, U, V, and W are sitting around a circular table facing the center. U sits to the immediate right of S. V sits second to the left of U. W is not an immediate neighbor of V. Who is sitting immediately to the left of W?**

Ans A). U B). S C). T D). V

Correct Answer: A

Q.3 **Which of the following numbers is divisible by both 19 and 46?**

Ans A). 17039 B). 17849 C). 15005 D). 16606

Correct Answer: D

Q.4 **In a certain code language, 'XJCQ' is coded as '108' and 'PNST' is coded as '78'. What is the code for 'OBYN' in the given code language?**

Ans A). 108 B). 104 C). 101 D). 110

Correct Answer: B

Q.5 **AB and CD are two parallel lines. Another line EF cuts these parallel lines at M and N, respectively. The bisectors of angles BMN and MND meet at the point P. Which of the following statements is true?**

Ans A). MNP is a right-angled triangle with right angle at M. B). MNP is a right-angled triangle with right angle at N.
C). MNP is not a right-angled triangle. D). MNP is a right-angled triangle with right angle at P.

Correct Answer: D

Q.6 **Which value represents the pressure exerted by the blood on artery walls when the heart contracts?**

Ans A). Air pressure B). Diastolic pressure C). Mean arterial pressure D). Systolic pressure

Correct Answer: D

Q.7 **If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', then what will come in place of question mark (?) in the following equation?**

2 B 1 D 6 A 2 C 3 = ?

Ans A). 5 B). 2 C). 8 D). 7

Correct Answer: B

Q.8 The position(s) of how many letters will remain unchanged if each letter in the word CONSULT is arranged in the English alphabetical order?

Ans A). One B). None C). Three D). Two

Correct Answer: D

Q.9 A movie received ratings from two groups of viewers. Forty viewers gave an average rating of 8 points, while sixty viewers gave an average rating of 7 points. What was the overall average rating?

Ans A). 7.6 B). 7.4 C). 7.2 D). 7.5

Correct Answer: B

Q.10 A man has invested ₹56,500 at a rate of 8% per annum simple interest for 3 years. Find the amount (in ₹) that he will receive after 3 years.

Ans A). 70,060 B). 70,600 C). 69,060 D). 69,600

Correct Answer: A

Q.11 A tap fills a tank in 8 hours, while another tap empties the full tank in 16 hours. If the tank is initially empty and both taps are opened together, how long (in hours) will it take to fill half of the tank?

Ans A). 8 B). 12 C). 24 D). 16

Correct Answer: A

Q.12 A sum is invested at compound interest (compounded annually) at 12% per annum. If it amounts to ₹25,088 after 2 years, what was the sum invested?

Ans A). ₹19,000 B). ₹20,000 C). ₹21,000 D). ₹22,000

Correct Answer: B

Q.13 Roshan runs from point A to point B at a speed of 25 km/h and returns from point B to point A at 31 km/h. Find the average speed for the entire trip (rounded off to two decimal places).

Ans A). 27.84 km/h B). 27.49 km/h C). 27.32 km/h D). 27.68 km/h

Correct Answer: D

Q.14 Evaluate the following.

$$\frac{\sin^2\theta - 2\sin^4\theta}{2\cos^3\theta - \cos\theta}$$

Ans A). $\cot\theta\sin\theta$ B). $\cos\theta\cot\theta$ C). $\tan\theta\sin\theta$ D). $\tan\theta\sec\theta$

Correct Answer: C

Q.15 A school's attendance dashboard records the attendance for five consecutive days. The attendance on four days was 48, 50, 47, and 53 students. If the dashboard reports an average attendance of 50 students over all five days, what was the attendance on the fifth day?

Ans A). 50 B). 51 C). 54 D). 52

Correct Answer: D

Q.16 A premium headphone was available for ₹15,300 after successive discounts of 15% followed by 10% on its marked price. What was its marked price (in ₹)?

Ans A). 20,000 B). 21,000 C). 19,500 D). 18,000

Correct Answer: A

Q.17 Seven boxes, C, D, E, F, K, L and M, are kept one over the other but not necessarily in the same order. F is kept second from the bottom. Only three boxes are kept between F and C. M is kept at one of the positions below F. Only E is kept between C and D. K is kept at one of the positions above C. How many boxes are kept between L and C?

Ans A). Two B). Three C). One D). Four

Correct Answer: A

Q.18 This question is based on the five, three-digit numbers given below.

(Left) 241 826 356 742 961 (Right)

(Example- 697 – First digit = 6, second digit = 9 and third digit = 7)

What will be the resultant if the third digit of the second highest number is multiplied with the third digit of the second lowest number?

Ans A). 36 B). 18 C). 9 D). 56

Correct Answer: A

Q.19 A machine originally costs ₹25,000. If the rate of depreciation is 4% per annum, find the value of the machine after two years.

Ans A). ₹23,040 B). ₹23,400 C). ₹24,400 D). ₹24,040

Correct Answer: A

Q.20 **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.**
Among 5 poles, A,W,V,G and E each having a different height, which pole is the shortest?
(I)G is taller than only one pole. A is taller than W.
(II)G is taller than E

Ans A). Both statements I and II together are NOT sufficient to answer the question

B). Data in Statement II alone is sufficient to answer the question while data in statement I is not

C). Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question.

D). Data in Statement I alone is sufficient to answer the question while data in statement II is not

Correct Answer: C

Q.21 **Which gas is always produced when a carbon compound undergoes complete combustion in the presence of sufficient oxygen?**

Ans A). Oxygen B). Carbon monoxide C). Methane D). Carbon dioxide

Correct Answer: D

Q.22 **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?**

29 D 28 A 11 B 44 C 41 = ?

Ans A). −42 B). −40 C). −41 D). −44

Correct Answer: A

Q.23 **Seven people, E, F, G, H, W, X and Y, are sitting around a circular table, facing the center of the table. G sits third to the right of F. H sits fourth to the right of Y. Only two people sit between F and Y, when counted from the left of F. W is not an immediate neighbor of H or F. X is not an immediate neighbor of W. Who sits third to the right of E?**

Ans A). Y B). X C). F D). G

Correct Answer: B

Q.24 **What should come in place of '?' in the given series?**
162 153 143 134 124 115 ?

Ans A). 112 B). 103 C). 108 D). 105

Correct Answer: D

Q.25 **In a school, Class X is divided into three sections: A, B, and C. The ratio of students in sections A and B is 1 : 3, and the ratio of students in sections B and C is 4 : 5. If the total number of students in Class X is 341, how many students are there in Section A?**

Ans A). 40 B). 46 C). 42 D). 44

Correct Answer: D

Q.26 **Simplify the following-**

$(6561)^{0.18} \times (6561)^{0.07}$

Ans A). 5 B). 4 C). 6 D). 9

Correct Answer: D

Q.27 **Each of N, Q, V, C, T, G and K has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. G has the exam on Thursday. Only five people have exams after V. Only one person has the exam between K and G. Q has the exam before G but after C. T does not have the exam on Friday. Who has the exam immediately before K?**

Ans A). T B). N C). C D). G

Correct Answer: B

Q.28 Find the value of m which sastisfies the equation: $\left(\frac{11}{3}\right)^3 \times \left(\frac{3}{11}\right)^{13} \times \left(\frac{11}{3}\right)^6 = \left(\frac{3}{11}\right)^{3m+11}$

Ans A). $-\frac{5}{3}$ B). $-\frac{7}{3}$ C). $\frac{7}{3}$ D). $\frac{5}{3}$

Correct Answer: B

Q.29 **In a certain code language, 'UHRD' is coded as '57' and 'SALM' is coded as '63'. What is the code for 'YFCP' in the given code language?**

Ans A). 55 B). 58 C). 61 D). 52

Correct Answer: B

Q.30 If $12 \sin y + \cos y = \sqrt{8} \sin y$, find the value of $\tan y$.

Ans A). $\frac{-12 - \sqrt{8}}{136}$ B). $\frac{-13 - \sqrt{8}}{136}$ C). $\frac{-12 - \sqrt{8}}{141}$ D). $\frac{-12 - \sqrt{8}}{146}$

Correct Answer: A

Q.31 **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.**

Q. Five people – Gautam, Hiral, Ivaan, Jivika and Keshav – are standing in a queue. Who is standing last?

(I) Hiral is behind Ivaan but ahead of Gautam.
(II) Jivika is behind Gautam, and Keshav is behind Jivika.

Ans A). Both statements I and II together are NOT sufficient to answer the question

B). Both statements I and II together (and not statement I alone or statement II alone) are sufficient to answer the question

C). Data in Statement I alone is sufficient to answer the question while data in Statement II is not

D). Data in Statement II alone is sufficient to answer the question while data in Statement I is not

Correct Answer: B

Q.32 **Each of L, M, N, O, G, H and I has exam on a different day of a week starting from Monday and ending on Sunday of the same week. Only M has exam before N. Only three people have exam between L and H. Only three people have exam between I and N. O has exam on some day before H and on some day after G. How many people have exam after L?**

Ans A). One B). Three C). Two D). Four

Correct Answer: D

Q.33 **Below are given two sets of numbers. In each set of numbers, a certain mathematical operation on the first number results in the second number. Similarly, certain mathematical operations on the second number results in the third number and so on. Which of the given options follows the same set of operations as in question?**
(NOTE – A two/three digit number cannot be broken into individual digits for operations e.g. if 37 is followed by 10, the operation cannot be 3+7 as a two digit number cannot be broken into individual digits)
3 – 12 – 24 – 36 ; 5 – 20 – 40 – 52

Ans A). 8 – 32 – 64 – 74 B). 4 – 16 – 32 – 44 C). 7 – 28 – 54 – 66 D). 6 – 30 – 60 – 72

Correct Answer: B

Q.34 **ORVX is related to YBFH in a certain way based on the English alphabetical order. In the same way, ADHJ is related to KNRT. To which of the following is JMQS related, following the same logic?**

Ans A). TXZB B). TVZC C). TWAC D). TWZC

Correct Answer: C

Q.35 **If the selective re-absorption in nephron stopped functioning, which of the following would likely happen?**

Ans A). More waste would be conserved in the body B). Filtration would stop completely C). Urine would become solid

D). Essential nutrients would be lost in urine

Correct Answer: D

Q.36 **After replacing old appliances with energy-efficient models, a household reduced its monthly electricity consumption by 15%. If it previously consumed 400 units of electricity per month, how many units does it consume now?**

Ans A). 365 B). 340 C). 345 D). 300

Correct Answer: B

Q.37 **This question is based on the following words.**
DEN GOD WAR BOA
In each of the words, each vowel is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. In how many letter-clusters thus formed, will no vowel appear?

Ans A). Two B). Four C). One D). Three

Correct Answer: D

Q.38 **What will be the total cost (in ₹) of polishing the curved surface of a wooden cylinder at a rate of ₹165 per m^2, if it has 20 cm radius and 7 m height?**

Ans A). 1,524 B). 1,245 C). 1,452 D). 2,145

Correct Answer: C

Q.39 **Arvind starts from Point A and drives 9 km towards north. He then takes a right turn, drives 13 km, turns right and drives 11 km. He then takes a right turn and drives 18 km. He takes a final right turn, drives 2 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90-degree turns only unless specified.)**

Ans A). 4 km to the east B). 4 km to the west C). 5 km to the east D). 5 km to the west

Correct Answer: C

Q.40 **Refer to the following letter series and answer the question**
(Left) W Z L V B R O F V Y N K H V N T G B J D C Y Z Q D X (Right)
How many letters are there in the English alphabetical series between the letter which is third from the left end and third from the right end of the series?

Ans A). Five B). Six C). Four D). Three

Correct Answer: C

Q.41 **Each vowel in the word REFLIMS is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. How many letters will appear exactly twice in the new group of letters thus formed?**

Ans A). 0 B). 3 C). 1 D). 2

Correct Answer: A

Q.42 **A circle of diameter 50 cm has two equal parallel chords of length 14 cm each separated by a distance y cm. Find the value of y.**

Ans A). 48 B). 24 C). 36 D). 28

Correct Answer: A

Q.43 **21 is related to 147 following a certain logic. Following the same logic, 25 is related to 175. To which of the given options is 33 related, following the same logic?**
(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 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.)

Ans A). 251 B). 231 C). 241 D). 221

Correct Answer: B

Q.44 **Each vowel in the word PRINTED is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. Which of the following letters will be third from the left in the new group of letters thus formed?**

Ans A). J B). F C). S D). M

Correct Answer: A

Q.45 **Each of A, B, E, F, G, H and I has exam on a different day of a week starting from Monday and ending on Sunday of the same week. E has exam on Saturday. H has exam immediately before A. B has exam on one of the days after F. I has exam immediately after A. Only one person has exam between E and G. How many people have exam between A and B?**

Ans A). Three B). One C). Two D). Four

Correct Answer: D

Q.46 **Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair 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 A). EA – VR B). UQ – LH C). RN – IE D). OK – GB

Correct Answer: D

Q.47 **In this question, a group of numbers/symbols is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then the codes for the respective number/symbol are to be followed directly as given in the table.**

Number/Symbol	8	6	%	5	#	!	&	9	3	?
Code	Y	A	V	J	P	Q	N	X	K	I

Conditions –
(i) If the first element is a symbol and the last element is a number, interchange their codes.
(ii) If the second and third elements are odd numbers, code the third as the code of the second.
(iii) If the fourth element is a symbol and the fifth element is a number, code both as ©.

What will be the code for the following group?
8 6 % 5 #

Ans A). YANJP B). YAVJP C). YAVJZ D). PAVJP

Correct Answer: B

Q.48 A car's radiator should contain a solution of 84% antifreeze. A motorist has 4 litres of 54% antifreeze. How many litres (rounded off to 2 decimal places) of 95% antifreeze liquid should he add to his solution to produce a 84% antifreeze?

Ans A). 10.91 B). 16.93 C). 14.46 D). 6.85

Correct Answer: A

Q.49 A shopkeeper buys 78 dozen articles at ₹168 per dozen. He sells each article for ₹35. What is his profit percentage?

Ans A). 140% B). 160% C). 150% D). 130%

Correct Answer: C

Q.50 Find the curved surface area (in cm^2) of the cylinder of radius 6 cm and height 14 cm. (Use π = 22/7)

Ans A). 528 B). 522 C). 526 D). 524

Correct Answer: A

Q.51 Simplify $(17pq + 16q)^2 - (17pq - 16q)^2$.

Ans A). $544pq^2$ B). $1088pq^2$ C). $544p^2q^2$ D). $1088p^2q$

Correct Answer: B

Q.52 What should come in place of '?' in the given series?
62 73 95 139 227 ?

Ans A). 408 B). 407 C). 401 D). 403

Correct Answer: D

Q.53 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 is the one that 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 A). VBFI B). UAEH C). RXBE D). GNQT

Correct Answer: D

Q.54 A car accelerates from rest at a constant rate. After 5 seconds, its velocity is 20 m/s. Using the graphical representation of motion, which equation would you use to find the distance covered in those 5 seconds, and what is the result?

Ans A). Use $s = ut + 1/2\ at^2$, so distance = 50 m B). Use p = mv, so distance = 25 m C). Use v = u + at, so distance = 20 m D). Use F = ma, so distance = 100 m

Correct Answer: A

Q.55 Select the pair which follows the same pattern as that followed by the two set of pairs given below. Both pairs follow the same pattern.

OAT : QWV
SSX : UOZ

Ans A). TKY : WGB B). LWK : PUO C). WKB : YGD D). UST : WPV

Correct Answer: C

Q.56 What should come in place of '?' in the given series?

6 10 18 34 66 ?

Ans A). 128 B). 133 C). 134 D). 130

Correct Answer: D

Q.57 During an experiment, a student mistakenly identifies the lever's load arm as the part where force is always applied. Which concept best corrects this misunderstanding?

Ans A). The base is the force direction B). The load arm supports the fulcrum C). The fulcrum is the force application point D). The effort arm is where force is applied

Correct Answer: D

Q.58 Vinod starts from Point A and drives 7 km towards East. He then takes a left turn, drives 9 km, turns left and drives 3 km. He then takes a left turn and drives 15 km. He then takes a left turn and drive 5 km. He then takes a right turn and drives 4 km. He takes a final right turn, drives 9 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

Ans A). 9km North B). 12km North C). 10km North D). 11km North

Correct Answer: C

Q.59 Simplify: $\left(\frac{9x^2 - 68xy + 64y^2}{3x - 8y} - 3x + 8y + \frac{10xy}{3x - 8y}\right)\left(\frac{64y^2 - 9x^2}{3x + 8y}\right)$

Ans A). −10xy B). 10xy C). 3x − 8y D). 3x + 8y

Correct Answer: B

Q.60 **Which statement best describes the valency of an element?**

Ans A). It is the total number of nucleons in the nucleus B). It is the total number of protons in the nucleus of an atom

C). It is the difference between the number of neutrons and protons in an atom

D). It is the combining capacity based on electrons lost, gained, or shared

Correct Answer: D

Q.61 **Refer to the following letter and symbol series and answer the question that follows. Counting to be done from left to right only.**
(Left) # V $ A U % * € V S C & O X & Z * % @ @ F I (Right)
How many such letters are there, each of which is immediately preceded by a letter and also immediately followed by a symbol?

Ans A). 4 B). 8 C). 3 D). 5

Correct Answer: C

Q.62 **This question is based on the following words.**

ART LOW CRY FLU

In each of the words, each vowel is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. In how many letter clusters thus formed, will no vowel appear?

Ans A). Two B). Three C). Four D). One

Correct Answer: B

Q.63 **Ai, Bf, Cx, Dj, Ey, Fu and Gt are sitting around a circular table facing the centre. Bf sits second to the right of Cx. Gt sits second to the left of Cx. Dj sits to the immediate left of Ai. Ey sits second to the right of Fu. How many people sit between Ey and Gt when counted from the left of Ey?**

Ans A). Four B). One C). Three D). Two

Correct Answer: D

Q.64 **If + means -, - means ×, × means ÷, and ÷ means +, then what will come in place of the question mark (?) in the following equation?**

86 - 13 ÷ 127 + 684 × 12 = ?

Ans A). 1135 B). 1122 C). 1169 D). 1188

Correct Answer: D

Q.65 **A store stocks two types of digital storage devices, X and Y, in the ratio 3 : 8. If 24 devices are of type X, by how many does the number of type Y devices exceed type X devices?**

Ans A). 32 B). 40 C). 48 D). 64

Correct Answer: B

Q.66 **Refer to the following letter and symbol series and answer the question that follows. Counting to be done from left to right only.**

(Left) J H # P N @ $ R & Z Ω T £ D V R Y (Right)

How many such consonants are there, each of which is immediately preceded by a symbol and also immediately followed by a consonant?

Ans A). Two B). One C). None D). Three

Correct Answer: A

Q.67 **In this question, a group of number/symbol is coded using letter codes as per the codes given below and the conditions which follow. The correct combination of codes following the conditions is your answer. If none of the conditions follow, then codes for the respective Number/Symbol are to be followed directly as given in the table.**

Number/symbol ! * 3 # @ % 8 6 $?

Code A E B D L Z T Q J I

Conditions –
(i) If the first element is a symbol and the last element is a number, interchange the codes of the first and the last elements.
(ii) If the second and third elements are odd numbers, code the third element as the code of the second element.
(iii) If the fourth element is a symbol and the fifth element is a number, code both elements as ©.

What is the code for the following group of number-symbols?
! * 3 # @

Ans A). ZEBDL B). LEBDL C). AEQDL D). AEBDL

Correct Answer: D

Q.68 **A mobile accessories retailer cleared a batch of unsold chargers during an end-of-season sale. The batch had originally cost ₹6,000 but was sold for ₹5,700 to free up shelf space. What was the retailer's loss (in ₹)?**

Ans A). 320 B). 280 C). 290 D). 300

Correct Answer: D

Q.69 **A, B, C, D and E have different ages. C is younger than only D and E. A is older than B but younger than C.**
Who is the youngest?

Ans A). A B). D C). C D). B

Correct Answer: D

Q.70 **Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?**
DFC 11, IKH 18, NPM 25, SUR 32, ?

Ans A). VXZ 39 B). XZW 39 C). UXW 38 D). ZWX 38

Correct Answer: B

Q.71 **Which of the following pairs of glands secrete fluids that nourish sperm and help them remain active?**

Ans A). Seminal vesicles and prostate B). Vas deferens and urethra C). Testes and scrotum D). Scrotum and urethra

Correct Answer: A

Q.72 **4 is related to 38 following a certain logic. Following the same logic, 9 is related to 83.**
To which of the following is 13 related, following the same logic?
(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 /subtracting /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.)

Ans A). 112 B). 119 C). 109 D). 115

Correct Answer: B

Q.73 **Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?**
RGZ 12, VDD 17, ZAH 22, DXL 27, ?

Ans A). GVR 30 B). HUP 32 C). GUQ 32 D). HWQ 30

Correct Answer: B

Q.74 **If 1 is added to each even digit and 1 is added to each odd digit in the number 5287463, then what will be the sum of all the odd digits in the new number thus formed?**

Ans A). 22 B). 24 C). 20 D). 26

Correct Answer: B

Q.75 **Which of the following statements about resistivity is correct?**

Ans A). Resistivity remains constant for a material at a given temperature B). Resistivity varies with the current
C). Resistivity depends on the frequency of current D). Resistivity changes with applied voltage

Correct Answer: A

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