पश्चिम रेलवे
Western Railway

No. E/ELT/1025/7/1 (INSTRUCTOR-TRS) 376495

मंडल रेल प्रबंधक का कार्यालय
मुंबई सेंट्रल
दिनांक : 29-12-2025

NOTIFICATION/अधिसूचना

Sub: Filling up the Ex-cadre posts of Sr. Instructor(EMU-RS) in Level-7 at the Electrical Training Centre(ETC-VR), Electrical Traction Department.

Ref: 1 Railway Board's Letter No.E(MPP)/2018/3/5 dtd. 19-06-2018(RBE No. 93/2018).
2. Railway Board's Letter No. E(NG/2017/PM 1/11 dtd. 13-05-2019(RBE 79/2019).
3. Railway Board's Letter No. E(NG/2017/PM 1/11 dtd. 13-01-2021(RBE 104/2023).
4. Railway Board's letter No. E(NG) 1/2018/PM-1/4 dtd. 14.11.19 (RBE No. 194/2019)

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It is proposed to fill up the following Ex-cadre posts of Sr. Instructor(EMU-RS) in Level-7 at the Electrical Training Centre(ETC-VR), Electrical Traction Department through a process of Selection by inviting the applications from the employees working in the category of SSE/EMU/Carshed Unit in Level-7 fulfilling the following eligibility criteria:-

1. No of Posts proposed to be filled:

SN	TRAINING CENTRE	NAME OF THE POST	PAY SCALE/LEVEL	NO OF POSTS
1	ETC-VR	Sr. Instructor(EMU-RS)	Rs. 9300-34800+4600 GP, Level-7	03 (Three)

2. Eligibility Condition:

(a) The applicants should not have crossed the age of 58 years as on the date of Notification.
[Authority : Railway Board's Letter No. E(MPP)2023/3/6 dtd. 04-09-2023(RBE 104/2023)]

(b) For the post of Sr.Instructor(EMU-RS) in Level-7, SSE/EMU/CS in Level-7 working on regular basis are eligible to apply. If staffs in Identical Grade Pay are not available, then staff in next below GP i.e. 4200, Level-6 may be considered and then the post will be operated in GP 4200/Level-06. MACPs granted in Level-7/GP Rs. 4600/- will not be allowed to determine the eligibility.

3. Selection Process:

(a) Selection consists of Written test (75 marks) and Classroom Lecture trial(25 marks).

(b) Selection Committee Constitution to be in terms of Railway Board's Letter No. E(MPP)/2018/3/5 dtd. 19-06-2018 (RBE No. 93/2018). Principal/Head of the Training Institute shall be associated in the class room trial. Thus, the above selection process will evaluate the knowledge as well as communication skill of the candidates as both are required for the post of Instructor.

(c) Maximum Marks-100, Qualifying Marks-60%.
[Authority : Railway Board's Letter No. E(NG/2017/PM 1/11 dtd. 13-05-2019(RBE 79/2019)]

(d) In terms of Railway Board's Letter No. E(NG)I2018/PM14 dtd. 14-12-2018(RBE No. 196/2018), the Question paper will be 100% Objective type.

(e) In terms of Railway Board's letter No. E(NG) 1/2018/PM-1/4 dtd. 14.11.19 (RBE No. 194/2019) there will be negative marking @ 1/3 mark for a wrong answer.

(f) The above examination will be held through CBT (Computer Bases Test)as per Railway Bd's letter No.2025/E(RRB)/25/14 dtd-21.08.2025.

4. Tenure:

Tenure will be of 5 years in the Training Institute.

[Authority : Railway Board's Letter No. E(NG/2017/PM 1/11 dtd. 13-01-2021(RBE 04/2021)]

5. Teaching Allowance:

Selected candidates for the post of Sr.Instructor(EMU-RS) are entitled to draw Teaching Allowance as admissible from time to time and the allowance will not form part of pay, but will count for the purpose of leave salry. Present rate of Teaching allowance is 12% Basic Pay.

[Authority : Railway Board's Letter No. E(MPP)2012/3/28 dtd. 06-10-2017(RBE 145/2017)]

6. Since the post of Instructor is an Ex-cadre post and filled on volunteer basis, no rule of reservation is applicable.

7. The post of Instructor is Ex-cadre post, tenure of which will not exceed more than 5 years. As such selected candidates will be posted for maximum of 5 years. On completion of their tenure they will be repatriated back to their original stream/post where their seniority and lien is maintained.

8. Lien of the selected employees will be maintained in their parent cadre/department.

9. No supplementary written test is permissible, since the selection is conducted calling volunteers.

10. Those Instructors who have already repatriated may apply again only after a reasonable gap of at least one year. Once the candidate is selected and posted as Instructor on the basis of his empanelment, his refusal for the same will not be entertained as well as is liable for being dealt with under DAR. This should be got noted carefully by the staff applying for the posts.

11. The employees posted as Instructor will be repatriated to the parent cadre at least six months prior to the date of his superannuation.

This may be notified to all concerned immediately and staff desirous for the above post should apply ONLINE only on our official website http://203.153.40.19/bct(e-karmik) as well as through mobile app on E-karmik BCT(download through play store) on or before 15-01-2026 till 17:00 hrs. No direct application after due date will be entertained.

Syllabus of written test for filling up of above post is enclosed herewith as Annexure-I.

This issues with the approval of competent authority.

Encl: Annexure-I

Digitally Signed by Amrit Lal Meena
Date: 29-12-2025 17:16:53
Reason: Approved

(अमृत लाल मीना)
सहायक कार्मिक अधिकारी(स्थापना)
कृते मंडल रेल प्रबंधक(स्थापना)

C/- GM(E)CCG, Sr. DEE/RS/BCT/VR, Sr. DFM/BCT, DEE/RS/BCT, AEE/RS/BCT/KILE/VR, SSE/HR-BCT,KILE,VR
C/-Divl.Secy.WREU-GTR, WRMS-BCT, Zonal SECY: SC-ST Association BCT, OBC Association PDGR
" इस आर्डर की कॉपी इंटरनेट पर 203.153.40.19 address पर अथवा E/Karmik/BCT मोबाइल application के Memo/Notification के अंतर्गत देखी व् डाऊनलोड की जा सकती है . भविष्य में कार्मिक विभाग द्वारा पब्लिश की जाने वाली सभी सूचनाएं के लिए उपरोक्त एप /पोर्टल देखे"।

SYLLABUS FOR SELECTTON OF EMU (RS) TNSTRUCTORS

Sr.no.	Syllabus
1	Traction
1.1.1	Advantage & disadvantage of Electric Traction over conventional steam Traction and Diesel Traction
1.1.2	Comparison & advantages of 3 phase Traction & conventional Traction
1.2.1	Characteristics and performance of AC&DC Electric Motors and Choice of motors for Traction application
1.2.2	Advantage of 3 ph. induction Motors over conventional DCSeries motor
1.3	Traction Mechanics-Speed time curves, type of services, recommended values of acceleration and retardation for various types of services. Tractive effort, Tractive effort-Speed Characteristics, specific energy consumption, weight transfer due to draw bar Pull and spinning of traction motor, weight transfer due to torque exerted by traction Motors
1.4	Braking: Weight transfer during braking, co-efficient of adhesion, slip-slide, detection device for wheel slip., factors affecting slip
1.4.1	Pneumatic and Electrical brake circuit
1.4.2	Brake Controller
1.4.3	Combined brake unit
1.4.4	Limiting and safety valve
1.4.5	Brake Cylinder
1.4.6	Regenerative braking
1.4.7	Brake Blending in 3 phase EMU
1.4.8	Trouble shooting procedure in case Brake binding
1.4.9	Modification to minimize Brake Binding and Parking brakes
1.5	Traction Motor Control
1.5.1	Speed control of 3 phase Induction Motors
1.5.2	Suitability of 3 phase induction motors for Traction application
1.5.3	VVVF method of speed control of 3 phase Traction motor using GTO & IGBT based Converter/inverter with PWM technique
1.6	Multiple Unit Operation: Advantage of EMU over engine hauled train" Study of different Components of 3 phase EMU
1.6.1	Pantograph- Various types of pantograph like WBL-22.03 and WBL-23.03 used in EMU.
1.6.2	Lightening Arrestors - For 25KV AC
1.6.3	"Switch-gears-EM & EP Contactors, VCB etc.
1.6.4	Protective devices of EMUs- 3-ph thermal over load devices, other over Load relays of EMU etc"
1.6.5	Converter, Inverter, Control electronics/ Components of Train control of 3-Ph EMUs, Battery charger in EMU, HT power circuits, LT circuits of traction, auxiliary & light fan controls of 3-Ph EMUs
1.6.6	Sensors: Pressure sensors, temperature sensors, speed sensors oil level sensors, oil flow sensors & Load sensors etc
1.6.7	Auxiliary machines: IGBT based Auxiliary Inverters, Auxiliary motors with blowers, Radiators, Air Handling units, Main compressors (110V DC and 415V 3-ph AC),RMVU, RMPU, Baby compressors etc.
1.7	Mechanical Components
1.7.1	Riding index

1.7.2	Rail stresses and rail wheel interaction
1.7.3	Nose suspension/MSU
1.7.4	Schaku coupler & Draw and buff gear Air Dryer
1.7.5	Bogie components of M/C and T/C
1.7.6	Wheel defects
1.7.7	Air Suspension- Primary & secondary suspension, Advantage of Air Suspension, Air Spring and its connected equipment etc. schematic of Air suspended bogie"
1.8.	Principles of Semi-conductor devices:
1.8.1	Voltage regulators, GTO, IGBT, MOSFET
1.9.	Fire Prevention
1.9.1	Principles of fire extinguishing
1.9.2	Firefighting equipment provided on EMUs.
1.10	Maintenance:
1.10.1	Various maintenance activities for reliable and safe working of EMUs
1.10.2	Scheduled maintenance carried out in EMU car sheds & EMU workshop.
1.10.3	Safety checks during various inspections
1.10.4	Developments & Modifications on EMUs to improve the reliability
1.11.5	Acceptance testes & Commissioning of New EMU Stock
1.11.6	Line Failures and Root cause analysis of EMU Stock Joint procedure orders (JPOs) & other procedures and Technical circulars issued time to time and various changes/modifications in rakes.
1.11	Safety equipment and innovations:
1.11.1	AWS, Deadman
1.11.2	TMS
1.11.3	PA and PIS
1.16	Accidents:
1.16.1	Safety precautions to be taken while working on shop floor and line
1.17	Transformer:
1.17.1	Principal of operation, Construction of 1-ph&3-ph transformers, Three winding transformers, Step up and Step down transformers, turns ratio & Voltage transformation ratio
1.17.2	Methods of cooling, Transformers oil & its testing, BDV & DGA test
1.17.3	Construction and rating of transformers used in EMUs
1.17.4	Current transformers and potential transformers
1.18	I.E. Rules & I.E. Act
2.0	Stores organization and Management
3.0	Establishment Rules
4.0	Basic electricity: Electron theory, current, voltage, magnetism, electro magnetism, DC Series and parallel circuit, AC fundamentals, Ohms law, Faradays laws of Electromagnetic induction, Lenz's law, Network theorems, Resistance, capacitance & Inductance, power capacitors, cells etc"
5.0	General idea of power supply arrangements and overhead equipment, neutral section on Mumbai central division.
6.0	There should be question on Rajbhasha having minimum 10% of the total marks. In this connection attention is invited to para 6 of Railway Board letter No. Hindi/201O/R.8/10/ 10/4 dated 10.03.2011 circulated under P.S 44/2011

4074337/2023/O/o SR DEE/RS/VR/MMCT/WR

MCQ Bank on EMU for Sr. Instructor (RS)

QN	QUESTION	ANS
1	Max permissible speed of Siemens EMU rake is _____ kmph A) 105 B) 110 C) 100 D) 90	C
2	EIG on Western Railway is_____ A) PCEE B) CEDE C) CESE D) CLE	A
3	3 ph.EMU rakes are provided with _____ braking A) Dynamic B) Regenerative C) Electro-pnumatic D) All	D
4	ON EMUs _____ type fire extinguishers are used A) Class A B) Class B C) Class C D) DCP	D
5	In Medha rake MAC isolation switch provided in _____ A) luggage compartment B) Motor coach C) DTC D) CRW panel	A
6	In MRVC-II rakes Emergency off is active in _____ A) Active DTC B) Guard DTC C) In both DTC D) Motor coach	C
7	Continuous rating Siemens rake TM is _____ KW A) 247 B) 240 C) 285 D) 250	B
8	Synchronous speed of a six pole, 50hz, AC motor is _____ RPM A) 1200 B) 1300 C) 1000 D) 1100	C
9	Combined capacitance of three 1 mfd parallel capacitor is _____ m A) 3 B) 1/3 C) 1 D) 4	A
10	Integral Coach Factory is located in _____ city A) Bangalore B) Perambur C) Agartala D) Banaras	B
11	Voltage rating of Main compressor of Medha rake AC/DC EMU rake is _____ A) 141 AC, 3phase B) 415V AC, 3phase C) 110V DC, 3phase D) 415 V	B
12	In Auto transformer, primary and secondary windings are in _____ A) Series B) Parallel C) Combination D) None of These	A
13	Broad gauge means a gauge of _____ metres A) 1676 B) 1.676 C) 1000 D) 1.000	B
14	Pilot valve does not function if _____ cock is closed under driving cab A) MRCC B) EP C) Auto D) Deadman	D
15	_____ MCB is to be tripped while isolating AWS in SIEMENS. A) 44-F-02 B) 44-F-01 C) 44-F-03 D) None of these	B
16	Work the train at _____ Kmph & cancel at first PF in case of hot axle. A) 5 B) 8 C) 10 D)15	B
17	Frequency F7, in AWS is 7600(+/-) _____ Hz A) 80 B) 89 C) 87 D) 71	B
18	In Siemens EMU EP unit magnet valve control signal is obtained through _____ A) MVB B) MIODX C) CCU D) SKS	D
19	In Medha rake Cab occupation fails when _____ gets off A) ICS B) DCS C) Cab occupy MCB D) Any one of three	D
20	In SIEMENS, if _____ MCB trips in DTC, brakes of 1.2Kg./cm2 applied and pilot valve does not blow. A) EBL 2 B) EBL 1 C) EBL 3 D) Cab Occupied	C
21	Siemens EMU has gear ratio of _____ A) 97/17 B) 87/17 C) 97/19 D) 97/20	A

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22	In Siemens rake OFT of inverter control is _____ A) Optimal Flux Transducer B) Optimal Flux Tracking C) Over Flux Tracking D) Optimal Feature Transformer	**B**
23	Colour code of Bogie cock is_____ and EP Cock is _____ A) Yellow, Red B) Yellow, White C) Yellow, Green D) Red, Yellow	**A**
24	If_____ MCB is tripped in DTC of Siemens, then Full train EP Brake binding takes place. A) EBL2 B) EBL1 C) CCU D) EBL3	**D**
25	The engine magnet (AWS) has 2 tuned coils at _____ and _____ KHzs A) 50, 100 B) 100, 120 C) 150, 100 D) 50, 200	**A**
26	Auxiliary Compressor in Bombardier rake works on _____ A) 110 V AC B) 110 V DC C) 141 V D) 141 V DC	**B**
27	Power rating of twin beam head light bulb in EMU rake is _____ A) 100Watts B) 50 Watts C) 60Watts D) 120Wat	**A**
28	In EMU trains _____ works on 110 V DC BD supply. A) Head Light B) Tail Light C) HMI/DDU D) Cab light normal	**B**
29	In Siemens rake Isolate _____ if BPCC on both sides of motor coach are closed to arrest BP leakage. A) EBL 1 B) EBL 2 C) EBL 3 D) EBL	**C**
30	When EMU speed is exceeding permissible speed bet 5 to 10 kmph, AWS applies_____ A) EP Brake B) Emergency Brake C) EP & Emergency Brake D) None of these	**A**
31	In Siemens Rake, EBL3 triggers when BP pressure drops below _____ Kg/sq.cm. A) 4.2 B) 3.2 C) 3.4 D) 3.8	**C**
32	ARME scale 1 is located in Mumbai suburban area at _____ A) BDTS B) BCT C) PL D) DDR	**B**
33	In Siemens, when Brake Control BCU & Brake Control TCU MCB's are tripped in any of the motor coaches then train cannot be worked with speed more than _____ kmph. A) 90 B) 100 C) 75 D) 50	**C**
34	The max sectional speed of CCG-BCT section is _____ kmph A) 100 B) 90 C) 75 D) 105	**C**
35	The maximum speed of Medha EMU during flooding when water level reaches up to 75mm above rail level is _____ kmph A) 40 B) 25 C) 10 D) 50	**A**
36	Press _____ button on AWS panel while passing yellow signal. A) SFBB B) SFBC C) Reset D) Vigilance	**D**
37	Auxiliary motors in Medha EMU work on _____ volts . A) 230 V AC B) 266 V DC C) 415 V AC D) 110 AC	**C**
38	Colour of bypass cocks of FCMV & EMV are _____ & _____ respectively. A) Red, Green B) Red, Blue C) Green, Red D) Green, Blue	**C**
39	_____ no. of bogie brakes can be isolated manually from carshed to work train normal. A) 2 B) 4 C) 3 D) 1	**D**
40	In EMU Trains Wheel counting is done from _____ corner of the coach. A) South-West B) North-West C) North-East D) South-East	**B**
41	Between CCG -BCL section flood gauge is provided at _____ A) CYR B) BCT C) CCG D) GTR	**D**
42	_____ Percent brakes are applied during brake power test on run in SIEMENS EMU. A) 80 B) 90 C) 100 D) 60	**C**
43	Condemning size of wheel is _____ mm A) 877 B) 868 C) 881 D) 870	**A**
44	Raising time of panto is _____ sec A) 6 to 12 B) 6 to 10 C) 6 to 8 D) 6 to 12	**B**

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45	Max permissible difference in diameter of wheels under same coach is _____ mm. A) 8 B) 13 C) 5 D) 15	**B**
46	Max permissible difference in diameter of wheels under same bogie is _____ mm. A) 8 B) 13 C) 5 D) 15	**C**
47	Max permissible difference in diameter of wheels under same axle is _____ mm. A) 0.5 B) 13 C) 8 D) 15	**A**
48	Press Vigilance button for min. _____ sec. to conduct functional test of AWS. A) 8 B) 9 C) 6 D) 10	**A**
49	Regenerative brakes are applied in _____ Coach only. A) Trailor B) Motor C) Motor and both Trailor D) Both Trailor	**B**
50	In Siemens rake MMI remains ON for _____ minutes when cab occupied MCB is tripped. A) 5 B) 10 C) 12 D) 15	**B**
51	While clearing section from motor coach _____ before switching DCS On A) Twist PBC B) Switch On ICS C)Turn Single unit operation switch D) A and B	**D**
52	Rating of Siemens traction motor is _____ KW _____ volts. A) 246, 932 B) 240, 932 C) 247,1080 D) 240, 1800	**B**
53	Work the train at _____ Kmph. & cancel at first PF in case of wheel lock is noticed. A) 10 B) 8 C) 15 D) 20	**B**
54	Background colour of Manually isolated equipment on MMI is _____. A) Red B) Blue C) Black D) White	**C**
55	_____ number of bogie brakes can be isolated manually on line to work the train normal. A) 1 B) 2 C) 3 D) 4	**D**
56	Work the train at _____ Kmph & cancel at first PF in case of flat wheel more than 50mm. A) 20 B) 30 C) 25 D) 15	**C**
57	Give _____ command to de-activate (cancel) wrongly given ENS command. A) CB Close B) CB Open C) ENS D) Cruise Control	**B**
58	Isolate _____ if BPCC on both sides of motor coach are closed to arrest BP leakage. A) Brake Binding B) Parking Brake C) Motor Coach D) EBL 1	**A**
59	Work the train at _____ Kmph & cancel at first PF in case of hot axle. A) 10 B) 8 C) 15 D) 20	**B**
60	When colour of both background and main compressor are white on MMI and MR pressure is less than 6Kg./sq.mm it means, _____. A) MAC Management Fail B) MAC Isolated C) MAC Switched Off D) MAC Defective	**A**
61	Contact pressure of Pantograph type WBL 22.03 is ___ Bar. A) 7.0 B) 7.5 C) 6.5 D) 6.0	**B**
62	Colour code of isolation cock for Air suspension is _____. A) White B) Red C) Blue D) Green	**C**
63	Maximum Buffer height is _____ mm above rail top level. A) 1030 B) 1035 C) 1040 D) 1088	**B**
64	Maximum permissible speed in case of brake loss 11 kmph is _____ Kmph in EMU. A) 50 B) 55 C) 65 D) Normal	**C**
65	Whistle code after Alarm chain pulling is, _____. A) 00_ B) 0_0 C) 00_00 D) _00	**A**
66	_____ Bell code is given by motorman when he requires train manager. A) 00 B) 000 C) 0000 D) 00000	**B**
67	Maximum brake force in SIEMENS EMU is _____ KN. A) 195 B) 185 C) 180 D) 200	**B**

68	Whistle code to call EXR is, _____. A) 00-00 B) 0-0 C) 000-000 D) 00-0	A
69	Colour code of MR main cock is _____ A) Red B) Green C) White D) Blue	B
70	In Siemens rake, first CB closes after _____ m from the point ENS was pressed A) 200 B) 300 C) 400 D) 500	C
71	In Medha and MRVC-II rakes _____ can be isolated from DDU/HMI. A) AAC B) Air Spring C) MAC D) Parking brake	C
72	In case of _____ brake controller, BP back feeds MR if MR pressure is less than BP. A) Escort B) Escort Knorr C) Faivelly D) WSF	D
73	In Mumbai Suburban section Colour code of 12 car stop mark is_____ A) White B) Red C) Yellow D) White and Yellow	C
74	In MRVC –II Rake, when any _____ Hose pipe burst, Close _____ cocks on both ends of it and work the train Normal A) MR, MRCC B) MR, BPCC C) BP, BPCC D) BP. MRCC	A
75	Max permissible speed in case of complete brake isolation under DTC is _____ Kmph. A) 20 B) 25 C) Reduced D) 15	D
76	In Medha rake if one coach brake isolated Vmax in kmph is _____. A) 102 B) 101 C) 105 D) 110	B
77	The train lighting system used on EMUs is known as _____ A) EOG B) MOG C) SG D) HOG	D
78	In Siemens and Medha EMUs, EP & Regeneration brakes collectively termed as _____ A) Electro-dynamic Brake B) Dynamic Brake C) Brake Blending D) All correct	C
79	Air leakage on Auxiliary reservoir can be isolated by closing _____ cock A) Bogie Cock B) Auto Cock C) EP Cock D) EP and Auto both	B
80	In case of failure in Air suspension system, work train at _____ Kmph. A) 50 B) 101 C) 60 D) 100	C
81	In BT rake, MCM takes input from _____ and converts it into 3Ph VVVF A) DC Chopper B) DC Link C) LCM D) ACM	B
82	In MRVC-II and Medha, in maintenance mode train speed restricted to _____ Kmph A) 60 B) 30 C) 15 D) 101	C
83	In MRVC –II rakes, when train communication fails and train not working in normal mode then work train at _____ Kmph. A) 10 B) 50 C) 60 D) 30	C
84	Max permissible speed of Siemens rake is _____ kmph and BT rake is _____ kmph A) 110, 100 B) 100, 110 C) 120, 110 D) 110, 120	B
85	The Max permissible speed of Siemens EMU during flooding when water level reaches to 75mm to 100mm above rail top level is _____ kmph A) 40 B) Normal C) 25 D) 50	C
86	In Siemens rake TM symbol 'M' will turn _____ background in the unit where wheel lock is suspected. A) Red B) Yellow C) White D) Grey	B
87	Main compressor isolation switch in _____ Rake is located in Luggage Compartment. A) MRVC-II B) Medha C) MRVC-I D) B and C both	D
88	In EMU trains CCU is located in ___. A) DTC B) NDTC C) Motor coach D) HT Compartment	A

89	In SIEMENS, if _____MCB trips in DTC, brakes of 1.2Kg./cm2 applied and pilot valve blows. A) EBL1 B) EBL2 C) EBL3 D) EBL4	A
90	The terminal voltage of a lead acid cell should not fall below (A) 1.6 V (B) 1.8 V(C) 2.0 V (D) 2.2 V	B
91	The capacity of storage battery is expressed as (A) No. of recharges it can take (B) No. of cells it contain (C) Time for which it can be used (D) Ampere hour it can deliver.	D
92	HMI stands for _____ A) Humming Machine Interface B) Human Machine Interface C) Human Machine Interference D) Higher Machine interface	B
93	Specific Gravity Measuring Instrument A) Pyrometer B) Gyrometer C) Hydrometer D) Tungmeter	C
94	What is the ratio of electrolyte H2SO4 Acid & Distilled water in LMLA Battery? A) 1:2 B) 1:3 C) 1:4 D) 2:5	B
95	Type of Coupler used in EMU rake A) Semi-Permanent Schaku Coupler. B) Schaku Full coupler C) Schaku Permenent coupler D) Schaku Design coupler	A
96	Types of Wheels used in EMU Coaches A) Solid alloyed and Cast Wheel B) Solid Tempered and Cast Wheel C) Solid Forged Wheel and Cast Wheel D) Solid toughened and Cast Wheel	C
97	Permissive Range of Buffer Height in EMU Coaches A) 1020mm to 1035mm B) 1010mm to 1035mm C) 1025mm to 1035mm D) 1000mm to 1035mm	A
98	EMU Coaches Primary Suspension consists of A) Axle box and seat B) Axle Guide Spring and DashPot C) Axle box and bearing D) All of these	D
99	EMU Coaches Secondary Suspension Consists of A) Bolster & Air Bellow. B) Bolster and bolster plank C) Bolster and hanger D) All of these	D
100	Permitted Variation of Wheel Diameter permitted in Same Axle/same Bogie/Both Bogie of Same Coach. A) 1mm/6mm/15mm B) 2mm/6mm/14mm C) 0.5mm/5mm/13mm D) 05mm/10mm/15mm	C
101	ADD means A) Auto Device Drive B) Auto Direct Device C) Auto Drop Device D) Auto Direct Drive	C
102	ORD means A) Over Reach Detection Device B) Over Reach Damper C) Over Ream Device D) Over Reach Device	A
103	Panto graph Pan's Current Collection Material A) Graphite Carbon B) Metallised Carbon C) Copper carbon D) Carbon	B
104	In BT Rake Pantograph Pan carbon strip new and condemning size Limit _____mm A) 39/26 B) 39/30 C) 39/20 D) 39/22	A
105	Minimum Air Pressure Required for raising of Pantograph A) 7.5 bar B) 5.5bar C) 8.5 bar D) 6.0bar	B
106	Air Pressure Required for Continuous operation of Pantograph A) 6.0bar B) 7.0bar C) 8.0bar D) 8.5bar	A
107	Material of Flexible Earthing in EMU trains A) Shunt Copper wire B) Shunt Braided Copper Wire C) Shunt D) Solid Copper wire	B

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108	Setting of Aux Air Compressor Governor and Main Air Compressor Governor A) 5.3 bar - 6.3 bar and 6 bar-7 bar B) 5.6bar - 6.3bar and 6bar-8bar. C) 5.3bar - 6.6bar and 6.5bar - 7bar. D) 5.0bar - 6.0bar and 6bar-7bar.	**A**
109	Valve Assembly provided in between two Air Bellow Auxiliary Reservoir is called as A) Check Valve B) Duplex Limiting Valve C) Duplex Check Valve D) Duplex Return Valve	**C**
110	Full Form of VRLA Battery A) Valve Reverse Lead Acid Battery B) Valve Return Lead Acid Battery C) Valve Reacting Lead Acid Battery D) Valve Regulated Lead Acid Battery	**D**
111	EP Brakes are applied by the pressure of A) Main Reservoir B) Auxuliary Reservoir C) Equilizing Reservoir D) EP Reservoir	**A**
112	In Siemens, in case signal bell does not work, check MCB.....may be tripped. A) Master control or cab occupied B) MVB line A or MVB line B C) SKS 12 or SKS 13 D) None of these	**C**
113	How many Brake blocks provided in 12Car EMU rake A) 96 Nos B) 192 Nos C) 120 Nos D0 180Nos	**B**
114	Allowable Axle Box Temperature difference between same Axle of EMU train A) 8°C B) 6°C C) 10°C D) 12°C	**A**
115	In Medha EMU BC pressure ___bar in Motor Coaches and __bar in trailor Coaches. A) 1.4/1.2 B) 1.6/1.2 C) 1.2/1.6 D) 1.2/1.4	**B**
116	Which pressure is dropped by applying auto brake A) Equilizing Reservoir B) Auxiliary Reservoir C) Control Reservoir D) Main Reservoir	**A**
117	In Siemens EMU, Parking Brake Provided on which Coach and Wheel number of A) DTC/NDTC/1,3,5,7 B) DTC/MC/1,3,5,7 C) DTC/NDTC/2,4,6,8 D) DTC/NDTC/1,4,6,8	**A**
118	Control Supply voltage in EMU trains_____ A) 141V AC B) 141V DC C) 110V AC D) 110V DC	**D**
119	With Cobalt Material Silica-Gel colour after saturation in Breather of Traction Transformer A) Blue to Pink B) Blue to Yellow C) Blue to grey D) Blue to Green	**A**
120	Without Cobalt Material Silica-Gel colour after saturation in Breather of Traction Transformer A) Orange to Green B) Orange to Grey C) Orange to Pink D) Orange to Colourless	**D**
121	Type of Oil and capacity of side Bearer A) Servo 68, 2.5L B) Servo100, 2.5L C) Servo150, 2.5L D) Servo250, 2.5L	**A**
122	Which type of drain valve installed in Auxiliary Reservoir of Air Spring A) Automatic type B) Spring loaded type C) Drain type D) Split type	**B**
123	Holding/Unmanned Brake _____ kg/cm2 visible in Driving Cab Brake Cylinder Gauge of BT EMU train, A) 0.8 /1.2bar B) 1.2/0.8 C) 0.8/1.4 D) 1.4/0.8	**A**
124	In EMU trains EP Brake Application & Release Timing A) 4 to 8 seconds B) 6 to 8 seconds C) 4 to 6 Second D) 4 to 10 seconds	**C**
125	Auto Brake Application Time ___ Second and Auto Brake Release Time ___ Second A) 6 to 10 & < 20 B) 2 to 4 & <10 C) 6 to 10 & <12 D) 6 to 10 & <12	**A**
126	Emergency Brake Application Time _____ seconds & Release Time _____Second Through Master Controller A) 4 to 6, <20 B) 6 to 10, <20 C) 8 to 10, <20 D) 5 to 10, <20	**A**

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127	Emergency Brake through Auto Brake controller application time _____second and Release time _____second A) 4 to 6 and <20 B) 6 to 10 and <20 C) 4 to 6 and <10 D) 6 to 10 and <10	**B**
128	Range of Brake Pipe Charging Timing from Driving Cab of EMU train _____ seconds. A) 90 to 120 Second. B) 70 to 90 C) 90 to 100 D) 70 to 110	**A**
129	Colour of Alarm Chain Pulling flasher light provided in Ladies Coaches A) Red B) Yellow C) White D) Blue	**C**
130	Location of Ladies Coaches in the 12 Car EMU rake from Churchgate Side A) 1st, 6th, 12th B) 1st, 5th, 11th C) 1st, 6th, 10th D) 1st, 4th and 10th	**D**
131	Number of Wooden Wedges provided in each Driving Cab A) 4 B) 3 C) 2 D) 1	**C**
132	No. of Fire Extinguisher ____No. In each Driving Cab and ____ No. in each Motor coaches A) 1/2 B) 2/2 C) 2/1 D) 1/1	**D**
133	SB-I push button lamp's colour _____and SB-II push button lamp's colour _____. A) Yellow and Red B) Red and Yellow C) Yellow and White D) Yellow and Green	**A**
134	Live circuit's Current measuring suitable instrument A) Ammeter B) Flux meter C) Clamp meter D) Multimeter	**C**
135	Isolation cock when in parallel is _____ and Drain cock in parallel is _____ A) Open, Close B) Close, Open C) Close, Close D) Open, Open	**A**
136	In BHEL AC EMU for rectification of major fault……can be given in Maintenance Mode. A) Test Reset B) Critical Reset C) Fault Reset D) Maintenance Reset	**D**
137	Permissible Limit of Gap between Bogie Frame & Bogie Bolster of EMU rake. A) 40+/-5mm B) 40+/- 8mm C) 40+/-7mm D) 40+/- 10mm	**A**
138	DGA means A) Digital Gate Arrow B) Deep Gear Assembly C) Dissolved Gas Analysis D) Digital Group Analysis	**C**
139	BDV means A) Brake Down Voltage B) Bearing Danger Voltage C) Braking Distance Valve D) Brake Down Valve	**A**
140	_____Bearing Bolt is provided with Schaku Coupler in each Coach of EMU train. A) Artificial B) Articulation C) Pivot D) Center	**B**
141	Which grease is used in axle Box ? A) RR4/LL4 B) RR2/LL2 C. RR3/LL3 D) RR5/LL5	**C**
142	In three phase EMU what is the capacity of vertical damper ? A) 300Kg B) 200 kg C) 100 Kg D) 400 Kg	**A**
143	Gear pinion ratio of BHEL A/C EMU rake…… A) 72/16 B) 97/17 C) 103/23 D) 111/25	**A**
144	What is the capacity of TVSV bulb of Escort and W.S.F. brake unit ? A) 1 L B) 3L C) 1.5L D) 2L	**D**
145	During RBT _____ is opened and _____ % brake is applied in all EMUs. A) Panto, 100 B) VCB, 60 C) VCB, 100 D) VCB, 80	**C**
146	In EMU rake ADD governor setting _____ Kg/cm2 A) 2.4 to 3.8 B) 2.0 to 3.0 C) 3.0 to 3.5 D) 2.5 to 3.5	**A**
147	What is working height of EMU pantograph ? A) 2250mm B) 2290mm C) 2200mm D) 2280mm	**B**
148	What is coach weight on center casting on EMU rake ? A) Half weight B) Nil C) 1/4 coach weight D) Full coach weight	**B**
149	What is no. the MCB provided for TCMS Primary in BT rake ? A) JE-F20 B) JE-F22 C) JE-F18 D) JE-F13	**D**

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150	What is the height of APC receiver from rail level ? A) 160+5mm B) 150+5mm C) 140+5mm D) 170+5mm	**A**
151	What is the type of bogie cock provided in three phase EMU ? A) S type B) K type C) P type D) Vent type	**D**
152	What is dash pot oil level in three phase EMU ? A) 97mm B) 197mm C) 150mm D) 120mm	**A**
153	In BT EMU Axle ERB (Earth return brush) is provided on which axle in TC A) 1, 4 B) 2, 6 C) 2, 3 D) 1, 6	**B**
154	What is setting of EP limiting valve of brake unit in EMU train ? A) 3.9 Kg/cm2 B) 2.9 Kg/cm2 C. 3.8 Kg/cm2 D. 3.5 Kg/cm2	**D**
155	What is the gap between brake block and wheel tyre ? A) 18mm B) 22mm C) 10mm D) 15mm	**A**
156	Sandwich packing of EMU train is changed in which schedule ? A) HR1/5years B) HR2/6years C) HR 4/8 years D) HR3/7years	**C**
157	At what interval Air dryer changes its tower ? A) 1-2 min B) 2-3min C) 2-4min D) 3-4 min	**B**
158	In Siemens EMU under normal condition what is the control voltage of negative to ground earth fault ? A) 55 V B) 65V C) 45 V D) 40V	**A**
159	Auto Drain Valve is placed under which Tank ? A) Auxiliary Tank B) Equilizing Tank C) MR tank D) Control Tank	**C**
160	In Siemens rake how many CTs are provided in primary of main Transformer ? A) 2 B) 1 C) Nil D) 3	**A**
161	In BHEL EMU what is the value of braking resistor ? A) 1x3 ohm B) 2x2.75 ohm C) 1x2.75 ohm D) 2x3 ohm	**B**
162	What is the capacity of Lateral dampers used in Motor coach of three phase EMU ? A) 100Kg B) 200Kg C) 150Kg D) 250Kg	**A**
163	What is Battery Capacity (AH) of Siemens EMU ? A) 90AH B) 120AH C) 150AH D) 300AH	**A**
164	What is Battery Capacity (AH) of BT EMU ? A) 90AH B) 120AH C) 150AH D) 300AH	**B**
165	What is Battery Capacity (AH) of Medha EMU ? A) 90AH B) 120AH C) 150AH D) 300AH	**B**
166	What is Battery Capacity (AH) of BHEL A/C EMU ? A) 90AH B) 120AH C) 150AH D) 300AH	**D**
167	What is Battery Capacity (AH) of Medha US A/C EMU ? A) 90AH B) 120AH C) 150AH D) 300AH	**D**
168	In BHEL A/C EMU how many Fire extinguisher are provided ? A) 6 B) 20 C) 28 D) 32	**D**
169	In EMU, RDK Pressure reducing Valve changes MR pressure to _____ Kg/cm2 A) 4.7+/-0.5 B) 4.7+/-0.2 C) 4.5+/-0.2 D) 4.5+/-0.5	**B**
170	In EMU Train What is root radius of new wheel ? A) 16mm B) 10mm C) 20mm D) 18mm	**A**
171	Master controller of Siemens/BT/Medha EMU is _____ A) Notch type B) Free type C) Stepless type C) Fixed type	**C**
172	Pressure sensor is made of which metal ? A) Co Ni Steel Membrane B) Co Al Membrane C) Co Cu Membrane D) Co Fe Membrane	**A**
173	In EMU Train what is setting of ADLV of Motorcoach ? A) 1.4 Kg/cm2 B) 1.6 Kg/cm2 C) 1.2 Kg/cm2 D) 1.8 Kg/cm2	**B**
174	Continuous / one hour rating Siemens rake TM is---------- KW A) 247/270 B) 240 /270 C) 285/290 D)250/280	**B**

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175	Synchronous speed of a four pole, 50 hz, Induction motor is ------- RPM A) 1200 B) 1500 C) 1000 D)1100	**B**
176	The track/engine magnets (AWS) has 2 tuned coils af---------- KHz and----------KHz A) 50,100 B) 100,120 C) 150, 100 D) 50,200	**A**
177	In EMUs wattage of twin beam Head Light in dim and full are ..... watts respectively. A) 90 & 100 B) 100 & 120 C) 100 & 110 D) 110 & 120	**A**
178	In Siemens EMU air spring counting is done from _____corner of the coach. A) South-West B) North-West C) North-East D) South-East	**B**
179	In EMU 15car rake _____ Powered Axles and _____non powered Axles are provided. A) 20/40 B) 20/60 C) 16/40 D) 16/60	**A**
180	In Mumbai Suburban section Colour code of 15 car EMU stop mark is __. A) White B) Red C) Yellow D) White and Yellow	**B**
181	In Medha rake when train communication fails train automatically goes in _____ mode and speed will be _____ Kpmh. A) RDM/60 B) Sp. RDM/110 C) Sp. RDM/60 D) Sp. RDM/100	**B**
182	Work the train at _____Kmph & cancel at first PF in case of flat wheel more than _____ A) 20,50 B) 30, 50 C) 25,50 D)25,25	**C**
183	In Siemens EMU, EBL monitors the A) Deadman safety device & MR pressure B) Deadman safety device & BP pressure C) Control governor & MR pressure D) Parking Brake & BP pressure	**B**
184	In Siemens EMU EP unit magnet valves gets control signal through---------- A) SIBAS B) MCM C) BECU D) BECU and TCU Both	**D**
185	In Medha rake Cab occupation fails when _____gets off A) Cab Occupy control1 B) Cab Occupy control2 C) ICS D) A and C	**D**
186	PT 100 sensor is used to measure A) Speed B) Temperature C) Air flow D) None of these	**B**
187	Gear pinion ratio of MEDHA EMU rake…… A) 69/16 B) 97/17 C) 103/23 D) 111/25	**C**
188	Gear pinion ratio of Siemens EMU rake…… A) 69/16 B) 97/17 C) 103/23 D) 111/25	**B**
189	Gear pinion ratio of BT EMU rake…… A) 69/16 B) 97/17 C) 103/23 D) 111/25	**D**
190	Gear pinion ratio of BHEL A/C EMU rake…… A) 69/16 B) 72/16 C) 97/17 D) 111/25	**B**
191	Gear pinion ratio of Medha Onboard A/C EMU rake…… A) 69/16 B) 97/17 C) 103/23 D) 111/25	**C**
192	Frequency F1 to F5, in AWS is 7600(+/-) --------Hz A) 71 B) 79 C) 75 D) 60	**A**
193	Frequency F6, in AWS is 7600(+/-) --------Hz A) 71 B) 80 C) 79 D) None of this	**B**
194	When train passes Yellow signal and next signal is at distance less than 700m, yellow indication on AWS flashes in ____ ratio after 290m. A) 7:1 B) 1:1 C) 4:1 D) 5:1	**B**
195	When train passes Yellow signal and next signal is at distance 700m or more, yellow indication on AWS flashes in ___ratio. A) 1:1 B) 7:1 C) 2:1 D) 1:2	**B**
196	Press ___ button on AWS panel before passing manual signal at ON after receiving paper authority. A) Vigilance B) SFBC C) SFBB D) Reset	**C**

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197	AWS works on audio frequencies from ____ Hz to ____Hz. A) 2800,7600 B) 3800,8600 C) 1800,6600 D) 2900,7700	**A**
198	AWS provided on EMU, Pass yellow signal w/o ATM not more than _____ Kmph speed. A) 50 B) 65 C) 60 D) 45	**C**
199	AWS provided on EMU, Whenever AWS malfunctions, work the train at _____speed upto next sugnal. A) restricted B) Cautious C) Max D) Normal	**B**
200	AWS/Deadman Integrated panel is not provided_____ EMU rake. A) Siemens B) Medha C) BHEL D) Bombardier	**A**
201	Motorman informs Guard about isolation of AWS by ___. A) Signal Bell B) Sounding Audio Visual twice C) Emergency Bell D) on Mobile	**B**
202	AWS Track Magnet has _____ audio frequency oscillators. A) 8 B) 7 C) 5 D) 6	**B**
203	AWS Track Magnet is connected to signal aspect through_____ A) Opto coupler card B) Oscillator card C) Resonance circuit D) None of these	**A**
204	AWS CPU is provided in _____ A) Driving Cab B) Shunting cab C) Guard Cab D) A and C	**D**
205	AWS provided on EMUs is suitable for speed upto _____Kmph A) 250 B) 100 C) 160 D) 180	**A**
206	AWS provided on EMU has seven audio frequency oscillators F1 to F7 ranging from _____ Hz to _____ Hz A) 2800 to 7600 B) 1200 to 2800 C) 1600 to 2800 D) 2800 to 5600	**A**
207	AWS provided on EMU, applies _____ brake in case speed exceeds upto ≥ 10 kmph A) EP B) Emergency brake C) Auto brake D) None of these	**B**
208	AWS provided on EMU, whenever applies EP brake in case of excess speed, Red light on indication panel lit _____ A) Steady B) flashes C) Extinguishes D) None of these	**B**
209	AWS provided on EMU, whenever applies emergency brake in case of excess speed, Red light on indication panel lit _____ A) Steady B) flashes C) Extinguishes D) None of these	**A**
210	AWS provided on EMU, when motorman passes Automatic Red signal as per rule, Red light on indication panel lit _____ A) Steady B) Flashes C) Extinguishes D) None of these	**A**
211	AWS provided on EMU, when motorman passes Absolute Red signal as per rule, Red light on indication panel lit _____ A) Steady B) flashes C) Extinguishes D) None of these	**B**
212	AWS provided on EMU, applies _____ brake when train is rolled back > 5m A) EP B) Emergency brake B) auto brake D) None of these	**B**
213	AWS provided on EMU, if the distance between two signal is > 700m, an ATM is provided _____m before next signal. A) 500m B) 600m C) 400m D) 1000m	**C**
214	AWS provided on EMU, if the distance between two signal is < 400m, _____ is provided before a signal in advance. A) ATM B) TM C) RBDTM D) TTM	**C**
215	AWS provided on EMU, _____ is provided at the exit of carshed to check AWS applies emergency brake on Red signal. A) ATM B) PATM C) RBDTM D) TTM	**D**
216	AWS provided on EMU, _____ white and blue light on indication panel indicates AWS is in working order. A) Fast flashing B) Steady C) Blinking D) None of these	**B**
217	AWS provided on EMU, _____ magnet detects track magnet. A) PATM B) Engine C) ATM D) TTM	**B**

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218	AWS provided on EMU, applies _____ brake in case speed exceeds to 5 to 9 kmph A) EP B) Emergency brake C) Auto brake D) None of these	**A**
219	In EMU trains, whenever brake binding takes place motorman is advised to apply _____ brake 2/3 times, which may release brake binding. A) EP B) Emergency brake C) Auto brake D) None of these	**A**
220	In Three phase EMU, regenerative brake saves about _____ of power. A) 20% B) 30% C) 50% D) No power save	**B**
221	In Three phase EMU, when Emergency Off push button is pressed _____ A) All VCB open, All Panto dropped B) All VCB open, All Panto dropped & BP drop C) Only All VCB open D) Only All VCB open & BP drop	**A**
222	In Siemens and Medha EMU power circuit, DC link voltage is _____ V DC A) 2300 B) 1800 C) 2000 D) 1650	**B**
223	In Bombardier EMU power circuit, DC link voltage is _____ V DC A) 2300 B) 1800 C) 2000 D) 1650	**D**
224	In BHEL A/C EMU total _____ no. RMPU in each coach and each RMPU has _____tonnes A/C units A) 4, 2x7.5 B) 1, 2x7.5 C) 3, 2x7.5 D) 2, 2x7.5	**D**
225	In Three phase EMU, to open High Tension Compartment _____key interlocking system is given. A) Kaba B) Turn C) DCS D) Panel	**A**
226	In Three phase EMU, in each coach total _____ no. roof ventilation units are provided. A) 2 B) 3 C) 4 D) 54	**A**
227	In Siemens EMU _____is the only MCB should be set in both driving cab otherwise all VCB open and Panto drop. A) EBL 1 B) EBL3 C) Emergency Off D. AWS	**C**
228	In BHEL EMU, the speed of train in maintenance mode _____ kmph and in RDM _____ Kmph. A) 30/60 B) 15/30 C) 15/45 D) 15/60	**D**
229	In three phase EMU, ESMON has_____ memory cards. A) 2 B) 3 C) 4 D) 1	**A**
230	In three phase EMU, ESMON can record _____ to _____ days of data A) 30/60 B) 60/120 C) 45/60 D) 60/90	**D**
231	In Bombardier EMU, auto drain valve is provided on _____ Reservoir of _____ coach. A) Main, MC B) Main, DTC C) Panto, MC D) Main, TC	**B**
232	In three phase EMU, weight of train transferred on _____ suspension first and then on _____ suspension. A) Primary/Secondary B) Only Primary C) Secondary/Primary D) Only Secondary	**C**
233	In three phase EMU, Deadman device activate at speed more than _____ Kmph A) 5 B) 3 C) 4 D) 10	**A**
234	In EMU trains, Parking brake automatically apply when MR pressure < _____ kg/cm2 and releases when MR pressure > _____ kg/cm2 . A) 5.0/5.0 B) 5.0/2.0 C) 2.0/3.0 D) 0.0/5.0	**C**
235	In three phase EMU, while braking, if OHE becomes non receptive, ED brakes fail, energy is dissipated in _____ for _____ seconds. A) DBR/2 B) Dropper/2 C) DBR/3 D) DBR/4	**A**
236	In Mumbai suburban section under worst flooded track condition train can be worked at _____Kmph, if water level is upto _____mm from rail level. A) 10/200 B) 10/150 C) 15/150 D) 15/120	**B**
237	In Mumbai suburban section when train cannot be driven from driving cab, section can be cleared from shunting cab at speed not exceeding _____Kmph. A) 15 B) 20 C) 10 D) 30	**A**

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238	In BT EMU, ECC means _____ A) Electrical Control Cabinet B) Electrical Control Cab C) Earth Current Control D) Electronic Control Cabinet	**D**
239	In BT EMU, EDC means _____ A) Electrical Drive Cabinet B) Electrical Distribution Cabinet C) Earth Distribution Control D) None of these	**B**
240	In three phase EMU, TCC mean _____ A) Total Current Control B) Traction Current Control C) Traction Control Cabinet D) None of these	**C**
241	In three phase EMU, LCM means A) Line Control Module B) Live Control Module C) Line Converter Module D) None of these	**C**
242	In three phase EMU, MCM means _____ A) Motor Control Management B) Motor Converter Module C) Main Control Module D) Main Converter Module	**B**
243	In three phase EMU, ACM means A) Auxiliary Control Module B) Auxiliary Converter Module C) Auxiliary Control Management D) None of these	**B**
244	In Mumbai Suburban section AWS was commissioned in _____ by M/s _____ A) 1987/Siemens B) 1987/Medha C) 1995/Siemens D) 1995/Medha	**A**
245	In case of leakage on Auxiliary reservoir under intermediate coach close _____ cock & work_____ . A) BPCC , Cancel B) MRCC , Normal C) Auto cock , Cancel D) Auto cock, Normal	**D**
246	In BT rake, Vmax is _____ kmph when one coach brake isolated and___ kmph when one Air spring failed. A) 101 , 65 B) 92 , 60 C) 101 , 60 D) 92 , 65	**C**
247	In Siemens, when traction not available check MCB _____ may be tripped. A) Master control B) EBL 2 C) SKS 12 or SKS 13 D) MVB line A or MVB line B	**A**
248	In BT if all MACs not working & MAC symbol RED give _____ & when WHITE give _____. A) Start all MAC , Fault reset B) Fault reset , Start all MAC C) Critical reset , start all MAC D) Test reset , Start all MAC	**B**
249	If Master Controller MCB trips in SIEMENS rake, _____ Kg./sq.cm brakes do not release. A) 1.2 B) 1.6 C) 0.8 D) 1.4	**C**
250	In Siemens if EBL1 MCB tripped then close _____ cocks in both cabs & Switch OFF _____ Toggle switch one by one in both cabs &try to reset MCB. A) BPCC , Pilot valve toggle SW. B) Auto Cock , Pilot valve toggle SW. C) DMC , Pilot valve toggle SW. D) EMV , Pilot valve toggle SW	**C**
251	If EBL 3 MCB trips in SIEMENS rake, _____ Kg./sq.cm brakes do not release. A) 0.8 B) 1.2 C) 1.6 D) 1.4	**B**
252	In MEDHA rake Max. Electrical brake force /unit is ……. . A) 200 KN B) 185 KN C) 127.5 KN D) 192 KN	**C**
253	In MEDHA rake Max. total Brake force / unit is _____ A) 200 KN B) 185 KN C) 193.3 KN D) 210 KN	**C**
254	Rating of MEDHA rake transformer is _____ A) 1300 KVA B) 1300 KV C) 1250 KV D) 1216 KVA	**A**
255	MCG means _____ A) Mobile control Gateway B) Mobile Communication Gateway C) Motor control Gateway D) None of these.	**B**

256	If Cab Occupied MCB trips in SIEMENS rake, _____ Kg./sq.cm brakes do not release. A) 0.8 B) 1.2 C) 1.4 D) 1.6	B
257	MEDHA Traction motor insulation material is of _____ A) A-CLASS B) F-CLASS C) E-CLASS D) C-CLASS	D
258	VVVF is produced with the help of _____ A) SIBAS B) SIBCOS C) LCM D) PWMI	D
259	Transformer rating of BT rake is _____ A) 1250 KVA B) 1275 KVA C) 1216 KVA D) 1300 KVA	C
260	In case of emergency OFF Push button pressed in DTC of Bombardier rake following indication will come. A) CB Open , Panto lower with Black Back Ground and EBL Black B) CB Open Black , Panto lower Black , EOL Orange C) CB Open Black , Panto lower Black , EOL Black D) None of these	B
261	EBL-3 by pass switch is pertaining to _____ A) Siemens rake B) BT rake C) MEDHA rake D) AC BHEL rake	A
262	In BT and MEDHA EBL can be isolated in _____ A. Normal mode B. RDM C. Sigle unit operation mode D. Any of these	B
263	In BT, rake ICS & DCS is ON and Cab not getting occupied, then Switch ON First- A) Cab Occupied selector Switch B) Isolate EBL C) ICS Bypass switch D) BRL Bypass Switch	C
264	There are total _____ brake cylinders in Siemens ,BT and MEDHA in DTC including Parking Brake Cylinder A) 4 B) 6 C) 8 D) 12	D
265	Capacity of main spring air reservoir is _____ A) 40 ltr. B) 100 ltr. C) 125 ltr. D) 150 ltr.	D
266	Motorman will press Vigilance push button for _____ sec. to conduct functional test of AWS. A) 4 Seconds B) 2 Seconds C) 6 Seconds D) 8 Seconds.	D
267	In case of MR leakage on hose pipe in BT, close _____ cocks on both ends of it and work the train normal. A) BPCC B) Main MR Cock C) MRCC D) EP Cock	C
268	Following switch not available in BHEL rake A) Cruise control B) Fault reset C) Train off operation D) Single unit operation	D
269	In BHEL rake Driver login screen will appear with what speed when DCS key made on and Parking Brake not released A) 20 KMPH B) 110 KMPH C) 112 KMPH D) 10 KMPH	A
270	Colour code Bogie Cock is _____. A. Red B. Yellow C. Blue D. Green.	B
271	VCB opening time is less than _____ A) 100 ms B) 60 ms C) 180 ms D) 300 ms	B
272	VCB closing time is less than _____ A) 100 ms B) 60 ms C) 180 ms D) 145 ms	D
273	In SIEMENS rake CB opens and symbol will turn_____ background when power trips. A)Red B) Black C) Grey D) Orange	C
274	MCU in MEDHA rake is located in _____. A) Motor Coach B) HT Compartment C) DTC D) None of these.	A
275	Total no. of electric jumper between B & C Coaches in SIEMENS rake is _____. A) 4 B) 6 C) 8 D) None of these.	C
276	Air leakage on MR Hose pipe can be isolated by closing _____ Cock. A) Any MRCC B) Both BPCC C) BPCC and MRCC D) Both MRCC	D

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277	Whistle code for Alarm chain pulling is _____ A) Two short one long B) One pause one C) One long D) Two pause two	**A**
278	Holding Brakes are released from _____ menu of BT rake. A) Brake B) Brake Test C) Drive/Brake D) None of these.	**B**
279	Maintenance login not required for EP Brake isolation in _____ rake. A)Medha B) SIEMENS C) BT D) None of these.	**C**
280	Fault reset command given in which rake when ODD operated. A) BT B) BHEL C) SIEMENS D) Medha	**D**
281	Log IN code for Maintenance mode in AC BHEL rake is _____. A) 654321 B) 8888 C) 888888 D) 123456	**A**
282	In Siemens EMU _____ Jumper will drop between 5th and 6th Coach when master control MCB tripping in ON Position of Master Controller. A)B B) C C) D D) F	**D**
283	Maximum speed of the Train in Special RDM in Medha rake is _____ kmph. A) 30 B) 60 C) 75 D) Normal	**D**
284	Log IN code for Maintenance mode in Medha rake is _____. A) 654321 B) 8888 C) 888888 D) 123456	**C**
285	When DCS Switch to operate in RDM in BT rake, what happens_____. A) All CBs will open B. All Pantos will drop C. A & B both D. None of these.	**A**
286	Log in code for Guard mode in BHEL rake is _____. A)123456 B) 654321 C) 987654 D) 456789	**C**
287	Speed restriction override of air spring in Bombardier rake is given in _____ A) Driver mode B) Maintenance mode C) A and B both D) None of these	**B**
288	In which rake, when DCS key turn-on in RDM mode and all CB open ? A) MEDHA B) SIEMENS C) BT D) BHEL	**C**
289	New wheel diameter of EMU rakes is _____ A) 952 mmB) 855 mmC) 915 mmD) 877 mm	**A**
290	Condemning diameter of wheel for motor coach is _____ A) 867 mm B) 877 mm C) 865mm D) 857mm	**B**
291	Condemning diameter of wheel fitted in HDTC is _____ A) 857 mm B) 865 mm C) 877 mm D) 885 mm	**C**
292	Condemning diameter of wheel in TC of conventional rake _____ A) 857 mm B) 865 mm C) 877 mm D) 912 mm	**C**
293	Condemning diameter of solid wheel (casting type) fitted in HDTC is _____ A) 877 mm B) 865 mm C) 857 mm D) 885 mm	**A**
294	Sharp flange for new wheel is _____ A) 22 mm B) 29 mm C) 28.5 mm D) 16mm	**A**
295	Limit for sharp flange is _____ A) 16mm B) 15 mm C) 18 mm D) 14 mm	**A**
296	Thin flange for new wheel is _____ A) 29 mm B) 22 mm C) 19 mm D) 28.5 mm	**A**
297	Limit for Thin flange for wheel is _____ A) 29 mm B) 22 mm C) 19 mm D) 28.5 mm	**B**
298	Sharp flange is measured from top tip to below _____ A) 5 mm B) 13 mm C) 9 mm D) 16 mm	**A**
299	Thin flange is measured from top tip to below _____ A) 5 mm B) 13 mm C) 16 mm D) 22 mm	**B**
300	EMU rake wheel distance is _____ A) 1600 mm B) 1500 mm C) 1676 mm D) 1650 mm	**A**
301	EMU wheel disk diameter is _____ A) 877 mm B) 952 mm C) 807 mm D) 915 mm	**C**
302	Deep flange for new wheel is _____ A) 28.5 mm B) 30.5 mm C) 22 mm D) 29 mm	**A**

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303	Permissible limit for deep flange is _____ A) 30 mm B) 35 mm C) 22 mm D) 29 mm	**A**
304	Max. limit for flat wheel as per RDSO instruction _____ A) 50 mm B) 60 mm C) 55 mm D) 52 mm	**A**
305	Acceleration of 3-phase Bombardier EMU rake is _____ A) 0.54 m/s2 B) 0.38 m/s2 C) 0.84 m/s2 D) 0.76 m/s2	**A**
306	Acceleration of 3-phase Medha Underslung EMU rake is _____ A) 0.54 m/s2 B) 0.46 m/s2 C) 0.84 m/s2 D) 0.751 m/s2	**D**
307	Deceleration rate of MEDHA EMU rake is _____ up to 50 kmph A) 0.60 m/s2 B) 0.9 m/s2 C) 0.76 m/s2 D) 0.38 m/s2	**C**
308	Max. groove tyre limit is _____ A) 5 mm B) 15 mm C) 10 m D) 16 mm	**A**
309	Colour of EP Cock is _____ A) Green B) YellowC) White D) Red	**D**
310	Colour of Auto cock is A) Green B) Yellow C) White D) Red	**C**
311	Colour of bogie cock is _____ A) Green B) Yellow C) White D) Red	**B**
312	Colour of Air spring isolating cock is _____ A) Green B) Yellow C) Blue D) Red	**C**
313	ABC Axle box clearance in EMU rake of Trailor coach _____ A) 43 mm (+/-6 mm) B) 31 mm(+/-6 mm) C) 40 mm(+/-6 mm) D) 95 mm(+/-6 mm)	**A**
314	In AC BHEL rake (7000 series) parking brake is fitted in _____ A) Every DMC B) Every NDMC C) DMC & NDMC D) TC	**C**
315	In BT rake (5000 series) parking brake is fitted in _____ A) Every coach C) Every B coach C) Every C coach D) DTC only	**C**
316	ABC Axle box clearance in EMU rake of Motor coach HT side _____ A. 43(+/-6) mm B) 31(+/-6) mm C) 40(+/-6) mm D) 95(+/-6) mm	**B**
317	ABC Axle box clearance in EMU rake of Motor coach non-HT side _____ A. 43(+/-6) mm B) 31(+/-6) mm C) 40(+/-6) mm D) 95(+/-6) mm	**B**
318	Bogie to Bolster clearance in EMU rake is _____ A) 43(+/-5) mm B) 31(+/-5) mm C) 40(+/-5) mm D) 95(+/-5) mm	**C**
319	Minimum Bogie to Coach clearance in EMU rake is _____ A) 43 mm B) 31 mm C) 40 mm D) 95 mm	**D**
320	What will be the Panto contact pressure, if panto pan of carbon strip is provided A) 8.5 kg/cm2 B) 7.5 kg/cm2 C) 10.0 kg/cm2 D) 9.0 kg/cm2	**B**
321	Max. gradient limit for holding EMU rake on parking brake is _____ A) 1:100 B) 1:150 C) 1:180 D) 1:200	**A**
322	Green test in lifting shed for AC traction motor supply is given to _____ A) 200-250 v 3-phase AC B) 3-phase VVVF C) 200-300 v 3-phase AC D) 500-700 v 3-phase AC	**A**
323	RDSO located at _____ A) Kolkata B) Lucknow C) Chennai D) Allahabad	**B**
324	COFMOW located at _____ A) New Delhi B) Mumbai C) Chennai D) Lucknow	**A**
325	CORE (Railway Organisation for Railway Electrification) located at _____ A) Kolkata B) Lucknow C) Allahabad D) Bangaluru	**C**
326	Rail Wheel Factory located at _____ A) Bangalore B) ChennaiC) Hydrabad D) Vishakhapattanam	**A**
327	CAMTECH(Centre for Advanced Maintenance Technology) located at _____ A) Bangalore B) Indore C) Bhopal D) Gwalior	**D**

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328	RCF(Rail Coach Factory) located at _____ A) Chittaranjan B) Chennai C) Kapurthala D) Patiala	**D**
329	MCF(Modern Coach Factory) located at _____ A) Gaya B) Rae Bareli C) Madhepura D) Patiala	**B**
330	Diesel Loco Modernisation Works located at _____ A) Patiala B) Kapurthala C) Varanasi D) Chittaranjan	**A**
331	DLW- Diesel Locomotive Works located at _____ A) Varanasi B) Chennai C) Kapurthala D) Patiala	**A**
332	ICF- Integral Coach Factory located at _____ A) Chennai B) Rae Bareli C) KapurthalaD) Patiala	**A**
333	Newly adopted periodicity for EMU rake for Trip inspection is _____ A) 15 days B) 10 days C) 21 days D) 20 days	**A**
334	Maximum interval for Ultrasonic test (UST) for EMU schedule is _____ A) 150 days B) 180 days C) 210 days D) 240 days	**D**
335	POH (HR) schedule for EMU rake is _____ A) 18 months B)12 months C) 24 months D) 36 months	**C**
336	Washing schedule of EMU rake is _____ A) 10 days B) 20 days C) 21 days D) 15 days	**A**
337	Inspection schedule _____ IA for EMU rake is A) 45 days B) 60 days C) 21 days D) 30 days	**B**
338	First POH for new EMU rake is scheduled on _____ A) 18 months B) 24 months C) 12 months D) 30 months	**B**
339	Parking brake gauge shows____ pressure in release position. A) 1.2 kg/cm2 B) 1.6 kg/cm2 C) 5.0 kg/cm2 D) zero	**C**
340	Parking brake gauge shows____ pressure in applied position. A) 1.2 kg/cm2 B) 1.6 kg/cm2 C) 5.0 kg/cm2 D) zero	**D**
341	Parking brake reservoir capacity is _____ A) 6L B) 10L C) 9L D) 8L	**C**
342	The length of Neutral section provided in suburban section is _____ A) 7.8 mtr B) 41.4 mtr C) 6.6 mtr D) 5.5 mtr	**C**
343	Specific gravity of battery in fully charged condition is _____ A) 1.00 B)1.700 C) 1.220 D) 1.160	**C**
344	Specific gravity of battery in fully discharged condition is _____ A) 1.00 B)1.700 C) 1.220 D) 1.160	**D**
345	Battery set in BHEL AC EMU rake is fitted under frame of _____ A) B-Coach B) C-Coach C) A-Coach D) All coaches	**B**
346	Specific gravity of battery is measured by _____ A) Ammeter B) Voltmeter C) Hydrometer D) Anemometer	**C**
347	Positive plate of Battery is made of _____ A) Lead dioxide B) Spongy lead C) Magnesium D) Carbon	**A**
348	Negative plate of Battery is made of _____ A) Lead dioxide B) Spongy lead C) Magnesium D) Carbon	**B**
349	Acid filled in flooded battery is _____ A) H_2SO_4 B) KOH C) NaOH D)HCl	**A**
350	Container of flooded battery is made up of _____ A) Rubber/plastic B) Metallic C) Wooden D) Asbestos	**A**
351	Seperator in flooded battery is made up of _____ A) Rubber B) Glass/plastic C) Wooded D) Carbon	**B**
352	To increase battery voltage batteries to be connected in _____ A) Series B) Parallel C) Series & Parallel D) Series or Parallel	**A**
353	The power to weight ratio of Induction motor is _____ than DC motor. A) Less B) More C) Same D) None of these	**B**

354	In Mumbai Suburban section AAWS was commissioned in _____ by M/s _____ A) 1987/Siemens B) 2014/Medha C) 1995/Siemens D) 1995/Medha	B
355	Rating of MEDHA rake transformer is _____ A) 1300 KVA B) 1300 KV C) 1250 KV D) 1216 KVA	A
356	Rating of Siemens rake transformer is _____ A) 1300 KVA B) 1300 KV C) 1250 KV D) 1216 KVA	C
357	Rating of Bombardier rake transformer is _____ A) 1300 KVA B) 1300 KV C) 1250 KV D) 1216 KVA	D
358	Rating of MEDHA Underslung rake transformer is _____ A) 1300 KVA B) 1300 KV C) 2880 KV D) 1216 KVA	C
359	Rating of MEDHA Onboard A/C rake transformer is _____ A) 1300 KVA B) 1300 KV C) 1250 KV D) 1552 KVA	D
360	Rating of BHEL rake transformer is _____ A) 1578 KVA B) 1300 KV C) 1250 KV D) 1216 KVA	A
361	Rating of MEDHA rake Traction motor is _____ A) 932V, 240kW B) 1171V, 268kW C) 945V, 247kW D) 1140V, 285kW	B
362	Rating of Bombardier rake Traction motor is _____ A) 1171V, 268kW B) 945V, 247kW C)1140V, 285kW D) 932V, 240kW	B
363	Rating of Siemens rake Traction motor is _____ A) 1171V, 268kW B) 1140V, 285kW C) 945V, 247kW D) 932V, 240kW	D
364	Rating of MEDHA under slung rake Traction motor is _____ A) 945V, 247kW B) 1171V, 268kW C) 932V, 240kW D) 1375V, 248kW	D
365	Rating of MEDHA Onboard A/C rake Traction motor is _____ A) 932V, 240kW B) 1171V, 268kW C) 945V, 247kW D) 1140V, 285kW	B
366	Rating of BHEl A/C rake Traction motor is _____ A) 945V, 247kW B) 932V, 240kW C) 1140V, 285kW D) 1171V, 268kW	C
367	Unmanned/Holding brake in Bombardier rake _____ A) 1.2/0.8 Kg/cm2 B) 0.8/1.2 Kg/cm2 C)1.6/1.2 Kg/cm2 D) 1.2/1.2 Kg/cm2	A
368	Unmanned/Holding brake in BHEL rake _____ A) 1.2/0.8 Kg/cm2 B) 0.8/1.2 Kg/cm2 C)1.6/0.8 Kg/cm2 D) 1.2/1.2 Kg/cm2	C
369	Unmanned/Holding brake in Medha Underslung A/C rake _____ A) 1.2/0.8 Kg/cm2 B) 0.8/1.2 Kg/cm2 C)1.6/1.2 Kg/cm2 D) 3.5/2.0 Kg/cm2	D
370	Unmanned/Holding brake in Medha Onboard A/C rake _____ A) 1.2/0.8 Kg/cm2 B) 1.6/1.2 Kg/cm2 C)1.6/0.8 Kg/cm2 D) 1.2/1.2 Kg/cm2	B
371	Parking brake in Medha EMU rake are provided on _____ wheels of _____ coach A) 1,3,5,6/DTC/NDTC B) 1,3,6,7/MC/DTC C) 1,3,5,7/DTC/NDTC D) 2,3,5,6/both DTC	C
372	Parking brake in BHEL EMU rake are provided on _____ wheels of _____ coach A) 1,3,5,7/DMC/NDMC B) 1,3,6,7/all MC C) 1,3,5,8/all C coaches D) 2,3,5,6/all DTC	A
373	Parking brake in Medha underslung EMU rake are provided on ____ wheels of ____ coach A) 1,3,5,7/all C coaches B) 1,3,5,7/all MC C) 1,3,5,8/all MC D) 2,3,5,6/all MC	B
374	Operating system in Siemens EMU rake _____ A) MITRAC B) MAE675E C) GERSYS D) SIBAS	D

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375	Operating system in Bombardier EMU rake _____ A) MITRAC B) MAE675E C) GERSYS D) SIBAS	**A**
376	Operating system in BHEL A/C EMU rake _____ A) MITRAC B) MAE675E C) GERSYS D) SIBAS	**C**
377	Operating system in Medha under slung A/C EMU rake _____ A) MITRAC B) MAE675UE C) GERSYS D) SIBAS	**B**
378	Operating system in Medha Onboard A/C EMU rake _____ A) MITRAC B) SIBAS C) GERSYS D) MAE675 OA	**D**
379	Rake Formation of siemens/BT/Medha EMU rake from VR end _____ A) CBA, CBA, CBA, ABC B) CBA, ABC, ABC, ABC C) BCA, ACB, BCA, ACB D) BCBA, BCBA, ABCB	**B**
380	Rake Formation of BHEL/Medha Onboard A/C EMU rake from VR end _____ A) CBA, CBA, CBA, ABC B) CBA, ABC, ABC, ABC C) BCA, ACB, BCA, ACB D) BCBA, BCBA, ABCB	**C**
381	Rake Formation of Medha underslung A/C EMU from CCG end _____ A) CBA, CBA, CBA, ABC B) CBA, ABC, ABC, ABC C) BCA, ACB, BCA, ACB D) BCBA, BCBA, ABCB	**D**
382	Maximum speed/Test speed of Siemens EMU _____Kmph A) 100/110 B) 100/120 C) 110/120 D) 110/130	**A**
383	Maximum speed/Test speed of BHEL A/C EMU _____Kmph A) 100/110 B) 100/120 C) 110/120 D) 110/130	**A**
384	Maximum speed/Test speed of Medha underslung A/C EMU _____Kmph A) 100/110 B) 100/120 C) 110/120 D) 110/130	**C**
385	Acceleration/deceleration of Siemens/BT/ Medha EMU _____ m/s2 A) 0.54/0.76 B) 0.8/0.84 C) 0.75/0.76 D) 0.76/0.54	**A**
386	Acceleration/deceleration of BHEL EMU _____ m/s2 A) 0.54/0.76 B) 0.8/0.84 C) 0.75/0.76 D) 0.76/0.54	**A**
387	Acceleration/deceleration of Medha underslung EMU _____ m/s2 A) 0.54/0.76 B) 0.8/0.84 C) 0.75/0.76 D) 0.76/0.54	**C**
388	ICS interlock is used for Cab Occupation in _____ EMU rake A) Siemens B) Bombardier C) MEDHA D) A and C	**D**
389	ICS interlock is used for Cab Occupation in _____ EMU rake A) Siemens B) BHEL C) Both A and C D) None of these	**D**
390	ICS interlock is not used for Cab Occupation but for traction in _____ EMU rake A) Siemens B) Medha C) BHEL D) Bombardier	**C**
391	ICS interlock is not used for Cab Occupation in _____ EMU rake A) Siemens B) Bombardier C) Medha D) Both A and C	**A**
392	High speed bolsterless bogie is used in _____ EMU rake A) Siemens B) Medha underslung C) BHEL D) None of these	**B**
393	Disc brake system is used in _____ EMU rake A) Siemens B) Medha C) BHEL D) Medha underslung	**D**
394	No. of transformer Secondary winding for traction and auxiliary in Siemens EMU rake A) 2, 2 B) 2, 0 C) 4, 2 D) 4,0	**B**
395	No. of transformer Secondary winding for traction and auxiliary in Bombardier EMU rake is A) 2, 2 B) 2, 0 C) 3, 2 D) 3,0	**B**
396	No. of transformer Secondary winding for traction and auxiliary in Medha underslung A/C EMU rake A) 2, 2 B) 2, 0 C) 4, 2 D) 4,0	**C**
397	No. of transformer Secondary winding for traction and auxiliary in BHEL A/C EMU rake A) 2, 1 B) 2, 0 C) 4, 1 D) 4,0	**A**
398	Light and Fans work on _____ supply in Medha underslung A/C EMU. A) 110V AC B) 141V AC C) 141 V DC D) 110 V DC	**D**

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399	Regeneration percentage in Siemens/Bombardier/ Medha underslung EMU rakes is more than_____ A) 30/30/36 B) 30/30/30 C) 30/36/36 D) 36/36/36	**A**
400	Light and Fans work on _____ supply in siemens EMU rakes. A) 415 V AC B) 110V AC C) 141 V DC D) 230 V AC	**B**
401	Separate auxiliary Conveter is used in _____ EMU rake for Compressor. A) Siemens, Bombardier B) Medha C) BHEL D) Medha underslung	**C**
402	RDM and Reverse Direction speed in all EMU rakes is _____ Kmph. A) 30/15 B) 60/15 C) 60/30 D) 60/60	**B**
403	In Medha EMU rake Data can be downloaded through _____ system A) MCG B) ERMS C) MVB D) WTB	**B**
404	In Bombardier EMU rake Data can be downloaded through _____ system A) MCG B) ERMS C) MVB D) WTB	**A**
405	Cooling system of IGBTConveters in Bombardier EMU rake is A) Self cooling B) Forced blower colling C) Oil cooling D) Water cooling	**D**
406	Cooling system of IGBTConveters in Medha EMU rake is _____ A) Self cooling B) Forced air colling C) Oil cooling D) Water cooling	**B**
407	Air spring Failure indication is not provided_____ EMU rake. A) BHEL B) Medha C) Siemens D) Medha underslung	**C**
408	Single unit operation facility is not provided_____ EMU rake. A) BHEL B) Medha C) Siemens D) A and C	**D**
409	Single unit operation facility is provided_____ EMU rake. A) BHEL B) Medha C) Bombardier D) B and C	**D**
410	ADD and ODD both devices are provided in Pantograph of _____ EMU rake. A) BHEL B) Medha C) Bombardier D) B and C	**D**
411	ADD and ODD devices are provided in Pantograph of _____ EMU rake. A) Siemens B) Medha C) Bombardier D) B and C	**D**
412	Only ADD device is provided in Pantograph of _____ EMU rake. A) Siemens B) Medha C) Bombardier D) BHEL	**D**
413	In case of ACM failure changeover contactors are provided in _____ EMU rake. A) Siemens B) Medha C) BHEL D) All of these	**D**
414	In case of ACM failure changeover is taken through train line supply in _____ EMU rake. A) Medha B) Bombardier C) BHEL D) Siemens	**B**
415	In Siemens rake if Emergency Off pushbutton is pressed and is defective then bypass emergency Off in _____ Cab. A) Same B) Guard C) Both D) Motorcoach	**C**
416	In Medha underslung EMU DBR is provided in _____. A) Roof B) HTC C) MC D) Underframe	**D**
417	DBR rating of Siemens rake is _____. A) 2x3 Ohm B) 3x2 Ohm C) 2x1.73 Ohm D) 3x1.73 Ohm	**A**
418	Function of DBR in 3 phase EMU rake is _____. A) Dynamic brake B) DC link Overvoltage protection C) Regeneration brake D) A and B	**D**
419	Revised Periodicity of IC schedule for 3 Phase EMUs is _____ days. A) 10 B) 45 C) 180 D) 240	**D**
420	Revised Periodicity of TI schedule for 3 Phase EMUs is _____ days. A) 10 B) 45 C) 15 D) 20	**C**
421	Revised Periodicity of IA schedule for 3 Phase EMUs is _____ days. A) 60 B) 45 C) 15 D) 20	**A**
422	Revised Periodicity of UI (UST) schedule for 3 Phase EMUs is _____ days. A) 180 B) 210 C) 45 D) 120	**B**

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423	Revised Periodicity of POH schedule for 3 Phase EMUs is _____ months. A) 18 B) 21 C) 24 D) 12	**C**
424	In Medha underslung EMU Pantograpgh is provided in _____Coach. A) DMC B) TC C) MC D) TC1	**B**
425	In Medha underslung EMU Compressor is provided in _____Coach. A) DMC B) TC C) MC D) TC1	**C**
426	In BHEL A/C EMU Compressor is provided in _____Coach. A) DMC B) TC2 C) MC D) TC1	**D**
427	In Medha underslung EMU Parking brakes are provided in _____Coach. A) All MC B) All TC2 C) Both DMC D) TC1	**A**
428	In 3 phase EMU Parking brakes are provided in _____Coach. A) All B B) All C C) All A D) Both DTC	**B**
429	In BHEL A/C EMU Parking brakes are provided in _____Coach. A) All DMC/NDMC B) All TC2 C) All TC1 D) Both DMC	**A**
430	In 12 Car 3 phase EMU Total no. of Fire extinguisher _____ A) 4 B) 8 C) 6 D) 2	**C**
431	In BHEL A/C and Medha underslung EMU Total no. of Fire extinguisher _____ A) 36 B) 8 C) 6 D) 32	**D**
432	In Medha underslung EMU each RMPU capacity _____ A) 1x7.5t B) 2x7.5t C) 3x7.5t D) 4x7.5t	**B**
433	In 12 Car 3 phase EMU each RMVU/AHU has _____ blowers A) 4 B) 8 C) 6 D) 2	**D**
434	In 12 Car 3 phase EMU capacity of Auxiliary Compressor is _____ . A) 1 HP B) 3HP C) 1kW D) 2kW	**A**
435	In Medha underslung EMU auxiliary Compressor is provided in _____ coach. A) undertruck f MC B) HTC of TC C) undertruck of TC D) HTC of MC	**C**
436	In 12 Car 3 phase EMU capacity of Auxiliary Reservoir is _____ . A) 40L B) 125L C) 150L D) 75L	**B**
437	In 12 Car 3 phase EMU capacity of Supplimentary Reservoir is _____ . A) 60L B) 125L C) 150L D) 80L	**B**
438	In 12 Car 3 phase EMU capacity of Air Spring auxiliary Reservoir is _____ . A) 20L B) 30 L C) 9L D) 150L	**A**
439	In 12 Car 3 phase EMU capacity of Parking brake Reservoir is _____ . A) 20L B) 30 L C) 9L D) 150L	**C**
440	In 12 Car 3 phase EMU capacity of Equilising Reservoir is _____ . A) 20L B) 30 L C) 6L D) 9L	**D**
441	In Medha EMU Holding brake can be released from _____ menu of DDU. A) Brake B) Brake Test C) EP brake D) Drive/Brake	**A**
442	In Bombardier EMU Holding brake can be released from _____ menu of HMI. A) Brake B) Brake Test C) EP brake D) Drive/Brake	**B**
443	In BHEL A/C EMU Holding brake can be released from _____ menu of DDU. A) Brake B) Brake Test C) EP brake D) Drive/Brake	**B**
444	In BHEL A/C EMU EP brake binding can be isolated from _____ menu of DDU. A) Brake B) Brake Test C) EP brake D) Drive/Brake	**C**
445	In Medha Onboard EMU EP brake binding can be isolated from _____ menu of DDU. A) EP brake isolation B) Brake Test C) Brake D) Drive/Brake	**A**
446	In Bombardier EMU EP brake binding can be isolated from _____ menu of DDU. A) Brake B) Brake Test C) EP brake D) Drive/Brake	**A**
447	In Bombardier EMU both DTC BP can seen from _____ menu of HMI. A) Brake B) Brake Test C) EP brake D) Emergency brake	**D**
448	In Medha EMU both DTC BP can seen from _____ menu of DDU. A) Brake B) A and D C) EP brake D) Air spring	**B**

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449	In Medha EMU _____ MCB should be set for High Priority mode A) Cab Occupy control 1 B) Cab Occupy control 2 C)Cab Occupy control 1 and 2 both D) Master Controller	**B**
450	In Bombardier EMU _____ MCB should be set for High Priority mode A) GC-F1 B) GC-F2 C) GC-F1 and GC-F2 both D) Master Controller	**B**
451	In Siemens EMU if Master controller MCB is tripped _____ Kg/cm2 brake does not release A) 0.8 B) 1.2 C) 1.6 D) 1.8	**A**
452	In Medha underslung EMU total no. of Parking brake cylinders are _____. A) 16 B) 8 C) 24 D) 20	**C**
453	In 3 phase EMU power circuit fuction is to convert 25kV OHE supply to _____ . A) 3 phase 415V B) 3 phase 950V C) A and D D) 3 ph VVVF	**D**
454	In 3 phase EMU Line Conveter converts transformer AC supply to _____ . A) Variable DC B) Fixed DC C) 1800V AC D) 3 ph VVVF	**B**
455	In 3 phase EMU traction Conveter converts DC link voltage to _____ . A) 415V AC B) Fixed DC C) 1800V AC D) 3 ph VVVF	**D**
456	In 3 phase EMU auxiliary Conveter is used for supply _____ . A) 415V AC B) 110V AC C) 110V DC AC D) All	**D**
457	In Siemens EMU when Unit brake binding is isolated by tripping barke control BCU and brake control TCU, speed of train limitted to _____ . A) 82 B) 75 C) 101 D) 83	**B**
458	During Dynamic braking : A) Kinetic energy of Rake is converted to Electrical Energy B) Electrical energy is converted to mechanical energy, C) Mechanical brakes are applied in loco D) None of them.	**A**
459	During Regenerative braking: A) Electrical energy produced is converted to heat energy, B) Electrical energy produce is fed to traction motor, C) Electrical energy produced is fed back to OHE D) None of above.	**C**
460	When OHE > 25 KV and Regeneration brake fails, OHE becomes non receptive, energy is dissipated in _____ A) MCM B) DBR C) LCM D) Chopper	**B**
461	SIEMENS EMU does not pick up speed more than 10kmph, Energy overview screen displays and no other screen can be selected without giving _____ in case of speed sensor failure. A) Test Reset B) Critical Fault Reset C) Fault Reset D) Speed Reset	**D**
462	TM symbol 'M' will turn _____ background in the unit where wheel lock is suspected. A) Yellow B) Red C) Grey D) Blue	**A**
463	In Siemens EMU Ensure ____ & ____ MCBs are SET when No communication message comes on MMI. A) SKS 11 and SKS 12 B) MVB line A & MVB line B C) Cab Occupied D) A and B	**B**
464	In Siemens EMU Pilot valve isolation switches are normally in _____ position. A) ON B) OFF C) Zero D) None of these	**A**
465	In Siemens rake Select _____ screen on MMI before conducting brake power test on run. A) Brake B) Top Level C) Brake Test D) Drive/ Brake	**D**
466	In Siemens rake EBL1 and EBL3 relay circuits are normally _____ . A) De-energised B) Energised C) Active D) Charged	**B**
467	In Siemens rake EBL 2 relay circuit is normally _____ . A) De-energised B) Energised C) Active D) Charged	**A**

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468	EMU train cab be worked with maximum _____bogie isolated from Carshed A) Two B) One C) Three D) Four	**B**
469	EMU train cab be worked with maximum _____bogie isolated from Yard A) Two B) One C) Three D) Four	**A**
470	EMU train cab be worked with maximum _____bogie isolated while working Online A) Two B) One C) Three D) Four	**D**
471	Input supply to Battary Charger in BHEL rake A) 110V 3 ph.AC B) 140V 3 ph.AC C) 415V 3 ph.AC D) 46V 3 ph.AC	**B**
472	Input supply to Battary Charger in Siemens rake A) 110V 3 ph.AC B) 140V 3 ph.AC C) 415V 3 ph.AC D) 46V 3 ph.AC	**C**
473	Input supply to Battary Charger in BT rake A) 110V 3 ph.AC B) 140V 3 ph.AC C) 415V 3 ph.AC D) 46V 3 ph.AC	**D**
474	Input supply to Battary Charger in MEDHA rake A) 130V 3 ph.AC B) 140V 3 ph.AC C) 415V 3 ph.AC D) 46V 3 ph.AC	**A**
475	Total capacity of RMPU in a B coach of BHEL EMU A) 30 TOR B) 20 TOR C) 7.5 TOR D) 15 TOR	**A**
476	Which SKS provided in motor coach of Siemens Rake (A) SKS 11 (B) SKS12 (C) SKS 13 (D) SKS 22	**D**
477	In BT Rake if all MAC are showing white background what would be the appropriate action (A) Give Start all compressor command (B) Give fault reset (C) Give critical Reset (D) None of these	**A**
478	If micro-switch of ICS becomes defective what is to be done to occupy the cab in medha rake (A) Twist the D/M handle (B) Put the cab selector switch to High priority (C) Put the ICS Bypass switch to ON position (D) None of these	**C**
479	Greasing of Articulation Bearing Bolt in luggage compartment is to be done in which schedule(Minimum Periodicity) (A) TI (B) IA (C) IC (D) HR	**B**
480	Inter-turn fault in Traction Motor winding is to be checked by (A)Megger (B) DLRO(C) Multimeter(D) None of these	**B**
481	MPCB in motor circuit is a protection device against (A) Over current (B) Over voltage (C) Over temperature of motor (D) None of these	**A**
482	From the following in which rake ERB is provided in A and C coach in addition to TM? (A)Medha (B) BT (C)Siemens(D) None	**B**
483	In which rake Auxiliary Compressor is provided in underframe (A) BT (B) Medha (C) Under slung Medha (D) On board Medha	**C**
484	Rocker Assembly is the part of ? (A)Transformer (B) Pantograph(C) TM (D) Bogie	**B**
485	In BT rake BP continuity can be check on which screen? (A)Brake (B) Air supply (C)Emergency Brake (D) None of these	**C**
486	In which rake maintenance mode is required to isolate the EP brake (A) Medha (B) BT (C) BHEL (D) NONE OF THESE	**A**
487	Working voltage of LED headlight? (A) 110 V AC (B) 110 V DC (C) 24 V DC (D) NONE OF THESE	**B**
488	Buffer height in mm in EMU is kept at ? (A) 1035 (+15/-15) (B) 1035 (+0/-15) (C) 935 (D) NONE OF THESE	**B**
489	Parking brake in BT rake can be isolate through …….screen of HMI (A) Overview (B) Unit level (C) Any of these (D) none of these	**B**
490	To find out crack in Panto horn which test is to carried out (A)DPT (B)Weight measurement (C) UST (D) NONE OF THESE	**A**

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491	To find out what DPT is carried out in pantograph (A) Crack in Panto horn (B) Crack in Panto Strip (C) Raising/Lowring Time (D) NONE OF THESE	**A**
492	Normal current of one compressorin RMPU (A) 5-8 amp (B) 18-22 amp (C) 30-32 amp (D) none of these	**B**
493	Number of main compressor in Under slung EMU. (A) 2 (B) 3 (C) 4(D) None	**B**
494	TCMS ensures that at RMPUs must run on at least …… load in case of not more than two failures Occurred in BHEL AC EMU Rake (A) 25% (B) 50% (C) 75% (D) 60 %	**B**
495	In Medha Rake maintenance login not required for (A) Parking Brake override (B) Basic unit isolation control (C) both (a)and(b) (D) None of these	**C**
496	When speed sensor is faulty in Siemens Rake, what happened? (A) Speed becomes 10 kmph (B) Energy overview screen on mmi (C) message press reset speed on mmi (D) All of these	**D**
497	When ICS made ON in EMU rake but BP not charging which is may be due to (A) AWS feed cut off magnet valve may defective (B) Dead man feed cut off magnet valve may defective (C) ICS may be defective (D) All of these	**D**
498	Output signal of pressure sensor in brake unit in in Siemens EMU rake (A) 2.2 mA (B) 3.2 mA (C) 4.2 mA (D) 1.2 mA	**D**
499	How many temperature sensor are provided in a RMPU (A) 2 (B) 3 (C) 4 (D) None of these	**A**
500	Total nuber of traction motors in 12 car Under slung EMU (A) 20 (B) 24 (C) 16 (D) None of these	**B**
501	Which type of neutral section, is preferred for main line in heavily graded/ suburban section? A) overlap type B) PTFE. Type short neutral section (SNS) C) short neutral section comprising section insulator assembly D) none of the above	**B**

TRD

1	In the vicinity of the 25 KV ac OHE , the heavy induction is developed on ----------, which parallel to the 25 KV ac OHE. A) metallic roof of the platform B) fencing near the track C) any other conductor D) all of the above.	**D**
2	OHE & other railway staff should avoid contact with the rail , when electrical hauled train is within :- A) 50 m B) 200 m C) 250 m D) 500 m	**C**
3	Distance between two consecutive OHE structures is called :- A) tension length B) span length C) encumbrance D) stagger	**B**
4	Maximum span length in AC traction is : A) 67.5 meter B) 72 meter C) 63 meter D) 22 meter	**B**
5	Distance between one anchoring end to other anchoring end of OHE's conductors is called:- A) tension length B) span length C) implantation D) encumbrance	**A**
6	Maximum tension length in ac traction is:- A) 1500 m B) 1600 m C) 1000 m D)750 m	**A**

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7	In ac traction, maximum tension length may be permissible in yard :- A)1500 m B)1600 m C)1800 m D)2000 m	**D**
8	Which type of overlap is formed at the end of every tension length:- A) insulated overlap B) un-insulated overlap C) either Insulated overlap or un-insulated overlap. D) none of the above.	**C**
9	Axial distance between catenary & contact wire at the OHE support, in vertical plane is called A) implantation B) gradient of OHE C) encumbrance D) stagger	**C**
10	In AC traction ,normal encumbrance at support is:- A) 1.9 m B)1.4 m C) 0 .9 m D)2.0 m	**B**
11	In AC traction , the axial distance between catenary & contact wire in vertical plane at mid span should not be less then:- A) 150mm B) 170mm C) 180mm D) 270mm	**A**
12	Change in contact wire height with respect to per unit meter length of contact wire is called : A) gradient of contact wire B) either Gradient of contact wire or track C) gradient of track D) neither gradient of contact wire nor track	**A**
13	Maximum permissible gradient of contact wire, when max. permissible train speed is more than 100kmph. :- A) 2 mm/m B) 3 mm/m C) 4 mm/m D) 5 mm/m	**B**
14	Maximum permissible gradient of contact wire, when max. permissible train speed is shunting speed in yard :- A) 3 mm/m B) 4 mm/m C) 5mm/m D) 10 mm/m	**D**
15	Droppers are used for:- A) leveling the contact wire B) to maintain stagger C) reduced the sag in catenary wire D) none of the above	**A**
16	Diameter of in-span dropper in ac traction is:- A) 7 mm B) 6.75 mm C) 6 mm D) 5 mm	**D**
17	Cross section area of AC catenary wire is :- A) 107 sq. mm B) 98 sq. mm C) 65 sq. mm D) 61 sq. mm	**C**
18	Diameter of new AC contact wire (107) is:- A) 16.36 mm B) 12.24 mm C) 10.55 mm D) 8.25 mm	**B**
19	Condemning size of AC contact wire :- A) 8.93 mm B) 8.34 mm C) 8.25 mm D) 8.89 mm	**C**
20	Condemning size of AC contact wire (107) may be permissible in yard :- A) 8.00 mm B) 8.34 mm C) 8.25 mm D) 8.89 mm	**A**
21	Cross section area of AC contact wire is :- A) 193 sq. mm B) 158 sq. mm C) 107 sq. mm D) 97 sq. M	**C**
22	The displacement of contact wire with respect to the pantograph axis is called:- A) implantation B) stagger of contact wire C) gradient of contact wire D) sag	**B**
23	In AC traction, maximum stagger of contact wire on curved track is:- A) 380 mm B) 300 mm C) 229 mm D) 200 mm	**B**
24	In AC traction, maximum stagger of contact wire on tangent track is :- A) 380 mm B) 300 mm C) 229 mm D) 200 mm	**D**
25	Maximum stagger is allowed at mid span is:- A) 229 mm B) 200 mm C) 152 mm D) 100 mm	**D**
26	Contact wire is placed in zig- zag manner in entire span length , why ? A) to avoid formation of groove on pantopan strip. B) uniform rubbing of pantopan strip within current collection zone. C) to avoid breakdown due to formation of groove in pantopan strip D) all of the above	**D**

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27	OHE conductors are terminated on auto tensioning device (ATD) at both end of tension length on anchoring structures . This type of OHE is called:- A) regulated OHE B) unregulated OHE C) tram way OHE D) compound OHE	**A**
28	In regulated OHE, Where anticreep point is provided ? A) starting of tension length B) finishing of tension length C) midway of tension length D) all of the above	**C**
29	Unregulated OHE is suitable for the speed:- A) above 100 KMPH B) less than 60 KMPH C) upto 80 KMPH D) upto 105 KMPH	**D**
30	An arrangement of OHE over a track , where two sets of OHE conductors are run parallel to each other for a short distance & provide smooth passage for pantograph, is called:- A) turnout B) crossover C) overlap D) neutral section	**C**
31	Insulated overlap is required for:- A) OHE sectioning purpose B) to kept OHE in current collection zone at curve C) to maintain height of OHE conductors D) all of the above	**A**
32	In AC traction , distance between two OHE's conductor in insulated overlap is kept: A) 500 mm. B) 380 mm. C) 300 mm. D) 200 mm.	**A**
33	In AC traction , distance between two OHE's conductor in un-insulated overlap is kept:- A) 375 mm. B) 300 mm. C) 150 mm. D) 200 mm.	**D**
34	Normally, insulated overlap are employed at the location:- A) SSP B) FP C) switch overlap D) all of the above	**D**
35	A short dead section of OHE, which separates two adjoining elementary section & provide smooth passage for pantograph is called :- A) insulated overlap B) un-insulated overlap C) neutral section D) all of the above	**C**
36	The effective dead length of PTFE. type neutral section (make Arthur flurry) is :- A) 6.5 m B) 5.64 m C) 5.92 m D) 6.21 m	**A**
37	The Overall length of PTFE type short neutral section assembly (make Arthur flurry) is :- A) 6.5 m B) 5.64 m C) 9.5 m D) 6.21 m	**C**
38	PTFE stands for :- A) Plastic Tetra Floro Ethane B)Poly Thermo Finials Ethane C) Poly Tetra Floro Ethane D) Poly Tetra Floro Ethylene	**D**
39	P.T.F.E. type short Neutral section (Arthur flurry) s suitable upto the speed:- A) 70 KMPH B) 100 KMPH C) 200 KMPH D) 140 KMPH	**C**
40	Which caution boards are provided on OHE masts to vigil the driver of train about the neutral section ahead ? A) 100 m.& 500 m. B) 2000 m. & 1000 m. C) 500 m. & 250 m. D) 250 m. & 150 m.	**C**
41	A device, which installed in contact wire to separate two elementary section & provide smooth passage for pantograph is called :- A) insulated overlap B) section insulator C) bracket Assembly D) cut-in insulator	**B**
42	In AC traction, which jumper distribute the current between catenary wire & contact wire ? A) "C" Jumper B) "F" jumper C) "G" jumper D) "S" jumper	**A**
43	"F" jumpers are provided at :- A) insulated overlap B) un-insulated overlap C) turnout D) anticreep point	**A**

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44	"G" jumper is used at :- A) insulated overlap B) turnout C) both Un- insulated overlap & Turnout D) insulated overlap	**C**
45	Minimum electrical clearance [long duration] between live & earth for 25 KV AC is :- A) 250 mm B) 320 mm C) 270 mm D) 220 mm	**A**
46	Minimum electrical clearance [short duration] between live & earth for 25 KV AC is :- A) 390 mm B) 270 mm C) 220 mm D) 200 mm	**D**
47	Minimum working clearance for 25 KV AC is : A) 500 mm B) 1 m C) 2 m D) 3 m	**C**
48	Earth resistance when not specified should not be more than :- A) 9 ohm B) 10 ohm C) 5 ohm D) 2.5 ohm	**B**
49	In 25 KV AC traction , Stay tube insulator is used in cantilever assembly in between :- A) mast fitting & stay tube B) mast fitting & bracket tube C) bracket tube & register arm D) register arm & stay tube.	**A**
50	In 25 KV AC traction , Bracket tube insulator is used in cantilever assembly in between :- A) mast fitting & stay tube B) mast fitting & bracket tube C) bracket tube & register arm D) register arm & stay tube.	**B**
51	9-Ton insulator is used mainly :- A) to support catenary & contact on structure B) anchoring of OHE conductors C) support cross span wire D) support in section insulator assembly	**B**
52	Normally, two adjacent 25 KV AC traction sub stations works as in :- A) parallel B) series C) independent D) can not say	**C**
53	Sub- Sectioning & parallel Post (SSP) are employed in OHE due to ? A) to minimise voltage drop B) OHE sectioning purpose C) restrict tension length D) all of the above	**B**
54	The distance of OHE section between FP & SSP or SSP & SSP or SSP & SP is called :- A) feeding length B) feeding zone C) sector D) sub sector	**D**
55	The distance of OHE section between FP & SP is called: A) feeding length B) feeding zone C) sector D) sub sector	**C**
56	The distance of OHE section, for which "a traction transformer will feed power in emergent condition: A) feeding length B) feeding zone C) sector D) sub secto	**A**
57	The distance of OHE section, for which "a traction transformer will feed power in normal condition : A) feeding length B) feeding zone C) sector D) sub sector	**B**
58	The shortest section of OHE, which can be isolated through remote control by TPC is called :- A) elementary section B) feeding zone C) sector D) sub sector	**D**
59	The shortest section of OHE, which can be isolated manually is called :- A) elementary section B) feeding zone C) sector D) sub sector	**A**
60	Interrupter is a :- A) non automatic type circuit breakers B) automatic type circuit breakers C) both 'a' and 'b' D) neither 'a' nor 'b'	**A**
61	As a standard practice, the no. plate of OHE structures for UP line will be such as :- A) 75/12, 75/13, 75/14, ------etc. B) 75/12A, 75/13A, 75/14A, ------etc. C) 75/13, 75/15, 75/17, ------etc.. D) 75/13A, 75/15A, 75/17A, ------etc..	**C**
62	As a standard practice, the no. plate of OHE structures for DN line will be such as :- A) 75/12, 75/13, 75/14, ------etc. B) 75/12, 75/14, 75/16, ------etc. C) 75/13, 75/15, 75/17, ------etc.. D) 75/13A, 75/15A, 75/17A, ------etc..	**B**
63	The no. plate of OHE structures for loops & sidings line will be such as :- A) 75/101, 75/102, 75/103, ------etc. B) 75/100, 75/102, 75/104, ------etc. C) 75/101, 75/103, 75/105, ------etc.. D) 75/1001, 75/1003, 75/1005, ----etc..	**D**

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64	Magger is used to measure :- A) voltage B) current C) insulation resistance D) all of the above	**C**
65	A weather is treated as thick, foggy weather , when visibility of the signal can not be seen from the minimum distance :- A) 400 m B) 270 m C) 200 m D) 180 m	**D**
66	From any live part of the OHE , tree branches should not be nearer than :- A) 0.5 m B) 1 m C) 2 m D) 4 m	**D**
67	Traffic block is granted to the OHE supervisors for heavy maintenance work by :- A) section controller in consultation with the TPC B) TPC in consultation with the section controller C) section controller with the permission of TPC D) TPC with the permission of section controller	**A**
68	A switch gear is device for A) Interrupting an electrical Circuit. B) Switching an electrical circuit. C) Switching and controlling an Electrical circuit D) Swishing controlling and protecting the electrical circuit and equipment.	**D**
69	A circuit breaker an Equipment which can open or close a circuit under. A) No load condition B) Fault condition C) full load condition D) all above condition.	**D**
70	An isolator switch to A) An automatic device for breaking circuit. B) A relay operated device for breaking circuit. C) Opens a circuit under no load. D) Opens a circuit under load.	**C**
71	The insulation of the cable is related with A) Current B) Voltage C) Resistance D) Magnetic flux	**B**
72	The current capacity of the cable is related with A) Insulation of conductor B) Cross section of conductor C) Armature of the cable D) Length of the cable	**B**
73	The circuit breakers preferred for extra high tension applications A) Air blast circuit breaker B) SF6 circuit breaker C) Minimum oil circuit breaker D) None of the above	**B**
74	Under the fault condition the information to the circuit breaker is provided by A) Rewirable fuse B) HRC Fuse C) Relay D) All of the above	**C**
75	In the event of a fault on connected circuit , A circuit breaker will operate A) Manually B) Manually through control switch C) Automatically D) Depends upon the design	**C**
76	In a transformer which of the following does not change A) Voltage B) Current C) Frequency D) All of the above	**C**