सत्यमेव जयते

(Govt. of India)
(Ministry of Railways)

QUESTION BANK

ON

COACHING STOCK

(For official use only)

IRCAMTECH/2006/M/C/QB/1.0

April – 2006

C*entre*
for
A*dvanced*
M*aintenance*
TECH*nology*

उच्च अनुरक्षण प्रौद्योगिकी केन्द्र

Excellence in Maintenance

PREFACE

The examination of coaching stock becoming more and more crucial with the induction of high-speed coaching stock, new type of coaching stock and running of more and more Passengers rakes. Coaching stock examination is a safety-related work. The artisan and supervisors involved in these safety works are supposed to be upto-date in respect of the technical knowledge of the coaching stock. This is the reason of the growing importance of BTC's and STC's where the technicians and supervisor are imparted training.

With a view to help the training centres to test the persons in the best possible ways, CAMTECH has compiled a question bank on coaching stock, having more than 500 questions. The question bank is also provided with answers and the sources from where the answers have been taken from.

Further to make the questionnaire truly interactive and to serve as a yardstick to gauge the grasp on the subject of the trainees, quiz based test software has been developed as a supplement to the compiled question bank. This software will serve the wider objective of trainer's tool for assessment of candidate's progress.

The computer software is based on the question bank compiled. So, this question bank and the related software are supplement to each other. It is hoped that the question bank and the software will prove to be very useful in the training centres and also in the field.

CAMTECH is thankful to all those who extended their help in the preparation of this project.

30.06.2006 **(Kundan Kumar)**
CAMTECH. Gwalior **Director (Mech)**

GO TO CONTENTS

Quiz based software - RIAAS (Coaching)

1. Based on this question bank an interactive software called 'Rail Info Aptitude Assessment Software' –RIAAS (Wagon) has been prepared.
2. With RIAAS (Wagon) a person can be examined on computer for his knowledge related to wagon maintenance.
3. RIAAS (Wagon) uses Visual Basic platform with MS-Access being used as the back end (database). The software runs on Windows Operating System.
4. Configuration of computer to use the software:
   Hardware requirement:

   - Pentium III processor or above
   - RAM- 64 MB or more
   - CD-Rom drive

   Software requirement:

   - Windows operating system (preferably XP)
   - MS office 2000 (with MS Access)

5. Each question in the question bank has been divided in to 03 grades. {1. Easy 2. Average 3. Difficult}
6. The trainer can make a set of question (10 no to 100 nos). The question can be from any selected topic or from all the topics. Also the question can be had from easy, average, difficult grade of questions or combination of these.
7. The RIAAS (Wagon) software is password protected. Password is known to the administrator (custodian of software) who can change the password through the "password change option".
8. Detailed instructions are available at the opening screen of the software.

GO TO CONTENTS

CONTENTS

GO TO CONTENTS

BOOK DETAILS

1. NAME: -	" Question Bank on Coaching Stock "
2. Reference No.: -	CAMTECH/2005/M/C/Q.B/1.0
3. Edition: -	First edition
4. Year of publication: -	2006
5. Target group: -	Technicians & supervisors wagon examination yard, ROH/Sick line, STC's & BTC's of Indian Railways.
6. Revision detail: -	Revision as per requirement
7. Total number of pages: -	113 Nos.
8. Compiled By: -	Dharmendra Agrawal STA (Mech), CAMTECH

GO TO CONTENTS

CHAPTER -1

GENERAL

1.01 The standard wheel gauge of passenger BG coaching stock is –

(a) 1602 mm (b) 1601 mm (c) **1600 mm** (d) 1598 mm

1.02 The maximum wheel gauge of passenger BG coaching stock is -

(a) 1600 mm (b) 1601 mm (c) 1598.5mm **(d) 1602 mm**

1.03 The minimum permissible wheel gauge of passenger BG coaching stock is –

(a) 1601.5 mm (b) 1600 mm **(c) 1599 mm** (d) 1601 mm

1.04 Length over body of ICF BG coaches is –

(a) 2334 mm (b) 2310 mm **(c) 21337 mm** (d) 22132 mm

1.05 Rigid wheelbase of ICF BG trolley is –

(a) 2896 mm (b) 2803 mm (c) 2990 mm (d) 2837 mm

1.06 At what interval, the intensive cleaning of any coach is?

(a) Three month **(b) One month** (c) Six month (d) Eight month

1.07 What is the interval for cleaning coach water tank?

(a) 15 days (b) 25 days **(c) one month** (d) two month

1.08 What is the period for the POH of any OCV attached to a passenger train?

(a) Nine month (b) 12 month (c) 18 month **(d) 24 month**

1.09 What shall be the period for POH for a coach attached to Mail/ Express train?

(a) 9 month (b) 12 month (c) 18 month **(d) 24 month**

1.10 What shall be the period for POH of PCV attached with any other then train mail/ Express train?

(a) 9 month **(b) 12 month** (c) 18 month (d) 24 month

1.11 The other name of pilot valve is –

(a) PESAD **(b) PEASD** (c) PDEAS (d) EPASD

1.12 What is the period for POH of departmental coach except ART/ARME?

(a) 24 month (b) 36 month **(c) 42 month** (d) 60 month

1.13 Transportation code of the ladies compartment is –

(a) X (b) Z (c**) Y** (d) L

1.14 What is the Transportation code of second class fitted with self-generating electrical equipment?

(a) SG (b) **GS** (c) GY (d) GSD

1.15 What is the Transportation code of inspection carriage (Administrative)?

(a) AR (b) CR (c) IC (d) **RA**

1.16 Transportation codes of the pantry car is –

(a) BC (b) PC **(c) WCB** (d) CD

1.17 Which part is not used in ICF trolley?

(a) Dashpot (b) Side bearer (c) Shock absorber (d) **Drag link**

1.18 Transportation codes of vestibule second class 3- tier sleeper coach fitted with self-generating electrical equipment is –

(a) WGSCNA (b) **WGSCN** (c) MGSCN (d) GSMGCN

1.19 What is the Transportation code of vestibule III class two-tier sleeper coach fitted with self-generating electrical equipment and ladies compartment?

(a) WCBSCZA (b) **WGSCNY** (c) WGSCWY (d) YZZFS

1.21 What is the maximum permissible clearance between brake gear pin and bushes?

(a) 0.5 mm (b) 1.0 mm **(c) 1.5 mm** (d) 2.0 mm

1.22 As per policy circular No-4 secondary examination of mail/express has been skipped on round trip upto-

(a) 800 Km (b) 1500 Km **(c) 2500 Km** (d) 1800 Km

1.23 In coach, the load transmission takes place through -

(a) Center pivot (b) Bogie (c) **Side bearer** (d) Wheel

1.24 The CI brake block should be changed, if worn out beyond-

(a) 10 mm (b) 15 mm (c**) 20 mm** (d) 22 mm

1.25 The 'L' type composite brake block should be changed, if worn out beyond-

(a) 10 mm (b) 15 mm (c) 20 mm (d) 22 mm

1.26 The 'K' type composite brake block should be changed, if worn out beyond-

(a) 10 mm **(b) 12 mm** (c) 20 mm (d) 22 mm

1.27 Std. packing pieces of ICF coach is –

(a) 13,14,26 mm (b) 13,22,28 mm (c) **13,26,38,48 mm** (d) 22,26,32 mm

1.28 Coaching stock accident involving human life enquiry by-

(a) CME (b) **CRS** (c) Sr.DME (d) ADRM

1.29 Yellow strips on end body of ICF indicate is –

(a) **Antitclescopic** (b) Dual brake (c) In built air brake (d) Non-Antitalescop

130 What defect is detecting UST test?

(a) **Internal crack** (b) external crack (c) Air flow crack (d) None of the above

1.31 The original HAL bogies with speed potential of -

(a) 92 km/h (b) **92 km/h** (c) 92 km/h (d) 92 km/h

1.32 What is Codal life of steel bodied coaches (Including dining / pantry cars) -

(a) 40 years (b) 30 years (c) **25 years** (d) 22 years

1.33 What is codal life of IRS coaches?

(a) 40 years (b) **30 years** (c) 25 years (d) 20 years

1.34 Codal life of light utilisation categories of coaches is -

(a) **40 years** (b) 30 years (c) 25 years (d) 20 years

1.35 Periodicity of periodic overhauls earning less then 2.5 lakhs Kms per annum is -

(a) **12 Month** (b) 18 Month (c) 24 Month (d) 30 Month

1.36 The standard thickness of compensating rings is -

(a) 2 mm (b) 4 mm **(c) 6 mm** (d) 8 mm

1.37 Tare weight of the WGS CZAC coach is -

(a) 50.30t (b) **49.30t** (c) 48.77 t (d) 47.22 t

1.38 Payload of the WGSCZAC coach is -

(a) 6.38t (b) 7.22 t (c) **5.680 t** (d) 4.889 t

1.39 Gross weight of the WGSCZAC coach is -

(a) **54.98 t** (b) 56.36 t (c) 59.22 t (d) 52.23t

1.40 Tare weight of the WGSCWAC coach is -

(a) 49.75 t (b) 49.30 t (c) **50.00 t** (d) 46.50 t

1.41 Total payload of the WGSCWAC coach is –

(a) 1.440 t (b) 5.680 t (c**) 3.680 t** (d) 2.275 t

1.42 Tare weight of the GS coach is –

(a) 36.99 t (b) 46.99 t (c) 38.03 **t** (d) 37.70 t

1.43 Normal payload of the GS coach is -

(a) 6.98 t (b) **5.85 t** (c) 6..67 t (d) 7.21 t

1.44 What is overload of the GS coach?

(a) 85% (b) 90% **(c) 100%** (d) 150%

1.45 Total payload of the GS coach is -

(a) 5.79 t (b) 12.60 t **(c) 11.70 t** (d) 14.04 t

1.46 In tare condition the bogie frame bolster clearance of non-AC, GS, SDC, SCN coach is -

(a) 48 ± 3mm **(b) 40 ± 5mm** (c) 47 ± 2mm (d) 29 ± 3mm

1.47 In gross load condition, the bogie frame bolster clearance of non AC, GS coach is -

(a) 75 ± 3mm (b) 78 ± 2mm **(c) 74 ± 3mm** (d) 71 ± 2mm

1.48 In tare condition the body bogie clearance of non AC, GS, SDC, SCN coach is -

(a) 70 ± 3mm (b) 72 ± 3mm (c) 75 ± 3mm (d) 78 ± 2mm

1.49 In gross load condition, the body bogie clearance of non-AC, GS, coach is -

(a) 26 ± 3mm (b) 29 ± 2mm (c) 30 ± 2mm **(d) 36 ± 3mm**

1.50 What shall be the period for cleaning of carpet of AC compartment?

(a) Two month **(b) one month** (c) 15 day (d) Three month

1.51 All newly built coaches shall be given IOH after -

(a) One month (b) six month **(c) one year** (d) two year

1.52 The revised maximum payloads of NMG coaches are -

(a) 7.39 t (b) 8.23 t **(c) 9.20 t** (d) 10.32 t

1.53 The length of over body of IRS coach is -

(a) 21337 mm (b) 21336 mm (c) 21996 mm **(d) 21030 mm**

1.54 The length over buffer of ICF/ RCF coach is -

(a) 22297 mm (b) 22299 mm (c) 21996 mm (d) 21030 mm

1.55 What is the length of coach over buffer of IRS coach?

(a) 22297 mm (b) 22296 mm (c) 21336 mm **(d) 21996 mm**

1.56 Over all width of ICF/ RCF coach is -

(a) 3251 mm (b) 3250 mm **(c) 3245 mm** (d) 3991 mm

1.57 In IRS coach, what is the of overall width?

(a) 3251 mm (b) 3250 mm (c) 3245 mm (d) 3.991 mm

1.58 The height from rail level of ICF/ RCF coach is -

(a) 3886 mm **(b) 4025 mm** (c) 3991mm (d) 3251 mm

1.59 In IRS coaches, the maximum height from rail level top of the roof is -

(a) 4025 mm (b) 3991 mm (c) 3786mm **(d) 3886 mm**

1.60 In ICF coach, replace Headstock if the thickness is reduce more than -

(a) 2 mm (b) 8 mm **(c) 4 mm** (d) 6 mm

1.61 Maintenance and repair procedure for hydraulic shock absorbers used on coaching stock, what RDSO technical pamphlet is used -

(a) C-7512 (b) C-7301 **(c) C-6803** (d) C-7607

1.62 Maintenance and repair procedure for wheel and axle manual, what RDSO's technical pamphlet is used.-

(a) C-7512 **(b) C-7907** (c) C-7901 (d) C-7809

1.63 Instruction for Inspection/ maintenance of air brake equipment on passenger coaches, what RDSO's technical pamphlet is used -

(a) C-7512 (b) C-7907 **(c) C-8805** (d) C-8703

1.64 Description of water raising system to SK- 86209 and instruction for filling water for air brake coaches, what RDSO's technical pamphlet is used -

(a) C-9009 (b) C-9011 (c) C-9103 (d) C-9105

1.65 Maintenance manual for IRSA-600 slack adjuster, what RDSO's technical pamphlet is used -

(a) G-92 (b) G-97 (c) G-67 (d) G-94

1.66 At what schedule the painting of lavatories from inside is done –

(a) 'B' schedules (b) 'A' schedule (c) 'C' schedule (d) Special schedule

1.67 Permitted luggage allowed for II^{ad} class pass is –

(a) 35 Kg/ head **(b) 50 Kg/ head** (c) 70 Kg/ head (d) 100 Kg/ head

1.68 Permitted luggage allowed for Ist class pass is –

(a) 35 Kg/ head (b) 50 Kg/ head **(c) 70 Kg/ head** (d) 100 Kg/ head

1.69 Re painting of coaching stock as per "C" schedule is done at every –

(a) 3.0 year (b) 3.5 year (c) 4.5 year **(d) 5.0 year**

1.70 Rehabilitation of coaching stock is carried out between –

(a) 10 to 12 year **(b) 12 to 15 year** (c) 15 to 18 year (d) 18 20 year

1.71 How many emergency windows provided in AC ICF/RCF coaches are –

(a) Two (b) Three **(c) Four** (d) Five

1.72 Rehabilitation cost of coaching stock is –

(a) 15% of the total cost (b) 20% of the total cost

(c) 25% of the total cost (d) 35% of the total cost

1.73 At what interval, the schedule 'C' examination of a BG coach is?

(a) One month ± 3 days (b) Three month ± 3 days

(c) Six month ± 7 days (d) Nine month ± 7 days

1.74 What is the interval of schedule 'A' examination of a coach?

(a) One month ±3 days (b) Two months ± 3 days

(c) Three months ± 6 days (d) None of the above

1.75 What is the interval of schedule 'B' examination of a coach?

(a) One month ± 3 days (b) Two months ± 3 days

(c) Three months ± 7 days (d) None of the above

1.76 What is the purpose of manipulator?

(a) For testing roller bearing (b) For **down hand welding**

(c) For ROH (d) For brake ringing Adjustment

1.77 What is the interval of metallic commode chute panting?

(a) Every 15 days (b) **Every month**

(c) Every 45 days (d) Every 90 days

1.78 What is the interval of cleaning/ flushing of overhead water tank?

(a) Every trip (b) **Every month**

(c) Every three month (d) Every Six month

1.79 At what interval, check the anticorrosive paint in commode?

(a) **One month** (b) Three month

(c) Six month (d) None of the above

1.80 At what interval IOH of ICF coaches is done -

(a) Two month (b) Three month ± 15 days

(c) Six month ± 7 day **(d) Six month ± 15 day**

1.81 What do you mean by FRP?

(a) Fibre recalling panel **(b) Fibre reinforced plastic**

(c) First reduction plastic (d) Fine reinforced panel

1.82 At what interval, the IOH of shatabdi coaches is?

(a) 12 months or four lake km which is earlier

(b) 9 months or two lake km which is earlier

(c) 6 months or one lake km which is earlier

(d) None of the above

1.83 The identification of bogie mounted air brake system coach is –

(a) 'A' is written near coach Nos

(b) 'B' is written near coach Nos

(c) **'AB' is written near coach Nos**

(d) None of the above

1.84 What is the periodicity for IOH of ICF coaches expect Rahdhani & Shatabdi?

(a) 9 month or 250,000 Km whichever is earlier

(b) 12 month or 250,000 Km whichever is earlier

(c) 6 month or 250,000 Km whichever is earlier

(d) None of the above

1.85 Where has been distraction tube provided in ICF/RCF coaches?

(a) Between main head stock and axially head stock

(b) Outer main head stock

(c) With axially head stock

(d) None of the above

NOTES

CHAPTER -2

CBC / DRAFT GEAR

2.01 The maximum standard buffer height above rail level to center of buffer is –

(a) 1085 mm (b) 1100 mm **(c) 1105 mm** (d) 1030 mm

2.02 The minimum permissible buffer height above rail level to center of buffer is –

(a) 1105 mm (b) 1145 mm (c) 1115 mm **(d) 1030 mm**

2.03 Standard buffer projection from Headstock is –

(a) 650 mm **(b) 635 mm** (c) 620 mm (d) 660 mm

2.04 Minimum Permissible buffer projection from Headstock is –

(a) 635 mm (b) 605 mm (c) 590 mm **(d) 584 mm**

2.05 The diameter of buffer plunger face of ICF coaches is –

(a) 552 mm **(b) 457 mm** (c) 493 mm (d) 510 mm

2.06 In ICF coach drawbar and Headstock, what should be the maximum buffer projection in mm?

(a) 92.0 mm (b) 34.0 mm (c) 36.0 mm (d) 38.0 mm

2.07 What is the distance between two buffers at one end?

(a) 1952 mm (b) 1976 mm **(c) 1956 mm** (d) 1992 mm

2.08 What is the maximum buffer plunger stroke in mm?

(a) 127.0 mm (b) 129.0 mm (c) 131.0 mm (d) 133.0 mm

2.09 How the weight of the body is transferred on trolley in ICF coach?

(a) Journal (b) Wheel **(c) Side bearer** (d) Dashpot

2.10 What should be the minimum buffer height after POH?

(a) 1050 mm (b) 1060 mm (c) 1080 mm **(d) 1090 mm**

2.11 The ICF buffer plunger is made of –

(a) Mild steel (b) Cost iron **(c) Cast steel** (d) Aluminum Alloy

2.12 In loaded condition, the minimum permissible height of buffer in ICF coach is –

(a) 1090 mm (b) 1105 mm **(c) 1030 mm** (d) None of the above

2.13 What is the buffer stroke in ICF coach?

(a) 127.0 mm (b) 129.0 mm (c) 131.0 mm (d) 133.0 mm

2.14 The new thickness of a draft pad in ICF coach is -

(a) 30.0 mm **(b) 32.0 mm** (c) 33.0 mm (d) 34.0 mm

2.15 The condemning thickness of draft pad in ICF coaches?

(a) 30.0 mm (b) 32.0 mm (c) 33.0 mm (d) 34.0 mm

2.16 What is the slot of draft key in drawbar hook in ICF coach?

(a) 36.0 mm (b) 37.0 mm **(c) 38.0 mm** (d) 39.0 mm

2.17 What is the new thickness of draft key in ICF coaches?

(a) 30.0 mm **(b) 36.0 mm** (c) 39.0 mm (d) 41.0 mm

2.18 The draw & buffing force transmission in coach is -

(a) Centre pivot (b) Bogie (c) Side bearer (d) Wheel

2.19 Name the distance between axle box top and axle box crown bolt is –

(a) **Clearance 'A'** (b) clearance 'B' (c) clearance 'C' (d) None of the above

2.20 Write the difference of load between IRS coach and ICF coach is -

(a**) 26 to 32 %** (b) 23 to26 % (c) 20 to 22 % (d) 30 to 36 %

2.21 Houling capacity of HT type CBC is -

(a) 7000 ton (b) 8000 ton (c) **9000 ton** (d) 10000 ton

2.22 What is Arc radius of buffer face?

(a) 1505 mm (b) **1905 mm** (c) 1305 mm (d) 1205 mm

2.23 In production unit, in tare condition the minimum permissible buffer height above rail line to center of buffer is -

(a) 11030 mm (b) 1045 mm (c) 1060 mm **(d) 1095 mm**

2.24 In workshop, in tare condition the minimum permissible buffer height above rail line to center of buffer is -

(a) 1090 mm (b) 1075 mm (c) 1060 mm (d) 1030 mm

2.25 What thickness of hard packing ring used for 889 to 864 mm average trade diameter of two wheel sets of bogie in adjustment of buffer height?

(a) 10.0 mm (b) 12.0 mm **(c) 13.0 mm** (d) 20.0 mm

2.26 What thickness of hard packing ring used for 863 to 840 mm average trade diameter of two wheel sets of bogie in adjustment of buffer height?

(a) 12.0 mm (b) 16.0 mm (c) 20.0 mm **(d) 26.0 mm**

2.27 Thickness of hard packing ring used for 839 to 820 mm average trade diameter of two wheel sets of bogie in adjustment of buffer height is -

(a) 16.0 mm (b) 20.0 mm **(c) 38.0 mm** (d) 46.0 mm

2.28 Thickness of hard packing ring used for 819mm average trade diameter of two wheel sets of bogie in adjustment of buffer height is -

(a) 20.0 mm (b) 38.0 mm (c) 46.0 mm **(d) 48.0 mm**

2.29 Enhanced proof load of draw gear and screw coupling is -

(a) 75 t (b) 80 t (c) 90 t (d) 85 t

2.30 Enhanced breaking load of draw gear and screw coupling is -

(a) 108 t (b) 120 t **(c) 130 t** (d) 60 t

2.31 What is wear limit of draw hook of root of near point of contact with bent link?

(a) 8.0 mm (b) 10.0 mm (c) 12.0 mm **(d) 13.0 mm**

2.32 Wear limit of draw hook pinhole is –

(a) 1.0 mm **(b) 3.0 mm** (c) 5.0 mm (d) 7.0 mm

2.33 Wear limit of draw hook bottom side of shank is -

(a) 10.0 mm **(b) 15.0 mm** (c) 20.0 mm (d) 25.0 mm

2.34 Wear limit of 45mm dia hole draft yoke is -

(a) 3.0 mm (b) 1.0 mm (c) 5.0 mm (d) 7.0 mm

2.35 Nominal diameter of draw gear pin is -

(a) 25.0 mm (b) 30.0 mm **(c) 31.0 mm** (d) 36.0 mm

2.36 Wear limit of draw gear pin is -

(a) 1.0 mm (b) 2.0 mm (c) 0.5 mm (d) 1.5 mm

2.37 Wear limit of draw hook bearing piece is -

(a) 3.0 mm (b) 5.0 mm **(c) 6.0 mm** (d) 10.0 mm

2.38 Nominal diameter of draw hook locating pin is -

(a) 10.0 mm **(b) 25.0 mm** (c) 40.0 mm (d) 45.0 mm

2.39 The projection of the shoulder on the draw hook from the Headstock is within -

(a) 80 to 100mm (b) 90 to 110mm **(c) 92 to 120mm** (d) 100 to 120mm

2.40 Enhance capacity of buffer specification No: IRS-M 10 are fitted in all BG maintenance coach is -

(a) 910 kg.m **(b) 1030 kg.m** (c) 1210 kg.m (d) 1290 kg.m

2.41 Nominal thickness of buffer casing body wall is –

(a) 9.50 mm (b) 10.50 mm **(c) 11.50 mm** (d) 13.50 mm

2.42 What is wear limit of buffer casing body wall?

(a) 2.50 mm (b) 3.50 mm (c) 4.50 mm **(d) 5.50 mm**

2.43 Maximum nominal thickness of buffer plunger table wall is -

(a) 4.0 mm (b) 9.0 mm (c) 13.0 mm (d) 16.0 mm

2.44 Maximum nominal thickness of plunger faceplate in ICF type buffer is -

(a) 19.0 mm (b) 22.0 mm (c) 24.0 mm (d) 26.0 mm

2.45 Wear limit of plunger faceplate in ICF type buffer is -

(a) 9.0 mm **(b) 11.0 mm** (c) 12.0 mm (d) 13.0 mm

2.46 Wear limit of buffer plunger table wall in ICF type buffer is -

(a) 2.0 mm **(b) 4.0 mm** (c) 6.0 mm (d) 8.0 mm

2.47 In buffer causing, the vertically distance of holes from center of buffer is -

(a) 60.3 ±0.2mm (b) 62.3 ±0.5mm (c) 59.3 ±0.2mm(d) 61±0.4mm

2.48 In buffer casing, the Horizontal distance of holes from center of buffer is -

(a) 163.5±0.2mm (b) 169.3 ±0.4mm **(c) 174.5±0.2mm** (d) 176.3±0.2mm

2.49 Maximum distance apart for centers of buffer is –

(a) 1200 mm (b) 1700 mm (c) 1940 mm **(d) 1955 mm**

2.50 What is the weakest link of the 'H' type tight lock center buffer coupler?

(a) Draft gear **(b) Knuckle** (c) Lock (d) Yoke pin

2.51 The minimum tensile stress of 'H' type tight lock center buffer coupler is –

(a) 6560 Kg/cm^2 (b) 6112 Kg/cm^2 **(c) 6327 Kg/cm^2** (d) 6720 Kg/cm^2

2.52 Minimum yield stress of 'H' type tight lock center buffer coupler is –

(a) 3890 Kg/cm^2 (b) 4218 Kg/cm^2 **(c) 4310 Kg/cm^2** (d)4560 Kg/cm^2

2.53 Minimum elongation in 51.0 mm of 'H' type tight lock center buffer coupler is –

(a) 10% (b) 15% (c) 18% **(d) 22%**

2.54 Minimum tensile proof load of 'H' type tight lock center buffer coupler is –

(a) 2000 KN **(b) 1000KN** (c) 500 KN (d) 1500 KN

2.55 Minimum compressive proof load of 'H' type tight lock center buffer coupler is –

(a) 2000 KN (b) 1000 KN (c) 500 KN (d) 1500 KN

2.56 How many auxiliaries Headstock in ICF shell?

(a) 02 (b) 03 **(c) 04** (d) 08

2.57 Thickness of the auxiliaries Headstock is –

(a) 8/10 mm (b) 12/15 mm (c) 15/18 mm (d) None

2.58 Destruction tube is provided inside the –

(a) Buffer (c) Head stock (c) under sole bar (d) None

2.59 The maximum difference in buffer height on same head stock is –

(a) 59.0 mm **(b) 64.0 mm** (c) 69.0 mm (d) 74.0 mm

2.60 Buffer centre stiffener is provided between –

(a) Main Headstock & auxiliary headstock (b) Over main headstock

(c) End panel & Sole bar (d) None of the above

2.61 At present all new coaches are being manufactured with bogie mounted air brake system and –

(a) Enhance capacity drew gear (a) With load sensing device

(c) 2SAB (d) None of the above

CHAPTER -3

WHEEL & AXLE

3.01 Permissible variations in wheel tread diameter for four-wheeled trolley (IRS-Non IRS) on the same axle on BG is –(while turning the wheel)

(a) 0.5 mm (b) 0.49 mm (c) 0.30 mm (d) 0.45 mm

3.02 Permissible variations in wheel tread diameter for four-wheeled trolley (Sehileren, ICF , BEML) in the same axle on BG is -(while turning the wheel)

(a) 0.45 mm **(b) 0.50 mm** (c) 0.60 mm (d) 0.48 mm

3.03 Permissible variations in wheel tread diameter for six-wheeled trolley in the same axle on BG is –(while turning the wheel)

(a) 0.30 mm (b) 0.60 mm **(c) 0.50 mm** (d) 0.45 mm

3.04 Permissible variations in wheel tread diameter for six-wheeled trolley unit in the same axle on BG is -(while turning the wheel)

(a) 0.60 mm (b) 0.30 mm **(c) 0.50 mm** (d) 0.48 mm

3.05 Permissible variations in wheel tread diameter for four-wheeled unit in the same axle on BG is -(while turning the wheel)

(a) 0.35 mm (b) 0.49 mm (c) 0.48 mm (**d) 0.50 mm**

3.06 Permissible variations in wheel tread diameter for power coach in the same axle on BG is -

(a) 0.48 mm (b) 0.40 mm **(c) 0.50 mm** (d) 0.35 mm

3.07 Permissible variations in wheel tread diameter for four-wheeled trolley on the same coach on BG is –(while turning the wheel)

(a) 12.0 mm (b) 10.0 mm (c) 11.0 mm **(d) 13.0 mm**

3.08 Permissible variations in wheel tread diameter for four-wheeled trolley (Sehileren, ICF, and BEML) in the same trolley on BG is -(while turning the wheel)

(a) 10.0 mm (b) 7.0 mm **(c) 5.0 mm** (d) 8.0 mm

3.09 Permissible variations in wheel tread diameter for six-wheeled trolley in the same trolley on BG is -(while turning the wheel)

(a) 10.0 mm (b) 8.0 mm **(c) 6.0 mm** (d) 5.0 mm

3.10 Permissible variations in wheel tread diameter for six-wheeled trolley unit in the same trolley on BG is -(while turning the wheel)

(a) 5.0 mm **(b) None** (c) 4.0 mm (d) 6.0 mm

3.11 Permissible variations in wheel tread diameter for power coach in the same trolley on BG is -

(a) 5.0 mm (b) 3.0 mm (c) 4.0 mm (d) 6.0 mm

3.12 Permissible variations in wheel tread diameter for four-wheeled trolley (IRS-Non IRS) in the same coach or same unit on BG is –(while turning the wheel)

(a) 10.0 mm **(b) 13.0 mm** (c) 12.0 mm (d) 15.6 mm

3.13 Permissible variation in wheel treads diameter for four-wheeled trolley (Sehileren, ICF, and BEML) in the same coach or same unit on BG is -(while turning the wheel)

(a) 11.0 mm (b) 12.0 mm **(c) 13.0 mm** (d) 15.0 mm

3.14 Permissible variations in wheel tread diameter for six-wheeled trolley in the coach or same unit on BG is -(while turning the wheel)

(a) 10.0 mm (b) 8.0 mm (c) 4.0 mm **(d) 6.0 mm**

3.15 Permissible variations in wheel tread diameter for four-wheeled unit on the coach or same unit on BG is –(while turning the wheel)

(a) 20.0 mm (b) 15.0 mm **(c) 25.0 mm** (d) 18.0 mm

3.16 Permissible variation in wheel tread diameter for power coaches on the coach or same unit on BG is –(while turning the wheel)

(a) 10.0 mm **(b) 13.0 mm** (c) 12.0 mm (d) 11.0 mm

3.17 The axle load of AC coaches is –

(a) 22.0 tons **(b) 16.25 tons** (c) 15.0 tons (d) 14.50 tons

3.18 The top & bottom flange thickness of 16.25 tons axle load bogie is –

(a) 14.0 mm **(b) 16.0 mm** (c) 15.0 mm (d) 20.0 mm

3.19 The use of 16.25 tons axle load bogie is in –

(a) WGS (b**) AC** (c) WGSCN (d) Non AC

3.20 Axle load capacity of generator (WLLRM) coach is –

(a) 16.0 tons **(b) 16.25 tons** (c) 15.0 tons (d) 20.30 tons

3.21 The top and bottom flange thickness of 13 tons load bogie is –

(a) 14.0 mm **(b) 12.0 mm** (c) 15.0 mm (d) 20.0 mm

3.22 The use of 13 tons axle load bogie is –

(a) PVH (b) AC (c) Power Car (d**) Non AC**

3.23 What is the size of direct mounted roller bearing journal of ICF bogie?

(a) 125*111 mm (b) **120*113.5 mm** (c) 125*130 mm (d) 130*100 mm

3.24 Flat faces on BG coach is –

(a) 60.0 mm (b) **50.0 mm** (c) 75.0 mm (d) 90.0 mm

3.25 High speed ICF coach condemning flange thickness is –

(a) 14.0 mm (b) 13.0 mm **(c) 22.0 mm** (d) 10.0 mm

3.26 Lateral movements of wheels are controlled by –

(a**) Axle Guide** (b) Journal center (c) roller bearing (d) Desh pot

3.27 Maximum axle load bearing capacity of non-AC ICF/RCF coach is -

(a) 18.2 t (b) 17.32 t (c) 16.25 t **(d) 13 t**

3.28 Maximum axle load bearing capacity of AC ICF/RCF coach is -

(a) 16.25 t (b) 13 t (c) 15 t (d) 14.28 t

3.29 Bogie wheelbase of ICF/ RCF all coil bogies are -

(a) 2896 mm (b) 2986 mm (c) 2886 mm (d) 2997 mm

3.30 What is the new wheel diameter of ICF/ RCF coach is –

(a) 910 mm **(b) 915 mm** (c) 930 mm (d) 925 mm

3.31 Min shop issue size of ICF solid wheel is –

(a) 837 mm (b) 870 mm (c) 854 mm (d) 8746 mm

3.32 Flange thickness of new BG wheel coach is –

(a) 28.0 mm **(b) 28.50 mm** (c) 29.50 mm (d) 27.50 mm

3.33 Condemning flange thickness of other then superfast new BG wheel is –

(a) 28.0 mm (b) 20.0 mm **(c) 16.0 mm** (d) 14.0 mm

3.34 Height at tread in center of BG wheel is –

(a) 28.5 mm (b) 29.5 mm (c) 30.5 mm (d) 32.5 mm

3.35 Top radius of the new BG wheel is –

(a) 14.0 mm (b) 13.5 mm (c) 11.5 mm (d) 10.5 mm

3.36 The radius of the root of flange of new BG wheel is –

(a) 14.0 mm (b) 16.0 mm (c) 18.0 mm (d) 19.0 mm

3.37 The thickness of tyre at tread in the center of wheel on BG coach is –

(a) 63.50 mm (b) 65.50 mm (c) 57.50 mm (d) 58.50 mm

3.38 The thickness of BG wheel flange of high-speed train coach is –

(a) 28.50 mm (b) 27.50 mm **(c) 29.4 mm** (d) 29.50 mm

3.39 Condemning height of flange on tread on BG wheel is –

(a) 30.0 mm (b) 32.0 mm (c) 34.0 mm **(d) 35.0 mm**

3.40 Condemning size of radius at the top of flange (Sharp flange) of BG main line coach wheel is –

(a) 8.0 mm **(b) 5.0 mm** (c) 10.0 mm (d) 12.0 mm

3.41 Clearance between brake block and wheel tread of ICF coach is –

(a) 5.0 mm (b) 6.25 mm (c) 6.75 mm (d) 5.75 mm

3.42 On same axle hardness of both wheel should not be very more than –

(a) 70 BHN (b) 65 BHN (c) 45 BHN **(d) 35 BHN**

3.43 Total length of axle is

(a) 2310 + 0.5/-0.0mm **(b) 2316 + 0.5/-0.0mm**

(c) 2318 + 0.5/-0.0mm (d) 2320 + 0.5/-0.0mm

3.44 On ICF journal, a taper should not exceed –

(a) 0.010/ o.o15 mm **(b) 0.015/ o.o10mm**

(c) 0.010/ o.o25mm (d) None of the above

3.45 On ICF journal, out of roundness (ovality) must not exceed –

(a) 0.010/ o.o15mm (b) 0.015/ o.o10mm

(c) 0.015/ o.o20mm (d) None of the above

3.46 After POH, the lowest permissible wheel diameter for a coach is –

(a) Not less then 900 mm (b) Not less then 860 mm

(c) Not less then 837 mm (d) Not less then 826 mm

CHAPTER –4

VACUUM BRAKE

4.01 The duration of D.A valve filter cleaning is –

(a) Three month **(b) One month** (c) Two month (d) 12 month

4.02 As per IRCA rule, what is the period of overhauling of vacuum brake cylinder?

(a) 12 months (b) 16 months **(c) 18 months** (d) 24 months

4.03 Minimum clearance between the piston cotter and the fork end arm of the brake shaft is –

(a) 11.0 mm (b) 12.0 mm **(c) 13.0 mm** (d) 15.0 mm

4.04 The time of overcharged protection in control chamber of coaching stock is –

(a) 30 sec **(b) 25 sec** (c) 35 sec (d) 20 sec

4.05 The vacuum level for a passenger train is –

(a) 40.0 cm (b) **50.0 cm** (c) 51.0 cm (d) 48.0 cm

4.06 The 'F' type vacuum cylinder of 610-mm diameter is used in –

(a) Tank wagon (b) BOX (c) BOXN (d**) Coach**

4.07 The diameter of train pipe is vacuum brake system is –

(a) 75.0 mm (b) 60.0 mm (c) **51.0 mm** (d) 5.10 mm

4.08 The guard van valve is activated automatically when minimum vacuum destroys is –

(a) 125.0 mm (b) 150.0 mm **(c) 225.0 mm** (d) 300 mm

4.09 The diameter of rolling ring is –

(a) **13.0 mm** (b) 15.0 mm (c) 17.0 mm (d) 20.0 mm

4.10 If the piston in fully lifted up position, what shall be the minimum clearance between the top of the fork end arm and cylinder stuffing box?

(a) 20.0 mm **(b) 25.0 mm** (c) 30.0 mm (d) 35.0 mm

4.11 'e' dimension for SAB in vacuum brake system is –

(a) 275±2 mm (b) **375± 25 mm** (c) 475±25 mm (d) 555±25 mm

4.12 The type of SAB used in vacuum brake coach is –

(a) DRV-2-600 **(b) DRV-2-450** (c) DRV-2-300 (d) DRV-2-250

4.13 Diameter of vacuum brake cylinder in ICF coach is –

(a) 655 mm (b) 615 mm (c) **610 mm** (d) None of the above

4.14 In 'C' Schedule vacuum train pipes should be cheeked with a pressure of –

(a) 0.8 kg/cm^2 (b) **2.0** kg/cm^2 (c) 1.5 kg/cm^2 (d) 2.2 kg/cm^2

4.15 Length of vacuum brake hosepipe is –

(a) 680 mm (b) 682 mm (c) 684 mm (d) **686 mm**

4.16 Condemning length of vacuum brake hosepipe is –

(a) 630 mm (b) **635 mm** (c) 640 mm (d) 645 mm

4.17 What type of leakage, detecting the release valve setting?

(a) **Internal leakage** (b) Outside leakage (c) Both side leakage (d) None of the above

4.18 Piston stroke (coach) of brake cylinder in vacuum brake system is -

(a) 135 mm (b) 120 mm (c) 110 mm (d) 110 mm

4.19 Radial clearance between pins and bushes of vacuum brake system not more than -

(a) 1.0 mm (b) 0.85 mm **(c) 0.75 mm** (d) 0.50 mm

4.20 In vacuum brake system, the drop in vacuum at the rate of should not be more than -

(a) 25 mm/min (b) 40 mm/min (c) 50 mm/min (d) 60 mm/min

4.21 The diameter of rolling ring is -

(a) 13.5 to 14.5 mm **(b) 13.1 to 13.5 mm** (c) 14.1 to 14.5 mm (d) 12.8 to 13.0 mm

4.22 While assembling the piston and vacuum cylinder the diametrical difference between the two should be -

(a) 19.5 mm (b) 20.0 mm **(c) 20.3 mm** (d) 22.1 mm

4.23 Length of end piece for pull rod to be used in modified vacuum brake system in WFSCN, SL, SCNLR, type coaches is -

(a) 155 mm **(b) 265mm** (c) 280 mm (d) 279mm

4.24 Length of end piece for pull rod to be used in modified vacuum brake system in all other vacuum brake coaches except WFSCN, SL, SCNLR coach is –

(a) 155 mm (b) 265mm (c) 279 mm (d) 282 mm

4.25 'A' dimension of non-AC ICF coaches in vacuum brake system is -

(a) 16± 4/-2mm **(b) 16± 4/0mm** (c) 16± 4 mm (d) 16± 8/-4 mm

4.26 'A' dimension of AC ICF coaches in vacuum brake system is -

(a) 22± 4/0mm (b) 20± 5mm (c) 22± 4 mm (d) 24± 4/-0 mm

4.27 For testing of loco vacuum, Diameter of hole of the test plate is –

(a) 6.0 mm **(b) 8.0 mm** (c) 7.5 mm (d) 8.5 mm

4.28 What shall be the identification next to the coach number at the coach side shall be painted; vacuum brake coaches with 24 V?

(a) Y (b) AY (c) A (d) No marking

4.29 What shall be the identification next to the coach number at the coach side shall be painted; vacuum brake coaches with 110 V?

(a) Y (b) AY (c) A **(d) No marking**

4.30 The maximum leakage rate while turning out loco from shed-

(a) Not more then 5.0 Cm/min **(b) Not more then 7.0 Cm/min**

(c) Not more then 10.0 Cm/min (d) Not more then 13.0 Cm/min

4.31 What is the allowed leakage rate of one vehicle in vacuum brake in one min?

(a) **Not more then 5.0 Cm/min** (b) Not more then 7.0 Cm/min

(c) Not more then 10.0 Cm/min (d) Not more then 13.0 Cm/min

4.32 What is the allowed leakage rate of full rake in vacuum brake in one min?

(a) Not more then 5.0 Cm/min (b) Not more then 7.0 Cm/min

(c) Not more then 10.0 Cm/min **(d) Not more then 13.0 Cm/min**

4.33 In working train, what is the standard level of vacuum in Mail/Express train?

(a) 55 cm and 48 cm (b) 56 cm and 50 cm

(c) **53 cm and 47 cm** (d) 46 cm and 38 cm

4.34 In working train, what is the standard level of vacuum in passenger train?

(a) 53 cm and 47 cm **(b) 50 cm and 44 cm**

(c) 46 cm and 38 cm (d) 55 cm and 50 cm

4.35 Neck ring is fitted in –

(a) Piston rod (b) Release valve

(c) **Stuffing box** (d) internal ball valve

4.36 In working train, what is the standard level of vacuum in super fast BG coaching train?

(a) 53 Cm and 47 Cm **(b) 56 Cm and 53 Cm**

(c) 50 Cm and 44 Cm (d) 46 Cm and 38 Cm

4.37 Interval for over hauling the coach vacuum cylinder is –

(a) At the coach IOH or after one month

(b) At the coach incentive examination or after six months

(c) At the coach POH or after 24 months

(d) At the coach POH or after 18 month or when is defective.

4.38 Function of DA valve is –

(a) To create the vacuum in brake cylinder.

(b) To ensure quick application on lengthy and high speed train.

(c) To ensure the vacuums create in auxiliary chamber.

(d) None of the above

NOTES

CHAPTER -5

AIR BRAKE

5.001 Capacity of air reservoir (AR) of the coach is –

(a) 150 Lit. **(b) 200 Lit** (c) 250 Lit. (d) 300 Lit.

5.002 In twin pipe system, the time taken for releasing of the brake is -

(a) 45 sec **(b) 27 sec** (c) 75 sec (d) 120 sec

5.003 'A' dimension of a passenger train (Non AC coach) is –

(a) 14± 2 mm **(b) 16+2/-0 mm** (c) 16± 4 mm (d) 18 ± 2 mm

5.004 In an AC coach, 'A' dimension should be –

(a) 18± 2 mm (b) 20± 2 mm (c) 22± 2 mm **(d) 22+2/-0 mm**

5.005 In a passenger train 'e' dimension is –

(a) 378± 20 mm **(b) 375±25 mm** (c) 370±10 mm (d) 380±20 mm

5.006 In the passenger train, the diameter of brake pipe & feed pipe is –

(a) 20.0 mm **(b) 25.0 mm** (c) 28.0 mm (d) 30.0 mm

5.007 In the passenger train, the diameter of branch pipe is –

(a) 15.0 mm (b) 18.0 mm **(c) 20.0 mm** (d) 22.0 mm

5.008 How many angle cocks are provided in a vehicle in twin pipe system?

(a) Two (b) Three **(c) Four** (d) Six

5.009 What is the diameter of branch pipe attached to PEAV?

(a) 15.0 mm (b) 25.0 mm (c) 30.0 mm **(d) 20.0 mm**

5.010 What is the diameter of branch pipe in between PEAV to PEASD?

(a) 10.0 mm (b) 25.0 mm (c) 30.0 mm (d) 20.0 mm

5.011 BP pressure in working train is –

(a) 6.0± 0.1Kg/cm^2 (b) 5.5± 0.1 Kg/cm^2 **(c) 5.0**± 0.1 **Kg/cm^2** (d) 5.2± 0.1 Kg/cm^2

5.012 During charging position, Air pressure in Auxiliary reservoir is –

(a) 6.5 Kg/cm^2 (b) 6.1 Kg/cm^2 (**c) 6.0** Kg/cm^2 (d) None of the above

5.013 During full service application, Brake pipe pressure is dropped to –

(a) 2.0 Kg/cm^2 (b) 1.0 Kg/cm^2 (c) 3.0 Kg/cm^2 **(d) 1.5 Kg/cm^2**

5.014 The en route brake power percentage of mail train should be –

(a) 80% (b) 75% **(c) 95%** (d) 90%

5.015 The full form of BP is –

(a) By pass **(b) Brake pipe** (c) Bent pipe (d) None of the above

5.016 In twin pipe system, the AR pressure should be –

(a) 5.0 Kg/cm^2 **(b) 6.0** Kg/cm^2 (c) 7.0 Kg/cm^2 (d) 8.0 Kg/cm^2

5.017 Full form BC is –

(a) Brake control (b) Beside coach (c**) Brake cylinder** (d) Branch cylinder

5.018 At originating station the brake power percentage for mail/express train should be –

(a) 85% (b) 90% **(c) 100%** (d) 75%

5.019 Cut off angle cock can be fitted to-

(a) FP (b) BP (c) **BP&FP both** (d) None of the above

5.020 What is the piston stroke of air brake coaching train?

(a) 60**±10 mm** (b) 80±10 mm (c) 85±15 mm (d) 85±5 mm

5.021 What is the diameter of bogie mounted brake cylinder?

(a) 220 mm (b) 210 mm (c) **202 mm** (d) 200 mm

5.022 Dimension 'A' of the slack adjuster of the high-speed coach is –

(a) 16.0 mm (b) 20.0 mm (c**) 20±2/0 mm** (d) 18.0 mm

5.023 In conventional air brake system, the No of brake cylinder is-

(a) 3 **(b) 2** (c) 1 (d) 4

5.024 The size of reduced socket of control reservoir is –

(a) 13*28 mm (b) 25*32 mm (c) 25*32 mm (d) 20*25 mm

5.025 The brake cylinder diameter of conventional air brake system is –

(a) 205 mm (b**) 1305 mm** (c) 325 mm (d) 305 mm

5.026 The piston stroke of air brake system when brake blocks are touching to wheel is –

(a) 50-100 mm (b) 88-100 mm (c**) 50-70 mm** (d) 75-100 mm

5.027 The rate of air leakage in single car testing should not be more then –

(a) 0.02 Kg/cm^2/min (b) 1.0 Kg/cm^2/min **(c) 0.2** Kg/cm^2/min (d) 0.1 Kg/cm^2/min

5.028 In emergency application the brake cylinder pressure rises from 0-3.6 kg/cm^2 in –

(a) **15-20 sec** (b) 5-10 sec (c) 3-5 sec (d) 8-10 sec

5.029 Brake should not apply during insensitivity test with in -

(a) 50 sec (**b) 60 sec** (c) 40 sec (d) 30 sec

5.030 During release after full service application, release time of Mail/Express coach is –

(a) 5 to 10 Sec (b) 10 to 15 Sec (c) **15 to 20 Sec** (d) 20 to 30 Sec

5.031 Check valve with choke allows air from –

(a) BP to FP (b) FP to CR (c) **FP to AR** (d) AR to BC

5.032 Feed pipe diameter of Rajdhani coach is –

(a) 20.0 mm (b) **25.0 mm** (c) 30.0 mm (d) 35.0 mm

5.033 When brake is manually released by QRV, which pressure will be vent out?

(a) BC pressure (b) AR pressure (c) BP pressure (d) **CR pressure**

5.034 What is the pressure of control reservoir in coaching trains?

(a) 6.0 Kg/cm^2 (b) 5.0 Kg/cm^2 (c) 6.0 to .2 Kg/cm^2 (d) 4.8 Kg/cm^2

5.035 In coaching trains, auxiliary reservoir is charged to -

(a) 5.0 Kg/cm^2 (b**) 6.0** Kg/cm^2 (c) 4.8 Kg/cm^2 (d) 5.5 Kg/cm^2

5.036 Brake pipe throughout the length of train is charged with compressed air at -

(a) 6.0 Kg/cm^2 (b) 5.8 Kg/cm^2 **(c) 5.0** Kg/cm^2 (d) 4.8 Kg/cm^2

5.037 Feed pipe throughout the length of train is charged with compressed air at -

(a) 6.0 kg/cm2 (b) 5.5 kg/cm2 (c) 5.0 kg/cm2 (d) 4.8 kg/cm2

5.038 After brake application, the control reservoir is disconnected from the -

(a) Brake pipe (b) Auxiliary reservoir (c) Brake cylinder (d) Feed pipe

5.039 After the brake application, the auxiliary reservoir is however continuously charged from feed pipe at -

(a) 5.0 Kg/cm^2 (b) 4.8 Kg/cm^2 (c) 5.8 Kg/cm^2 **(d) 6.0** Kg/cm^2

5.040 Reduction in BP pressure for minimum application is -

(a) 1.0 to1.5 Kg/cm^2 (b) 0.8 to 1.0 Kg/cm^2 **(c) 0.5 to 0.8** Kg/cm^2 (d) 0.1 to 05 Kg/cm^2

5.041 Reduction in BP pressure for service application is -

(a) 1.0 to 05 Kg/cm^2 (b) 1.0 to 1.5 Kg/cm^2 (c) 0.5 to 0.8 Kg/cm^2 **(d) 0.8 to 1.0** Kg/cm^2

5.042 Reduction in BP pressure for full service application is -

(a) 1.0 to 1.5 Kg/cm^2 (b) 0.8 to 1.0 Kg/cm^2 (c) 0.5 to 0.8 Kg/cm^2 (d) 0.1 to 05 Kg/cm^2

5.043 Reduction in BP pressure for emergency application is -

(a) 1.0 to 1.5 Kg/cm^2 **(b) 1.5 to 3.8** Kg/cm^2 (c) 0.5 to 0.8 Kg/cm^2 (d) 3.8 to 5..0 Kg/cm^2

5.044 After brake released, isolate the brake cylinder from the auxiliary reservoir by the -

(a) Distributor valve (b) Control reservoir (c) Brake pipe (d) Feed pipe

5.045 The colour of brake pipe in coaching trains is -

(a) Black (b) Yellow **(c) Green** (d) White

5.046 The colour of feed pipe in coaching trains is -

(a) Black (b) Yellow (c) Green **(d) White**

5.047 Cut off angle cock fitted on the brake pipe is painted -

(a) Black (b) Yellow **(c) Green** (d) White

5.048 Cut off angle cock fitted on the feed pipe is painted -

(a) Black (b) Yellow (c) Green **(d) White**

5.049 How many air brake cylinders are fitted in under frame mounted air brake system on every coach?

(a) One **(b) Two** (c) Three (d) None of the above

5.050 How many dirt collectors are fitted with under frame mounted air brake system on every coach?

(a) Two (b) One (c) Three (d) None of the above

5.051 What is the choke diameter of guard's emergency brake valve?

(a) 4.0 mm **(b) 5.0 mm** (c) 6.0 mm (d) 8.0 mm

5.052 A device provided in the brake rigging for automatic adjustment of clearance/ slack between brake block and wheel it's called -

(a) Brake cylinder **(b) Brake Regulator** (c) Distributor valve (d) Control Reservoir

5.053 What type of slack adjuster is used in passenger coaches?

(a) DRV-600 (b) None **(c) IRSA-450** (d) IRSA- 600

5.054 For testing C3W DV, the AR charging time from 0 to 4.8 kg/cm2 is –

(a) 170 ± 10 sec **(b) 175 ± 30 sec** (c) 280 ± 30 sec (d) 210 ± 20 sec

5.055 For testing KE type DV, the AR charging time from 0 to 4.8 kg/cm2 is-

(a) 160 to 210 sec (b) 210 to 260 sec (c) 260 to 280 sec (d) 180 to 200 sec

5.056 For testing C3W DV, the CR charging time from 0 to 4.8 kg/cm2 is –

(a) 170 ± 10 sec **(b) 165 ± 20 sec** (c) 160 ± 10 sec (d) 210 ± 20 sec

5.057 For testing KE type DV, the CR charging time from 0 to 4.8 kg/cm2 is –

(a) 170 ± 10 sec **(b) 160 ± 40 sec** (c) 160 ± 10 sec (d) 210 ± 20 sec

5.058 The three-branch pipe attached to common pipe bracket, where the middle pipe lead to

(a) CR (b) DV (c) BC **(d) AR**

5.059 The help of cut of angle cock, the air pressure in train pipe is exhaust or close-

(a) True (b) False (c) None of the above

5.060 For testing C3W / KE type DV, after full service application. The brake cylinder filling time from 0-to 3.6 kg/cm^2 is-

(a) 3 to 5 sec (b) 5 to 10 sec (c) 10 to 15 sec (d) 12 to 8 sec

5.061 For testing C3W / KE type DV, after releasing the brake cylinder release time from max BC pressure from 3.8 ± 0.1 kg/cm^2 to 0.4 kg/cm^2 is –

(a) 3 to 5 sec (b) 5 to 10 sec (c) 10 to 15 sec **(d) 15 to 20 sec**

5.062 For testing C3W / KE type DV, after emergency application, the brake cylinder filling time from 0 to 3.6 kg/cm2 is –

(a) 3 to 5 sec (b) 5 to 8 sec (c) 8 to 10 sec (d) 10 to 15 sec

5.063 During brake release, air from BC goes to

(a) AR (b) CR (c) DV **(d) Atmosphere**

5.064 What type of isolating cocks are provided in the passenger coaches

(a) Ball type (b) Wall type (c) Done type (d) C3W type

5.065 The diameter of ball in internal ball valve of cut of angle cock is

(a) 15 mm (b) 13 mm (c) 17 mm **(d) 10 mm**

5.066 At what interval, check for 'A' and 'e' Diamension of passenger coach?

(a) Every trip (b) Two month (c) Three month (d) Six month

5.067 At what schedule, the manual brake release test is carried out on every coach of the rake?

(a) 'C' schedules **(b) 'A' schedule** (c) 'B' Schedule (d) Special schedule

5.068 At what schedule, testing of pressure gauge and replacement of the defective or accurate gauge (for SIR/ guard compartment)?

(a) 'C' schedules (b) 'A' schedule (c) 'B' Schedule (d) Special schedule

5.069 What type of grease to be used after cleaning and inspection all parts of slack adjuster?

(a) Servo-gem-4 (b) Graphite grease (c) Servo- germ-RR-3 (d) None of the above

5.070 The type of dirt collector, used in bogie mounted passenger coach is -

(a) 2- way (b) 4-way (c) 3-way (d) Single way

5.071 The total no. of MU washer used in a twin pipe passenger coach in a rake is -

(a) 3 **(b) 4** (c) 2 (d) 6

5.072 At what schedule, when single car test is carried out -

(a) 'C' schedules (b) 'A' schedule (c) 'B' Schedule (d) None of the above

5.073 In single car leakage test, the air pressure drop should not exceed –

(a) 0.35kg/cm^2/min **(b) 0.2** kg/cm^2/min (c) 0.28 kg/cm^2/min (d) 0.3 kg/cm^2/min

5.074 At what interval, test rig or with a locomotive testing is carried out -

(a) Every round trip (b) One month (c) Three month **(d) Six month**

5.075 When DV is working condition the position of DV handle is –

(a) Horizontal (b) Inclined **(c) Vertical** (d) Parallel

5.076 As per population of air brake stock the percentage of distribution valve should be kept as spares –

(a) 10% **(b) 5%** (c) 2% (d) 10%

5.077 The en-route brake power percentages of M/E BG coaching train is –

(a) 85% **(b) 90%** (c) 100% (d) Not specified

5.078 The en-route brake power percentages of passenger BG coaching train is –

(a) 85% (b) 90% (c) 100% **(d) Not specified**

5.079 What shall be the identification next to the coach number at the coach side shall be painted; Air coaches with 24 V?

(a) Y **(b) AY** (c) A (d) No marking

5.080 What shall be the identification next to the coach number at the coach side shall be painted; Air brake coaches with 110 V?

(a) Y (b) AY **(c) A** (d) No marking

5.081 What is the capacity of control reservoir of passenger coach?

(a) 6.0 litre (b) 7.0 litre **(c) 9.0 litre** (d) 10.0 litre

5.082 Length of air braked Hose is –

(a) 790 mm (b) 660 mm **(c) 839 mm** (d) 844 mm

5.083 What should be the effective maximum pressure in brake cylinder during full service application is

(a) 3.6 ± 0.1 Kg/cm^2 (b) 3.7 ± 0.1 Kg/cm^2 **(c) 3.8 ± 0.1 K**g/cm^2 (d) 4.1 ± 0.1 Kg/cm^2

5.084 DV is directly mounted on -

(a) AR (b) Brake pipe (c) Brake cylinder **(d) Common pipe bracket**

5.085 Which component supplies compressed air to DV?

(a) FP (b) AR (c) BP **(d) Main valve**

5.086 Which one of the following valve in DV controls charging of CR?

(a) Main valve (b) **Cut off valve** **(c)** Quick service valve (d) Limiting device

5.087 Arrange the following parts of BC in the sequence they are arranged in BC assembly-

(i) Dome cover (ii) Wear ring (iii) Spring (iv) Piston packing

(a) i,iii,ii,iv (b) i,ii,iv,iii (c) iv,iii,ii,i (d) iv,i,ii,iii

5.088 'A' dimension of high speed air brake coach is-

(a) 24 +4/-0 mm (b) 26+3/-0 mm

(c) 22+4/-0 mm (d) 20±5 mm

5.089 The angle cock of wagon can be fitted on coach provided it is having?

(a) Nut (b) Nut & Bolt

(c) Reducer (d**) Reducer with inner &outer threads**

5.090 Cut of angle cock is open position of handle is –

(a**) Parallel to pipe** (b) Parallel to pipe or perpendiculars to

(c) Pipe perpendicular to pipe (d) None of the above

5.091 The full from of CR is –

(a) Central reservoir (b) cylindrical reservoir

(c) Control reservoir (d) None of the above

5.092 Full from of AR is –

(a) Accident reservoir (b) Axle reservoir

(c) Auxiliary reservoir (d) None of the above

5.093 In air brake system of coach, the following is fitted?

(a) 1 BP 1FP 1DC (b) 1BP 2FP 1DC

(c) 1BP 1FP 2DC (d) 2BP 2 BP 2DC

5.094 In air brake system of one coach, How many MU washers are fitted?

(a) **Four MU washer** (b) Three MU washer

(c) Two MU washer (d) None of the above

5.095 Control reservoir in air brake system is –

(a) To control FP pressure (b) To control DV valve

(c) **To control Brake system** (d) None of the above

5.096 Auxiliary reservoir is assisting in –

(a) Charging of DV (b) Charging of BP

(c) Sending air to BC (d) Charging of CR

5.097 Air hose can be connected to –

(a) FP cut of angle cock (b) BP cut of angle cock

(c) **BP & FP cut of angle cock** (d) None of the above

5.098 The Driver reduced the BP pressure by 1.2 Kg/cm2, then it is called?

(a) Full Service application (b) Service application

(c) Emergency application (d) None of the above

5.099 Dirt Collector should be cleaning within –

(a) At the time of IOH **(b) At the time of 'A' schedule**

(c) At the time of POH (d) At the time of 'B' schedule

5.100 In air brake system, brake should apply when the rate of drop of air pressure in BP is –

(a) 0.6 Kg/cm^2/min **in six sec** (b) 0.3 Kg/cm^2 in one sec

(c) 0.4 Kg/cm^2 in one sec (d) 0.1 Kg/cm^2 in one sec

5.101 In air brake system, brake should not apply when the rate of drop of air pressure in BP is –

(a) 0.3 Kg/cm^2 **in 60 sec** (b) 0.4 Kg/cm^2 in 4 sec

(c) 0.5 Kg/cm^2 in 30 sec (d) 0.8 Kg/cm^2 in 8 sec

5.102 The function of main valve of C3W type DV is to supply requisite amount of pressure into the brake cylinder when –

(a) BP pressure is reduced (b) FP pressure is reduced

(c) CR pressure is reduced (d) BP & FP is also reduced

5.103 The main valve in DV exhausts pressure from brake cylinder to atmosphere, when –

(a) BP pressure is raised (b) BP pressure is reduced

(c) FP pressure is reduced (d) FP pressure is raised

5.104 The function of non-return valve used in air brake system is –

(a) To reduce BP (b) **To prevent flow of air from AR to FP**

(c) To prevent CR to be charged (d) To prevent flow of air from CR to BP

5.105 The trouble shooting for twin pipe system is -

(a) By pass AR (b) Isolate DV and release brake

(c) Release BC and open vent plug (d) **Isolate AR,DV and release brake**

5.106 What do you mean of SCTR?

(a) Single Car test rubber (b) Sliding car test rig

(c) Single car test rig (d) None of the above

5.107 What do you mean of SCTD?

(a) Single Car test device (b) Single container tensile data

(c) Schematic car test data (d) None of the above

5.108 The last step of releasing in conventional air brake system brake after brake binding is

(a) Open vent plug of BC **(b) Take out pin of palm end**

(c) Rotate SAB (d) Take out pin of SAB

5.109 For releasing brakes, SAB is rotated to -

(a) Clock wise **(b) Towards trolley in anti clockwise**

(c) Towards trolley in clockwise (d) Anti clockwise

5.110 To uncouple BP or FP air hose it is essential to –

(a) Close adjacent angle cocks (b) Open adjacent angle cocks

(c) Close supply of air from loco (d) None of the above

5.111 BC vent plug is used for -

(a) Brake application (b) Air leakage to stop

(c) Brake release (d) Air pressure maintenance

5.112 For bypass the special device essential is –

(a) For IP & BP connector (b) FP & BP exhauster

(c) FP & BP reducer (d) BP & FP jointer

5.113 What shall be function of check valve of C3W distributor valve?

(a) Charging the CR **(b) To prevent back flow of AR**

(c) Charging the BC (d) None of the above

5.114 Cut of angle cock can be fitted with

(a) Brake pipe **(b) Feed pipe & brake pipe both**

(c) Feed pipe (d) None of the above

5.115 The control reservoir is mounted on the face of -

(a) Distribution valve **(b) Common pipe bracket**

(c) Brake pipe (d) Auxiliary reservoir

5.116 The function of dirt collector is to segregate dirt particle from the air -

(a) After coming DV **(b) Before coming DV**

(c) Both (a) & (b) (d) None of the above

5.117 The MR pressure of engine should be

(a) 8.0 to 10.0 Kg/cm^2 (b) 6.0 to 8.0 Kg/cm^2

(c) 10.0 to 12.0 Kg/cm^2 (d) 12.0 to 15.0 Kg/cm^2

5.118 In air brake system branch pipe of DV to BC via common pipe bracket is –

(a) At the top **(b) At the bottom**

(c) In middle (d) None of the above

5.119 In air brake system branch pipe of DV to AR via common pipe bracket is –

(a) At the bottom **(b) In middle**

(c) At the top (d) None of the above

5.120 The position of handle to open angle cock is –

(a) Parallel to pipe line (b) Perpendicular to pipe line

(c) Center to pipe line (d) None of the above

5.121 The position of handle to closed cut of handle

(a) Perpendicular to pipe line (b) Parallel to pipe line

(c) Center to pipe line (d) None of the above

5.122 Which equipment are not charged, when DV is isolated

(a) Control reservoir and brake cylinder (b) Brake cylinder

(c) Control reservoir auxiliary reservoir (d) Auxiliary reservoir and brake cylinder

5.123 In air brake system sensitivity test is performed to know –

(a) Working sensation of DV to decided valve. (b) The release time of brake.

(c) Leakage in BC pressure. (d) Release time BC piston stroke.

5.124 If there is leakage of air from out let Guard van valve when handle is in off position than the reason can be –

(i) Ball seat arrangement is sticky (ii) Ball fitting is eccentric

(iii) Ball has developed scratches. (iv) Seat rings are damaged.

(a) i,ii,iii **(b) ii,iii,iv** (c) iii,iv,i (d) iv,i,ii

5.125 If there is leakage from drain plug of dirt collector than the reason can be –

(a) Filter choked (b) Gasket damaged

(c) Hexagonal nut not full damaged (d) Sealing washer damaged

5.126 Slow charging from outlet of dirt collector can be due to –

(a) Filter choked **(b) Gasket damaged**

(c) Hexagonal nut not full damaged (d) Sealing washer damaged

5.127 In a SAB double acting means –

(a) Provided braking action on both the brake shoes

(b) Correct the clearance on both brake shoes

(c) Spindle inside the barrel moves in both direction

(d) Brake shoes clearance is adjusted to its correct value both ways

5.128 What is the function of SAB?

(a) To developed automatic adjustment

(b) Regulate working of BC.

(c) To provided extra support to brake block

(d) To transfer the push of piston rod.

5.129 If in BC the piston movement is sticky in both application and release than it can be due to –

(a) Piston return comp spring week.

(b) Hexagonal nuts not equally tighten.

(c) Piston rubber packing running dry

(d) Piston rubber packing cut or worn out.

5.130 If in brake cylinder there is leakage from front cover joint during brake application than it can be due to –

(a) Piston return comp spring week.

(b) Piston cover not sealed properly.

(c) Piston rubber packing running dry.

(d) Piston rubber packing cut of worn out.

5.131 If the handle of cutoff angle cock rotates all around and does not stop at specific position that the reason can be –

(a) Leaf spring has lost its compression effect.

(b) Rubber seats are not properly placed

(c) "O" ring defective.

(d) Stopper lug of cap broken or stopper plate defective.

5.132 If there is a leakage from vent hole in an open position from cutoff angle cock than it can be due to –

(a) Rubber seal are not properly placed.

(b) Both or any of the seal surface is defective.

(c) Any foreign particle sticking on the surface of the ball.

(d) Defective "O" ring has been assembled.

5.133 What is the function of leaf spring provided in the handle of cut-off angle cock?

(a) To avoid leakage from pipe.

(b) To keep operating handle in off-on position firmly

(c) To maintain properly and easily working of cutoff angles cock.

(d) None of the above

5.134 What is the function of seating washer in air hose?

(a) Provide strength, which prevent the coupling to open during normal running.

(b) Leak proof joints

(c) To provided support to pipe (Hose) for strength

(d) Supply air to various components.

5.135 The vent hole, provided in the cut off angle cock to (when angle cock is closed)

(a) Exhaust air pressure of air hose into atmosphere

(b) The amount of vacuum

(c) None of the above

5.136 POH periodically of DV is

(a) 3 year or 8 lacks km which ever is earlier

(b) 5 year or 6 lacks km which ever is earlier

(c) 4 year

(d) 4 year or 4 lacks km which ever is earlier

5.137 If DV is having leakage

(a) Close the isolating cock of the AR

(b) Close the isolating handle of DV

(c) Close the isolating cock of the BP branch pipe

(d) None of the above

5.138 Air hose pipe are connected to

(a) Feed pipe cut of angle cock

(b) Brake pipe cut of angle cock

(c) Brake pipe and feed pipe cut of angle cock

(d) None of the above

5.139 The function of return spring provided in a brake cylinder is –

(a) To push the spring out side the piston

(b) To push the piston inside the cylinder

(c) To push the dead lever

(d) To push the control rod

5.140 'E' dimension is measured to –

(a) **From protection tube to 'V' grove made on the spindle rod**.

(b) From control rod to anchor pin.

(c) From SAB barrel tube 'V' grove to control rod.

(d) None of the above.

5.141 What is the function of SAB?

(a) To maintain the slacks between pull rod and wheel.

(b) To maintain the slack between piston and BC.

(c) To maintain the slack between brake bloke and wheel treads.

(d) None of the above

5.142 Measured 'A' dimension between-

(a) Control rod head to anchor pin

(b) Pull rod to anchor pin

(c) Pull rod to control rod head

(d) Control rod head and barrel face

1.143 If the 'A' dimension of the SAB is reduced-

(a) Piston stock is increase.

(b) Piston stock is reduced.

(c) Pistons stock shorter the control rod.

(d) None of the above

5.144 Warranty period of distributor valve is –

(a) 24 month from the date of delivery or 34 months for date of fitment whichever is earlier

(b) 36 month from the date of delivery or 24 months for date of fitment whichever is earlier

(c) 48 month from the date of delivery or 24 months for date of fitment whichever is earlier

(d) 36 month from the date of delivery or 12 months for date of fitment whichever is Earlier

NOTES

CHAPTER –6

SHELL / INTERIOR FITTING

6.01 What is the thickness of roof sheet in ICF coach?

(a) 2.1 mm (b) 1.9 mm (c) 1.8 mm (d**) 1.6 mm**

6.02 Water tank capacity of ICF coach is –

(a) 1600 litre **(b) 1800 litre** (c) 1500 litre (d) 2000 litre

6.03 At what schedule, the painting of lavatories from inside is done?

(a) 'A' schedule (b**) 'B' Schedule** (c) 'C' schedule (d) Special schedule

6.04 At what interval, check the roof leakage in all ICF coach?

(a) One month (b) Two month (c) Three month **(d) Six month**

6.05 In IRS coach, what is the length of over all width?

(a) 3251 mm (b) 3250 mm (c) 3245 mm (d) 3991 mm

6.06 Total water tank capacity of WRA is –

(a) 1600 litter (b) 1700 litter **(c) 1800 litter** (d) 2000 litter

6.07 Under shung tank capacity of roof mounted AC coaches fitted with WRA system is –

(a) 1600 litter (b) 1700 litter (c) 1800 litter (d) 2000 litter

6.08 Over head tank capacity of WRA system is –

(a) 100 litter **(b) 200 litter** (c) 300 litter (d) 400 litter

6.09 Minimum air pressure required for WRA is –

(a) 0.35 Kg/cm^2 (b) 0.45 Kg/cm^2 (c) 0.55 Kg/cm^2 (d) 0.65 Kg/cm^2

6.10 Maximum air pressure required for WRA is –

(a) 0.35 Kg/cm^2 (b) 0.55 Kg/cm^2 (c) 0.65 Kg/cm^2 **(d) 0.75 Kg/cm^2**

6.11 Total no of berths in IInd class sleeper 3 tier is –

(a) 64 (b) 68 **(c) 72** (d) 78

6.12 Total no of berths in IInd class sleeper AC - 3 tier is –

(a) **64** (b) 68 (c) 75 (d) 56

6.13 Total no of berths in AC –II tier is –

(a) 42 (b) 44 **(c) 46** (d) 48

6.14 Total no of seats in ICF chair car coach is –

(a) 55 (b) 60 (c) 64 **(d) 73**

6.15 Thickness of coach flooring Ply is –

(a) 12 mm (b) 16 mm **(c) 19 mm** (d) 22 mm

6.16 Maximum height above rail level for floor of any unloaded vehicle is –

(a) 1150 mm (b) 1250 mm **(c) 1345 mm** (d) 1395 mm

6.17 Maximum height above rail level for floor of fully loaded passenger vehicle is –

(a) 1150 mm **(b) 1250 mm** (c) 1345 mm (d) 1395 mm

6.18 Thickness of the comprag Ply provided in floor sheet is –

(a) 9.0 mm (b) 11.0 mm **(c) 13.0 mm** (d) 16.0 mm

6.19 Under lavatory portion, what is diameter of compression tube?

(a) 85.0 mm (b) 80.0 mm **(c) 65.0 mm** (d) 70.0 mm

6.20 Thickness of side well seat is –

(a) 1.0 mm (b) 3.0 mm **(c) 2.0 mm** (d) 4.0 mm

6.21 Thickness of trough floor of ICF/RCF coaches is –

(a) 1.0 mm **(b) 3.0 mm** (c) 5.0 mm (d) 7.0 mm

6.22 Sole bar of ICF coach consists of –

(a) Z section (b) I section (c) Y section (d) U section

NOTES

CHAPTER -7

UNDER GEAR /BOGIE

7.01 What capacity of the equalizing stays of the shatabdi Exp.?

(a) 22 tons (b) 20 tons **(c) 16 tons** (d) 14 tons

7.02 The condemning size of sand casting brake block is –

(a) 30.0 mm (b) 10.0 mm **(c) 20.0 mm** (d) 15.0 mm

7.03 The clearance between pin and bushes should not exceed –

(a) 1.0 mm (b) 0.5 mm **(c) 1.5 mm** (d) None of the above

7.04 After indo-German modification in coaching stock, What type of bushes to be used for brake gear components?

(a) Nylon -55 (b) Steel –46 (c) **Nylon –66** (d) Copper coated –55

7.05 What is amount of the oil per side bearer in ICF coaches?

(a) 1.2 letter (b) 1.6 letter (c**) 2.5 letter** (d) 2.2 letter

7.06 With what the lateral and longitudinal guides of ICF bogie is mounted?

(a) **Dash pot** (b) side bearer (c) CBC (d) Spring

7.07 What should be the maximum distance between safety loop and axle in ICF bogie?

(a) 32.0 mm (b) 35.0 mm (c**) 40.0 mm** (d) 44.0 mm

7.08 What is the distance between side bearers of ICF coach?

(a) 1560 mm (b) 1590 mm **(c) 1600 mm** (d) 1610 mm

7.09 After indo- German modification, the crown clearance bolt to be fitted with-

(a) Steel bush (**b) Rubber washer** (c) Nylon bush (d) Rubber packing

7.10 What types of brake block are used in coaching stock?

(a) 'L' type (b) 'K' type (c) 'CI' type **(d) All type**

7.11 In released position, the gap between brake block and wheel is –

(a) 3 mm (b) 4 mm (c) **5 mm** (d) 7 mm

7.12 What is the oil level in dashpot?

(a) 50.0 mm (b) **40.0 mm** (c) 75.0 mm (d) 90.0 mm

7.13 What should be the interval of check the dashpot oil in mail/Express train?

(a) 15 days (b) 25 days (c) **one month** (d) two month

7.14 What is the amount of oil per dashpot in 40-mm depth in modified guide arrangement?

(a**) 1.6 litter** (b) 2.5 litter (c) 2.2 litter (d) 1.9 litter

7.15 What is the interval of check the side bearer oil?

(a) **One month** (b) 25 days (c) 15 days (d) 10 days

7.16 In bogie mounted air brake systems, the No of brake cylinder are -

(a) 8 (b) 6 (c) 2 (**d) 4**

7.17 In ICF & RCF bogie, the total height of primary spring and compensating ring should not exceed –

(a) 285 mm **(b)** 290 mm **(c) 295 mm** (d) 300 mm

7.18 The minimum clearance between the axle box using lugs and their safety straps is -

(a) 36.0 mm **(b) 40.0 mm** (c) 44.0 mm (d) 43.0 mm

7.19 The crown clearance "A" between the axle box crown and the bogie frame of GS, SPC, SLR, SCN, VPH coaches is -

(a) 40±2 mm **(b) 43±0/3 mm** (c) 42±0/4 mm (d) 45±2 mm

7.20 In WGACCW, WGACCN coaches, the crown clearance between the axle box crown and the bogie frame is -

(a) 30±2 mm (b) 30± 5 mm **(c) 27± 0/3 mm** (d) 25± 0/3 mm

7.21 What is the bolster weight of ICF bogie?

(a) 0.234 t **(b) 0.400 t** (c) 0.486 t (d) 0.513 t

7.22 The variation in all four-corner height of the bogie must be less then or equal to -

(a) 5.0. mm **(b) 10.0 mm** (c) 15.0 mm (d) 18.0 mm

7.23 Weight of each non AC RCF bogie is -

(a) 4.90 t **(b) 5.9 t** (c) 6.20 t (d) 6.898 t

7.24 The weight of the coach is transferred through -

(a) Side bearer (b) Equalizing stay (c) Helical spring (d) Bolster

7.25 How many numbers of holes in guide cap hole in ICF/RCF bogie -

(a) 5 (b) 7 **(c) 9** (d) 11

7.26 What is the diameter of guide cap hole in ICF/RCF bogie?

(a) 4.0 mm (b) 3.0 mm **(c) 5.0 mm** (d) 7.0 mm

7.27 Center pivot pin does not transmit any -

(a) Horizontal load (b) Tractive (c) Breaking force **(d) Vertical force**

7.28 New dimension of side bearers wearing plate is -

(a) 10.0 mm (b) 12.0 mm (c) 14.0 mm (d) 16.0 mm

7.29 What is shop renewal dimension of side bearer wearing plate?

(a) 10.0 mm **(b) 9.0 mm** (c) 8.0 mm (d) 7.5 mm

7.30 Condemning size of side bearer wearing plate is -

(a) 10.0 mm (b) 9.0 mm **(c) 8.50 mm** (d) 7.50 mm

7.31 Newly dimension of side bearer wearing pieces is -

(a) 45.0 mm (b) 44.0 mm (c) 43.0 mm (d) 42.0 mm

7.32 Shop renewal size of side bearer wearing piece is -

(a) 45.0 mm (b) 44.50 mm **(c) 43.50 mm** (d) 42.50 mm

7.33 What is the condemning size of side bearer wearing piece?

(a) 45.0 mm (b) 44.0 mm (c) 43.0 mm **(d) 42.0 mm**

7.34 Length of the anchor link is -

(a) 445± 1mm (b) 450± 1mm **(c) 451± 1mm** (d) 455± 1mm

7.35 What mechanism is provided to control the speed of the coach by transferring the breaking Force from break cylinder to he wheel tread?

(a) Brake rigging (b) Push rod (c) Anchor link (d) Brake cylinder

7.36 How many brake head & block complete in coach under frame mounted brake rigging -

(a) 8 (b) 12 **(c) 16** (d) 18

7.37 How many adjusting links in coach under frame mounted brake rigging?

(a) 2 (b) 4 (c) 3 (d) 6

7.38 New size of hanger block (top & bottom) is -

(a) 9.5 mm (b) 10.5 mm (c) 8.5 mm (d) 9.0 mm

7.39 What is shop issue size of hanger block (top & bottom)?

(a) 9.5 mm **(b) 9.0 mm** (c) 8.5 mm (d) 8.0 mm

7.40 What is the wear limit of hanger block (top & bottom)?

(a) 1.0 mm (b) 2.0 mm **(c) 1.5 mm** (d) 3.0 mm

7.41 Wear limit of BSS brackets is -

(a) 0.5 mm **(b) 1.0 mm** (c) 1.5 mm (d) 2.0 mm

7.42 Longitudinal gauge for BSS bracket of 13-t bogie is -

(a) 1400± 1.0 mm (b) 1300± 1.0 mm (c) 1500± 1.0 mm (d) 14500± 1.0 mm

7.43 Longitudinal gauge for BSS bracket of 16.25-t bogie is -

(a) 1400± 1.0 mm **(b) 1500± 1.0 mm** (c) 14500± 1.0 mm (d) 13000± 1.0 mm

7.44 Diagonal gauge for BSS bracket of 13 t bogie is -

(a) 2687± 1.0 mm **(b) 2573± 1.0 mm** (c) 2159± 1.0 mm (d) 2159± 1.0 mm

7.45 Diagonal gauge for BSS bracket of 116.25 t bogie is -

(a) 2573± 1.0 mm (b) 2687± 1.0 mm **(c) 2629± 1.0 mm** (d) 3612± 1.0 mm

7.46 Longitudinal gauge for axle guide of 13 t bogie is -

(a) 570± 1.0 mm (b) 580± 1.0 mm (c) 590± 1.0 mm (d) 595± 1.0 mm

7.47 Longitudinal gauge for axle guide of 16.25 t bogie is -

(a) 580± 1.0 mm **(b) 570± 1.0 mm** (c) 590± 1.0 mm (d) 575± 1.0 mm

7.48 Longitudinal gauge for axle guide of 13 t & 16.25 t bogie is -

(a) 3912± 1.0 mm (b) 3812± 1.0 mm (c) 3712± 1.0 mm **(d) 3612± 1.0 mm**

7.49 Distance between BSS bracket and adjust axle gauge of 13 t bogie is -

(a) 463± 1.0 mm (b) 453± 1.0 mm (c) 455± 1.0 mm (d) 413± 1.0 mm

7.50 Distance between BSS bracket and adjust axle gauge of 16.25 t bogie is -

(a) 463± 1.0 mm (b) 451± 1.0 mm (c) 423± 1.0 mm **(d) 413± 1.0 mm**

7.51 New diameter of pin for BSS hanger is -

(a) 35 mm **(b) 37 mm** (c) 38 mm (d) 40 mm

7.52 What is the hole diameter of level hanger bracket?

(a) 30 mm (b) 31 mm **(c) 32 mm** (d) 35 mm

7.53 Inside diameter of anchor link silent block in is -

(a) 25.0 mm (b) 30.0 mm (c) 32.0 mm (d) 35.0 mm

7.54 Outer diameter of anchor link silent block is -

(a) 85.5 mm (b) 87.5 mm **(c) 90.5 mm** (d) 91.5 mm

7.55 New diameter for pins for 16.25 t load bearing capacity equalizing stay is

(a) 31± 05/0.2 mm (b) 33± 0.5/0.3 mm (c) 35± 1.0 mm (d) 30± 1.0 mm

7.56 New diameter for pins for 13-t axle load bearing capacity equalizing stay is -

(a) 31± 1.0 mm (b) 25± 1.0 mm (c) 24± 0.2/0.1 mm (d) 20± 0.51 mm

7.57 All the hangers should be tested to tensile load of -

(a) 10 t **(b) 8.0 t** (c) 7.0 t (d) 6.5 t

7.58 Inside distance between horizontal bearing arms of BSS hanger is -

(a) 374 mm (b) 378 mm (c) 381 mm **(d) 384 mm**

7.59 Thickness of vertical arm of BSS hanger is -

(a) 20.5 mm **(b) 25.5 mm** (c) 30.5 mm (d) 23.5 mm

7.60 Horizontal bearing surface of BSS hanger is -

(a) 42.0 mm (b) 44.0 mm (c) 45.0 mm (d) 48.0 mm

7.61 The maximum diametrical clearance between the pins and bushes is –

(a) 1.0 mm **(b) 1.5 mm** (c) 1.2 mm (d) 1.4 mm

7.62 The maximum diametrical clearance between the lower spring seat and guide bush should not exceed -

(a) 1.4 mm (b) 1.5 mm **(c) 1.6 mm** (d) 2.0 mm

7.63 Minimum clearance between the lugs and bottom of safety straps is -

(a) 40.0 mm (b) 42.0 mm (c) 45.0 mm (d) 48.0 mm

7.64 Weight of the AC ICF bogie is –

(a) 5.80 t (b) 480 t **(c) 6.200 t** (d) 7.22 t

7.65 Oil level in hydraulic Dashpot of rajdheni and shatabiti coaches should be cheeked once in –

(a) 10 days **(b) 15 days** (c) 20 days (d) one month

7.66 Length of brake block hanger from center to center of brake block hanger is –

(a) 235±0.5 mm (b) 238±1.0 mm (c) 236±1.0 mm (d) 224±1.0 mm

7.67 In case of high-speed train, Brake rigging with long Arm of the brake shaft is 686 mm it should by replaced by an Arm of length is –

(a) 786 mm **(b) 830 mm** (c) 827 mm (d) 840 mm

7.68 Coach nominated to run at a sanctioned speed of 110 Km/h. The leteral play of plain bearing in IRS coaches should not exceed –

(a) 3.0 mm **(b) 5.0 mm** (c) 7.0 mm (d) 10.0 mm

7.69 Coach nominated to run at a sanctioned speed of 110 Km/h, the longitudinal clearance between horn-cheeks and axle box liner across horn gaps in IRS coach should be –

(a) 1.0 mm (b) 2.0 mm **(c) 3.0 mm** (d) 5.0 mm

7.70 Which type brake system, external slack adjuster have been eliminated?

(a) BMBC (b) UMBS (c) BMBS & UMBS (d) None of the above

7.71 How many brake cylinders fitted in an ICF under slug brake system?

(a) 4 **(b) 2** (c) 1 (d) None

7.72 What is the modified brake-rigging ratio of self-generating air brake coaches with under frame mounted brake system?

(a) 1.14:2 (b) 1.13:2 **(c) 1.3:1** (d) 1.17:1

7.73 What is the piston stroke with modified brake rigging ratio of self-generating air brake coaches with under frame mounted brake system?

(a) 80±10 mm (b) 70±10 mm (c) 75±10 mm **(d) 60±10 mm**

7.74 What is the bogie leverage ratio of WGACCW coach?

(a) 1.14:2 **(b) 1.5:5** (c) 1.7:5 (d) 1.10:1

7.75 How many Non return valves are provided in ICF coach fitted with WRA system?

(a) 03 **(b) 05** (c) 07 (d) 08

7.76 If wheel diameter of an ICF coach is 887mm (889 –863), How much thickness of wooden packing is required for buffer height adjustment?

(a) 13 mm (b) 38 mm (c) 48 mm (d) 26 mm

7.77 If wheel diameter of an ICF coach is 860 mm (863 –839), How much thickness of wooden packing is required for buffer height adjustment?

(a) 13 mm (b) 38 mm (c) 48 mm **(d) 26 mm**

7.78 If wheel diameter of an ICF coach is 820mm (839 –819), How much thickness of wooden packing is required for buffer height adjustment?

(a) 13 mm **(b) 38 mm** (c) 48 mm (d) 26 mm

7.79 If wheel diameter of an ICF coach is less than 819 mm, How much thickness of wooden packing is required for buffer height adjustment?

(a) 13 mm (b) 38 mm **(c) 48 mm** (d) 26 mm

7.80 Truce bar hanger length is increased from –

(a) 205 to 235 mm (b) 205 to 240 mm (c) 205 to 255 mm (d) None of the above

7.81 Wear limit of equalizing stay pins is -

(a) Upto 1.0 mm (b) Upto 1.5 mm

(c) Upto 2.0 mm (d) none of the above

7.82 What is the position of equalizing stay rod, between what parts it is fitted?

(a) SAB head to control rod (b) **bolster and lower spring plank**

(c) Bolster and bogie transoms (d) None of the above

7.83 Where anchor link is fitted in a bogie?

(a) **Bolster and bogie transom** (b) Bolster stay rod and plank.

(c) Equalizing stay rod and plank. (d) None of the above

7.84 What is the modification of equalizing stay rod?

(a) **Fitted 16 tons in all coaches** (b) fitted 18 t o tons in all coaches

(c) Fitted 14 tons in all coaches (d) none of the above

7.85 The color code of helical spring of ICF bogie is –

(a**) Yellow, blue, green** (b) Yellow, red, green

(c) White, blue, green (d) White, red, green

7.86 What type of axle guidance arrangement used in ICF/RCF bogie?

(a) Oil clamping **(b) Telescopic axle guide with oil damping**

(c) Vertical oil damping (d) pneumatic axle guide

7.87 Between what, crown clearance "A" is measured -

(a) Between bolster & side frame

(b) Between anchor ling and primary suspension

(c) Between axle box crown and the crown bolt

(d) None of the above

7.88 One of the function of Anchor links?

(a) To joint bolster and side frame

(b) **To prevent rational movement of bolster**

(c) To connect with upper plank and lower plank

(d) (d) None of the above

NOTES

CHAPTER -8

BEARING

8.01 Which type of grease used in roller bearing in ICF coach?

(a) Servo –20 (b) **Lithium base** (c) Servo –40 (d) Graphite –20

8.02 What quantity of grease filled per axle box of SKF make bearing?

(a) 1.75 kg (b) **2.00 kg** (c) 2.25 kg (d) 2.5 kg

8.03 What quantity of grease filled per axle box of other than SKF make bearing?

(a) 1.75 kg (b) 2.00 kg (c) 2.25 kg (d) 2.5 kg

8.04 Maximum permissible radial clearance for SKF make bearing in service is –

(a) 0.33 mm (b) 0.56 mm (c) 0.270 mm (d) 0.295 mm

8.05 Maximum permissible radial clearances for NBC make bearing in service is –

(a) 0.33 mm (b) 0.56 mm (c) 0.270 mm **(d) 0.295 mm**

8.06 LHB coaches are provided with what type of bearing?

(a) Spherical type (b) Plain bearing **(c) CTRB** (d) None of the above

8.07 Radial clearance of SKF roller bearing is –

(a) 0.105 to 0.296 mm (b) 0.080 to 0.185 mm

(c) 0.080 to 0.190 mm (d) 0.120 to 0.200 mm

8.08 Radial clearance of NBC roller bearing is –

(a) 0.105 to 0.296 mm (b) 0.080 to 0.185 mm

(c) 0.080 to 0.190 mm (d) 0.120 to 0.200 mm

8.09 What type of roller bearing is fitted in ICF bogie wheel?

(a) Single row self align spherical roller bearing.

(b) Double row self align cylindrical roller bearing.

(c) Double row self align spherical roller bearing.

(d) **Single row self align cylindrical roller bearing**.

CHAPTER - 9

ALARM CHAIN APPARATUS

9.01 In air brake coach, PEAV & PEASD is connected to branch pipe is –

(a) FP **(b) BP** (c) BC (d) DV

9.02 The pulling force required for alarm chain testing should not be more then -

(a) 12 kg (b**) 10 kg** (c) 20 kg (d) 30 kg

9.03 On application of pulling force of 6.4 kg, the alarm chain should be –

(a) Work (b) **Not work** (c) None of the above

9.04 The drop in vacuum for a vacuum brake rake on pulling of alarm chain is –

(a) 12 –15 cm (b) **13 –18 cm** (c) 10 –12 cm (d) 9 –18 cm

9.05 Manually operated pilot vent valve is –

(a) PEASD (b) PEAV (c) ACP (d) PEAMTD

9.06 What is the diameter of control pipe attached from PEASD to PEAV?

(a) 15.0 mm (b) **10.0 mm** (c) 20.0 mm (d) 25.0 mm

9.07 What is the choke size of PEAV is -

(a) 4.0 mm (b) 5.0 mm (c) 6.0 mm **(d) 8.0 mm**

9.08 What is the chock size of Guard emergency brake valve?

(a) 8.0 mm (b) 6.0 mm (c) 5.0 mm (d) 4.0 mm

9.09 Passenger emergency alarm signal device are mounted on the –

(a) Under frame (b) side panel **(c) end wall** (d) Roof panel

9.10 At what schedule, the over hauling and testing of alarm chain apparatus is –

(a) 'A' schedule (b) **'B' schedules**

(c) 'C' schedule (d) Special schedule

9.11 The full name of PEAV is –

(a) Power energy valve (b) Passenger entrance valve

(c) **Passenger emergency alarm valve** (d) Pipe emergency valve

9.12 The full name of ACP is –

(a) Air condition pipe (b) Air cooler pipe

(c) **Alarm chain-pulling** (d) Air cylinder piston

9.13 After ACP, it is reset and brakes are released by-

(a) DV quick released valve (b) ISO lasting handle

(c**) PEAV** (d) PEASD

9.14 The pulling force required for alarm chain application should be more then –

(a) 7 –15 kg (b) **7 –10 kg**

(c) 7 –12 kg (d) 7 –18 kg

9.15 In alarm chain, the pull applied vertically downward a drop of vacuum to the extent of –

(a) 110 mm to 130 mm **(b) 130 mm to 180 mm**

(c) 140 mm to 170 mm (d) 150 mm to 200 mm

9.16 What shell be the periodical overhauling of the alarm signal apparatus for each coach?

(a) Every one month **(b) Every three month**.

(c) Every six month (d) Every one year

9.17 In vacuum brake, what shall be period of testing alarm chain signal apparatus?

(a) **Every trip primary/ secondary maintenance**.

(b) Every 'A' schedule.

(c) After 15 days±3 days

(d) None of the above

9.18 The full name of PEASD is –

(a) Passenger emergency alarm shut down

(b) Passenger emergency alarm signal device

(c) Passenger entrance admission signal device

(d) Passenger emergency admission signal device

9.19 PEAV & PEASD can be isolated by-

(a) Isolate isolating cock between branch pipe of BP & DV

(b) Isolate isolating cock between branch pipe of FP& BP

(c) Isolate isolating cock fitted in branch pipe

(d) Isolate isolating cock of BC

NOTES

CHAPTER -10

SUSPEINSION

10.01 Primary Spring should be checked with what load?

(a) 3 tons (b) 4 tons (c) 3.5 tons (d**) 3.8 tons**

10.02 What is the free height of 13 tons bolster spring?

(a) **385 mm** (b) 415 mm (c) 405 mm (d) 420 mm

10.03 What is the free height of 16.25 tons axle box spring?

(a) 360 mm (b) 365 mm (c) **375 mm** (d) 380 mm

10.04 What is the free height of non-AC coach axle box spring?

(a) 355 mm (b) **360 mm** (c) 367 mm (d) 370 mm

10.05 What is the inside length of bolster spring suspension hanger in new condiction?

(a) 380 mm (b) **384 mm** (c) 386 mm (d) 388 mm

10.06 What is the new diameter of B.S.S hanger pin?

(a) 35 mm (b) 36 mm (c) **37 mm** (d) 39 mm

10.07 What is the condemning diameter of B.S.S hanger pin?

(a) 35 mm (b) **35.5 mm** (c) 36 mm (d) 36.5 mm

10.08 Free height of 16.25 tons AC coach bolster spring is –

(a) 385 mm (b) 390 mm (c) **400 mm** (d) 410 mm

10.09 At what load, the 16.25 tons AC coach bolster spring is –

(a) 4 tons (b) **6 tons** (c) 8 tons (d) 10 tons.

10.10 In tare condition axle box spring height of ICF bogie in GS coach is -

(a) 260± 2 mm **(b)** 289± 4/3 mm (c) 290± 2/4 mm (d) 298± 2/3 mm

10.11 Free height of all non-AC ICF type axle box spring is -

(a) 375 mm (b) 372 mm **(c) 360 mm** (d) 315 mm

10.12 Free height of all AC ICF type axle box spring is -

(a) 375 mm (b) 360 mm (c) 372 mm (d) 337 mm

10.13 Free height of high capacity parcel van axle box spring is -

(a) 375 mm (b) 360 mm (c) 337 mm **(d) 315 mm**

10.14 Free height of non-AC ICF type bolster spring is -

(a) 375 mm **(b) 385 mm** (c) 400 mm (d) 416 mm

10.15 Free height of AC ICF type bolster coil spring is -

(a) 375 mm (b) 385 mm **(c) 400 mm** (d) 416 mm

10.16 Free height of high capacity parcel van bolster coil spring is -

(a) 375 mm (b) 386 mm **(c) 393 mm** (d) 286 mm

10.17 What is co lour code of ‘A’ group coil spring is

(a) Yellow (b) Green (c) oxford blue (d) White

10.18 What is co lour code of 'B' group coil spring is -

(a) Oxford blue (b) White (c) Green (d) Yellow

10.19 What is co lour code of 'C' group coil spring is -

(a) Oxford blue (b) White **(c) Green** (d) Yellow

10.20 What should be the height of 13 tons bolster spring with a load of 3.8 tons?

(a) 280 to 285 mm (b) 287 to 300 mm

(c) **287 to 306 mm** (d) 300 to 310 mm

10.21 What should be the height of 16.25 tons axle box spring with a load of 3.0 tons?

(a) 260 to 280 mm (b) 280 to 290 mm

(c) **256 to 275 mm** (d) 246 to 256 mm

10.22 What should be the height of axle box spring with check load of 3 tons?

(a) **267 to 284 mm** (b) 270 to 290 mm

(c) 290 to 300 mm (d) None of the above

10.23 Capacity of hydraulic shock absorber other than power car is -

(a) ± 600 kg at a speed of 10 cm/sec (b) ± 500 kg at a speed of 10 cm/sec

(c) ± 45 kg at a speed of 15 cm/sec (d) none of the above

10.24 Which types of suspension are used in double acting telescopic type shock absorbers?

(a) Primary suspension **(b) Secondary suspension**

(c) Primary & Secondary suspension (d) None of the both

NOTES

CHAPTER - 11

IRY - COACH

11.01 The length of IRY coach is –

(a) **21700 mm** (b) 21789 mm (c) 2173 mm (d) 21800 mm

11.02 What is the distance between bogie centers of IRY coach?

(a) 14777 mm (b**) 14770 mm** (c) 14800 mm (d) 14738 mm

11.03 No. of seats in IRY in chair car coach is –

(a) 38 (b) 60 (c) **70** (d) 72

11.04 Calculated the no. of cylinder in 12 coaches, How many cylinders fitted in IRY coaches?

(a) 91 (b) 93 (**c) 96** (d) 98

11.05 What is the distance between buffer to buffer in IRY coaches?

(a) **22100 mm** (b) 22110 mm (c) 22300 mm (d) 22115 mm

11.06 What is the wheelbase of IRY coach?

(a) 2445 mm (b) 2448 mm (c) **2440 mm** (d) 2438 mm

11.07 Which type of profile used in IRY coach?

(a) **WWP** (b) WWM (c) WWT (d) WWN

11.08 Axle load of IR –20 bogie is –

(a) **16 tons** (b) 18 tons (c) 22 tons (d) None of the above

11.09 What is the diameter of disc mounted disc?

(a) **600 mm** (b) 640 mm (c) 660 mm (d) 650 mm

11.10 How many secondary vertical shock absorbers fitted in IR- 20 bogie?

(a) 04 (b) 05 (c) **06** (d) 07

11.11 Nos. of lateral shock absorbers in IR - 20 coaches are –

(a) 03 (b) **04** (c) 05 (d) 06

11.12 Max. Buffer height in IRY coaches is –

(a) 1108 mm (b) **1105 mm** (c) 1110 mm (d) 1115 mm

11.13 Capacity of lateral shock- absorbers in IR– 20 bogie is –

(a) 150 kg (b) 200 kg (c) 250 kg **(d) 100 kg**

11.14 Nos. of anchor rod fitted in one IR –20 bogie are –

(a) 01 **(b) 02** (c) 04 (d) None of the above

11.15 Nos. of mounting frame fitted in one IR –20 bogie is –

(a) **01** (b) 02 (c) 04 (d) 06

11.16 At what pressure, the WRA close in IRY coach?

(a) 1.0 kg/cm^2 (b) 8.0 kg/cm^2 (c**) 0.7** kg/cm^2 (d) 12.0 kg/cm^2

11.17 Nos. of WRA fitted in one IRY coaches are –

(a) 02 (b**) 03** (c) 04 (d) 01

11.18 Max. Pressure of WRA in one coach is –

(a) 1.50 kg/cm^2 **(b) 1.20** kg/cm^2 (c) 1.0 kg/cm^2 (d) 0.80 kg/cm^2

11.19 Capacity of storage water in one IRY coach is –

(a) 2000 litre (b) 1900 litre (c) **1800 litre** (d) 1700 litre

11.20 No. of shock absorber fitted in one IR-20 bogie are –

(a) 8 (b) **10** (c) 12 (d) 16

11.21 No. of antiroll bar fitted in one IR– 20 bogie is –

(a) 02 (b) **01** (c) 03 (d) 04

11.22 Nos. of brake cylinder fitted in one IR – 20 bogie are –

(a) 02 (b**) 04** (c) 06 (d) 08

11.23 Difference between brake pad and disc is –

(a) 1.0 mm (b) 1.2 mm (c) **1.5 mm** (d) 2.0 mm

11.24 Nos. of brake pad fitted in one IRY coach are –

(a) 02 (b) 04 (c) 06 **(d) 16**

11.25 Size of brake cylinder in one IRY coach is –

(a) 250 mm **(b) 254 mm** (c) 260 mm (d) 265 mm

11.26 Thickness of brake pad is –

(a) 24 mm (b) 36 mm (c) **35 mm** (d) 49 mm

11.27 Condemning limit of brake pad is –

(a) 4 mm (b) 6 mm (c) 5 mm (d**) 7 mm**

11.28 What is the Max. Pressure in brake cylinder in IRY coach?

(a) 2.5 kg/cm2 (b**) 2.6 kg/cm2** (c) 2.8 kg/cm2 (d) 3.0 kg/cm2

11.29 Nos. of primary vertical shock absorber in one IRY coach are –

(a) 04 (b) 06 (c**) 08** (d) 12

11.30 What is the capacity of secondary shock absorbers?

(a) 440 kg at the speed of 10 cm/sec (b) **400 kg** at the speed of 10 cm/sec

(c) 460 kg at the speed of 10 cm/sec (d) 200 kg at the speed of 10 cm/sec

11.31 Capacity of primary shock absorbers is –

(a) 300 kg at the speed of 10 cm/sec (b) **200 kg** at the speed of 10 cm/sec

(c) 250 kg at the speed of 10 cm/sec (d) 400 kg at the speed of 10 cm/sec

11.32 Means of WRA is –

(a) **Water raising apparatus** (b) White race assistance

(c) Water recording agreement (d) None of the above

11.33 What is the means of WSP?

(a) Water speed protection (b) **Wheel slide procation**

(c) Wheel solid profile (d) None of the above

CHAPTER -12

BOGIE MOUNTED

12.01 The no. of brake cylinder fitted in a coach bogie mounted air brake system is -

(a) One (b) Two **(c) Four** (d) None of the above

12.02 What is the diameter of brake cylinder of bogie mounted brake system -

(a) 12" (b) 10" (c) 9" **(d) 8"**

12.03 External slack adjuster have been eliminated in bogie mounted air brake system

(a) True (b) False (c) None of the above

12.04 Piston stroke (coach) of bogie mounted brake cylinder is –

(a) 28 mm **(b) 32 mm** (c) 36 mm (d) 38 mm

120.5 In bogie mounted brake system, what is the diameter of pneumatic pipeline has been lied over bogie frame to inner connect the brake cylinder of one bogie?

(a) 20mm (b) 22mm (c) 18mm **(d) 15mm**

12.06 The average coefficient of friction of composite brake block is –

(a) 0.20 **(b) 0.25** (c) 0.30 (d) 0.35

12.07 In BMBS hole adjustment of curved pull rod to be done when wheel diameter reaches to -

(a) 839 mm (b) 842 mm (c) 846 mm (d) None of the above

12.08 In BMBC snout position is –

(a) 9.0' Clock (b) 10.0' Clock (c) 11.0' Clock (d) None of the above

NOTES

CHAPTER - 13

LHB COACH

13.01 What is the berth capacity of AC-2- Tier LHB coach?

(a) 54 berth (b) 72 berth (c) 46 berth (d) 64 berth

13.02 Berth capacity of AC-3-Tier LHB coach is –

(a) 54 berth **(b) 72** berth (c) 46 berth (d) 64 berth

13.03 Length over body of LHB coach is –

(a) 21770 mm (b) 21337 mm **(c) 23540 mm** (d) 25540 mm

13.04 Maximum width of LHB coach is –

(a) 3250 mm **(b) 3240 mm** (c) 3245 mm (d) 3325 mm

13.05 Height over roof of LHB coach is –

(a) 4039 mm (b) 4025 mm (c) 4026 mm (d) 4047 mm

13.06 What is the length over buffer of LHB coach?

(a) 2444 mm (b) 2424 mm (c) 22100 mm **(d) 24000 mm**

13.07 Rigid wheelbase of LHB coach is –

(a) 2560 mm (b) 2896 mm (c) 2444 mm (d) 2440 mm

13.08 Distance between Inner axle distances of LHB coach are –

(a) 12344 mm **(b) 12340 mm** (c) 12445 mm (d) 14783 mm

13.09 What is the bogie center distance or flexible wheelbase of LHB coach?

(a) 12340 mm (b) 14783 mm **(c) 14900 mm** (d) 14770 mm

13.10 No of the toilet provided in LHB coach is –

(a) Four (b) Two **(c) Three** (d) None of the above

13.11 Maximum CBC height drop under load and worn condition of LHB coach is –

(a) 70 mm **(b) 75 mm** (c) 78 mm (d) 82 mm

13.12 Which bogies are provided for higher passengers ride index comfort?

(a) ICF (all coil) (b) IRS type (c) BEML type **(d) Fiat –SIG type**

13.13 Maximum ride index of LHB coach is –

(a) 2.75 **(b) 3.25** (c) 3.65 (d) 3.45

13.14 The slide valve of controlled discharge toilet of LHB coach opens automatically at speeds above –

(a) 10.0 Km/h (b) 20.0 Km/h **(c) 30.0** Km/h (d) 45.0 Km/h

13.15 What is the thickness of flooring panels of LHB coach?

(a) 10.0 mm (b) 18.0 mm (c) **16.0 mm** (d) 20.0 mm

13.16 New disign features of LHB coach having speed of 160 KMPH upgradable up to –

(a) 180 Km/h **(b) 200** Km/h (c) 210 Km/h (d) 220 Km/h

13.17 How much length of LHB coach is increased in compression of ICF coach?

(a) Appx-2.0 meter (b) Appx-3.0 meter (c) Appx-1.5 meter (d) None of the above

13.18 Braking distance of LHB coach from a speed of 160 KMPH is –

(a) 800 m (b) 1000 m **(c) 1200 m** (d) 1500 m

13.19 Nos of yaw dampers in LHB coach are –

(a) 01 **(b) 02** (c) 03 (d) 04

13.20 At what interval for amenity fitting repair/replacement schedule for all type of LHB coach?

(a) Three month **(b) Six month** (c) One month (d) One year

13.21 Maximum tare weight of the LHB coach is –

(a) 40.28 t **(b) 41.31 t** (c) 41.88 t (d) 42.03 t

13.22 Condemning wheel diameter of LHB coach is –

(a) 813 mm (b) 840 mm **(c) 845 mm** (d) 874 mm

13.23 How many type water tanks are provided in LHB coach?

(a) One type **(b) Three type** (c) Two type (d) Four type

13.24 Water supply in wash basin is controlled by in LHB coach is –

(a) Digital switch (b) **Electromagnetic switch** (c) Analog switch (d) Both a&b

13.25 The roof seat, side wall seat and end floor seat are fabricated of –

(a) Cast steel (b) Silicon steel (c) Mild steel **(d) Stainless steel**

13.26 The under frame of LHB coach is fabricated of –

(a) Cast steel (b) Silicon steel **(c) Mild steel** (d) Stainless steel

13.27 Codal life of LHB coach is –

(a) 40 year (b) 45 year **(c) 50 year** (d) 60 year

13.28 Piston stroke of brake cylinder of LHB coach is –

(a) 8-10 mm (b) 15-20 mm (c) 22-25 mm (d) 30-32 mm

13.29 How many speed sensors have been provided in LHB coaches wheel?

(a) Two (b) Three **(c) Four** (d) Five

13.30 Diameter of chock in PEAV of LHB coach is –

(a) 10.0 mm (b) 15.0 mm **(c) 19.0 mm** (d) 22.0 mm

13.31 The capacity of air reservoir of LHB coach is –

(a) 125 litre (b) 150 litre (c) 175 litre (d) 200 litre

13.32 Every wheel is provided Dump valve –

(a) 01 No. (b) 03 No. (c) 04 No. (d) None

13.33 The brake accilater are fitted in –

(a) BP (b) FP (c) DC (d) DV

13.34 How many sliding valve in CDTS system?

(a) 01 **(b) 02** (c) 03 (d) 04

13.35 The CDTS resaved the compressed air from –

(a) Services Reservoir (b) Main Reservoir

(c) Auxiliary Reservoir (d) None of the above

13.36 What type of coupler used in LHB coaches?

(a) 'H' type coupler
(b) **Tight lock coupler with anti clamping feature**
(c) CBC type
(d) None of the above

13.37 Height of centerline of coupler from rail level under tare condition of LHB coach is –

(a) 1105+0/-15 mm
(b) 1095+0/-15 mm
(c) 1110±15 mm
(d) 1110±5 mm

13.38 What do you mean by CDTS?

(a) Control distance testing system
(b) Controlled discharge toilet system
(c) Compact disc type system
(d) None of the above

13.39 At what interval of schedule 'Q' for all type LHB coaches?

(a) One month±15 days
(b) Three monthly±15 days
(c) Six monthly ± 15 days
(d) Yearly ± 30 days

13.40 At what interval for IOH (SS-I) of all type LHB coach?

(a) One month±15 days
(b) Three monthly±15 days
(c) Six monthly ± 15 days
(d) Yearly ± 30 days

13.41 At what interval for POH (SS-II & SS-III) of all type LHB coach?

(a) Two yearly ±60 days
(b) Three monthly±30 days
(c) Six monthly ± 30 days
(d) Yearly ± 60 days

13.42 How many brake pipe connection and feed pipe connection is provided in each of the LHB coach?

(a) 1 FP and 1BP on one end

(b) 2 FP and 2 BP on one end

(c) 2 FP and 2 BP on each end

(d) 2 BP and 1 FP on each end

13.43 Why inbuilt slack adjuster of BMBC is called single acting –

(a) Because at take up the slack in return spring

(b) Because at take up the slack is not return spring

(c) Both a & b

(d) None of the above

CHAPTER-14

ABBREVIATIONS

WRITE THE FULL FORMS OF THE FOLLOWING: -

1. ART
2. AM
3. AAC
4. ACS&PF
5. AAR
6. AR
7. ARME
8. BC
9. BPC
10. BP
11. BMBS
12. BMBC
13. CLW
14. C&W
15. CR
16. CDD
17. CRS

18. CME

19. CRSE

20. CPB

21. CAMETCH

22. CRB

23. COFMOW

24. CRIS

25. CBC

26. CTRB

27. CT

28. CTS

29. CZACEN

30. DF

31. DCRG

32. DGS&D

33. DRF

34. DCEG

35. DV

36. D&A

37. DLW

38. DMRC

39. DCF

40. ERR

41. ERU

42. ERM

43. EM

44. FCS

45. FSCN

46. RRF

47. FP

48. FO

49. GS

50. GTKM

51. GM

52. HB

53. HSD

54. HDD

55. IRCON

56. ICF

57. IVRS

58. IRCA

59. IRWO

60. IRFC

61. IRIMME

62. JCM

63. KRC

64. LHB

65. LDO

66. LR

67. NMG

68. ODC

69. OLWR

70. OHE

71. PPS

72. POIS

73. PAC

74. PEV

75. PEASD

76. PRS

77. PAC

78. PNM

79. PLB

80. PL No

81. PERT

82. PRS

83. RA

84. RAAC

85. RD

86. RE

87. RH

88. RHV

89. RK

90. RN

91. RS

92. RT

93. RTM

94. RITES

95. RDSO

96. RWF

97. RSP

98. RCF

99. RSC

100. RRB

101. RZ

102. SLR

103. SMN

104. SCTR

105. SMF

106. SAB

107. SPTM

108. TSL

109. TIT

110. UMBS

111. UMBC

112. UTS

113. UIC

114. VP

115. VPC

116. WACCNEN

117. WCB

118. WSCZACEN

119. WCD

120. WCRAC

121. WCTAC

122. WFACEN

123. WFC

124. WGACCN

125. WGACCW

126. WACCWEN

127. WGFAC

128. WGFACCW

129. WT

130. WWP

NOTES

ANSWERS: -

GENERAL

1.01 – (c)	1.02 – (d)	1.03 – (c)	1.04 – (c)	1.05 – (a)	1.06 – (b)
1.07 – (c)	1.08 – (d)	1.09 – (d)	1.10 – (b)	1.11 – (b)	1.12 – (c)
1.13 – (c)	1.14 – (b)	1.15 – (d)	1.16 – (c)	1.17 – (d)	1.18 – (b)
1.19 – (b)	1.20 – (c)	1.21 – (c)	1.22 – (c)	1.23 – (c)	1.24 – (c)
1.25 – (a)	1.26 – (b)	1.27 – (c)	1.28 – b)	1.29 – (a)	1.30 – (a)
1.31 – (b)	1.32 – (c)	1.33 – (b)	1.34 – (a)	1.35 – (a)	1.36 – (c)
1.37 – (b)	1.38 – (c)	1.39 – (a)	1.40 – (c)	1.41 – (c)	1.42 – (a)
1.43 – (b)	1.44 – (c)	1.45 – (c)	1.46 – (b)	1.47 – (c)	1.48 – (a)
1.49 – (d)	1.50 – (b)	1.51 – (c)	1.52 – (c)	1.53 – (d)	1.54 – (a)
1.55 – (d)	1.56 – (c)	1.57 – (a)	1.58 – (b)	1.59 – (d)	1.60 – (c)
1.61 – (c)	1.62 – (b)	1.63 – (c)	1.64 – (a)	1.65 – (a)	1.66 – (a)
1.67 – (b)	1.68 – (c)	1.69 – (d)	1.70 – (b)	1.71 – (c)	1.72 – (c)
1.73 – (c)	1.74 – (a)	1.75 – (c)	1.76 – (b)	1.77 – (b)	1.78 – (b)
1.79 – (a)	1.80 – (d)	1.81 – (b)	1.82 – (b)	1.83 – (c)	1.84 – (c)
1.85 – (a)					

CBC & DRAFT GEAR

2.01 – (c)	2.02 – (d)	2.03 – (b)	2.04 – (d)	2.05 – (b)	2.06 – (a)
2.07 – (c)	2.08 – (a)	2.09 – (c)	2.10 – (d)	2.11 – (c)	2.12 – (c)
2.13 – (a)	2.14 – (b)	2.15 – (a)	2.16 – (c)	2.17 – (b)	2.18 – (a)
2.19 – (a)	2.20 – (a)	2.21 – (c)	2.22 – (b)	2.23 – (d)	2.24 – (a)
2.25 – (c)	2.26 – (d)	2.27 – (c)	2.28 – (d)	2.29 – (a)	2.30 – (c)
2.31 – (d)	2.32 – (b)	2.33 – (b)	2.34 – (a)	2.35 – (c)	2.36 – (a)
2.37 – (c)	2.38 – (b)	2.39 – (c)	2.40 – (b)	2.41 – (c)	2.42 – (d)
2.43 – (-)	2.44 – (a)	2.45 – (b)	2.46 – (b)	2.47 – (a)	2.48 – (c)
2.49 – (d)	2.50 – (b)	2.51 – (c)	2.52 – (c)	2.53 – (d)	2.54 – (b)

2.55 – (a) 2.56 – (c) 2.57 – (a) 2.58– (a) 2.59 – (b) 2.60 – (a)
2.61 – (a)

WHEEL & AXLE

3.01 – (a) 3.02 – (b) 3.03 – (c) 3.04 – (c) 3.05 – (d) 3.06 – (c)
3.07 – (d) 3.08 – (c) 3.09 – (c) 3.10 – (b) 3.11 – (a) 3.12 – (b)
3.13 – (c) 3.14 – (d) 3.15 – (c) 3.16 – (b) 3.17 – (b) 3.18 – (b)
3.19 – (a) 3.20 – (b) 3.21 – (a) 3.22 – (a) 3.23 – (d) 3.24 – (d)
3.25 – (b) 3.26 – (b) 3.27 – (c) 3.28 – (a) 3.29 – (c) 3.30 – (b)
3.31 – (a) 3.32 – (a) 3.33 – (a) 3.34 – (a) 3.35 – (b) 3.36 – (c)
3.37 – (a) 3.38 – (a) 3.39 – (b) 3.40 – (a) 3.41 – (c) 3.42 – (d)
3.43 – (b) 3.44 – (a) 3.45 – (b) 3.46 – (b) 3.47 – (c) 3.48 – (c)
3.49 – (a)

VACUUM BRAKE

4.01 – (b) 4.02 – (c) 4.03 – (c) 4.04 – (b) 4.05 – (b) 4.06 – (d)
4.07 – (c) 4.08 – (c) 4.09 – (a) 4.10 – (b) 4.11 – (b) 4.12 – (b)
4.13 – (c) 4.14 – (b) 4.15 – (d) 4.16 – (b) 4.17 – (a) 4.18 – (a)
4.19 – (c) 4.20 – (a) 4.21 – (b) 4.22 – (c) 4.23 – (b) 4.24 – (a)
4.25 – (b) 4.26 – (a) 4.27 – (b) 4.28 – (a) 4.29 – (d) 4.30 – (b)
4.31 – (a) 4.32 – (d) 4.33 – (c) 4.34 – (b) 4.35 – (c) 4.36 – (b)
4.37 – (d) 4.38 – (b)

AIR BRAKE

5.001 – (b) 5.002 – (b) 5.003 – (b) 5.004 – (d) 5.005 – (b) 5.006 – (b)
5.007 – (c) 5.008 – (c) 5.009 – (d) 5.010 – (a) 5.011 – (c) 5.012 – (c)
5.013 – (d) 5.014 – (c) 5.015 – (b) 5.016 – (b) 5.017 – (c) 5.018 – (c)
5.019 – (c) 5.020 – (a) 5.021 – (c) 5.022 – (c) 5.023 – (b) 5.024 – (-)
5.025 – (b) 5.026 – (c) 5.027 – (c) 5.028 – (a) 5.029 – (b) 5.030 – (c)

5.031 – (c)	5.032 – (b)	5.033 – (d)	5.034 – (a)	5.035 – (b)	5.036 – (c)
5.037 – (a)	5.038 – (a)	5.039 – (d)	5.040 – (c)	5.041 – (d)	5.042 – (a)
5.043 – (b)	5.044 – (a)	5.045 – (c)	5.046 – (d)	5.047 – (c)	5.048 – (d)
5.049 – (b)	5.050 – (a)	5.051 – (b)	5.052 – (b)	5.053 – (c)	5.054 – (b)
5.055 – (a)	5.056 – (b)	5.057 – (b)	5.058 – (d)	5.059 – (a)	5.060 – (a)
5.061 – (d)	5.062 – (a)	5.063 – (d)	5.064 – (a)	5.065 – (d)	5.066 – (a)
5.067 – (b)	5.068 – (a)	5.069 – (a)	5.070 – (a)	5.071 – (b)	5.072 – (a)
5.073 – (b)	5.074 – (d)	5.075 – (c)	5.076 – (b)	5.077 – (b)	5.078 – (d)
5.079 – (b)	5.080 – (c)	5.081 – (c)	5.082 – (c)	5.083 – (c)	5.084 – (d)
5.085 – (d)	5.086 – (b)	5.087 – (a)	5.088 – (c)	5.089 – (d)	5.090 – (a)
5.091 – (c)	5.092 – (c)	5.093 – (c)	5.094 – (a)	5.095 – (c)	5.096 – (c)
5.097 – (c)	5.098 – (a)	5.099 – (b)	5.100 – (a)	5.101 – (a)	5.102 – (a)
5.103 – (a)	5.104 – (b)	5.105 – (d)	5.106 – (c)	5.107 – (a)	5.108 – (b)
5.109 – (b)	5.110 – (a)	5.111 – (c)	5.112 – (a)	5.113 – (b)	5.114– (b)
5.115 – (b)	5.116 – (b)	5.117 – (a)	5.118 – (b)	5.119 – (b)	5.120 – (a)
5.121 – (a)	5.122 – (a)	5.123 – (a)	5.124 – (b)	5.125 – (c)	5.126 – (b)
5.127 – (d)	5.128 – (a)	5.129 – (b)	5.130 – (c)	5.131 – (d)	5.132 – (c)
5.133 – (b)	5.134 – (a)	5.135 – (a)	5.136 – (a)	5.137 – (c)	5.138 – (c)
5.139 – (b)	5.140 – (a)	5.141 – (c)	5.142 – (d)	5.143 – (b)	5.144 – (b)

SHELL / INTERIOR FITTING

6.01 – (d)	6.02 – (b)	6.03 – (b)	6.04 – (b)	6.05 – (a)	6.06 – (c)
6.07 – (a)	6.08 – (b)	6.09 – (a)	6.10 – (d)	6.11 – (c)	6.12 – (a)
6.13 – (c)	6.14 – (d)	6.15 – (c)	6.16 – (c)	6.17 – (b)	6.18 – (c)
6.19 – (c)	6.20 – (c)	6.21 – (b)	6.22 – (a)		

UNDER GEAR / BOGIE

7.01 – (c)	7.02 – (c)	7.03 – (c)	7.04 – (c)	7.05 – (c)	7.06 – (a)
7.07 – (c)	7.08 – (c)	7.09 – (b)	7.10 – (d)	7.11 – (c)	7.12 – (b)

7.13 – (c)	7.14 – (a)	7.15 – (a)	7.16 – (d)	7.17 – (c)	7.18 – (b)
7.19 – (b)	7.20 – (c)	7.21 – (b)	7.22 – (b)	7.23 – (b)	7.24 – (a)
7.25 – (c)	7.26 – (c)	7.27 – (d)	7.28 – (a)	7.29 – (b)	7.30 – (c)
7.31 – (a)	7.32 – (c)	7.33 – (d)	7.34 – (c)	7.35 – (a)	7.36 – (c)
7.37 – (a)	7.38 – (a)	7.39 – (b)	7.40 – (c)	7.41 – (b)	7.42 – (a)
7.43 – (b)	7.44 – (b)	7.45 – (c)	7.46 – (a)	7.47 – (b)	7.48 – (d)
7.49 – (a)	7.50 – (d)	7.51 – (b)	7.52 – (c)	7.53 – (a)	7.54 – (c)
7.55 – (a)	7.56 – (a)	7.57 – (b)	7.58 – (d)	7.59 – (b)	7.60 – (a)
7.61 – (b)	7.62 – (c)	7.63 – (a)	7.64 – (c)	7.65 – (b)	7.66 – (a)
7.67 – (b)	7.68 – (b)	7.69 – (c)	7.70 – (a)	7.71 – (b)	7.72 – (c)
7.73 – (d)	7.74 – (b)	7.75 – (b)	7.76 – (a)	7.77 – (d)	7.78 – (b)
7.79 – (c)	7.80 – (a)	7.81 – (a)	7.82 – (b)	7.83 – (a)	7.84 – (a)
7.85 – (a)	7.86 – (b)	7.87 – (c)	7.88 – (b)		

BEARING

8.01 – (b)	8.02 – (b)	8.03 – (a)	8.04 – (a)	8.05 – (d)	8.06 – (c)
8.07 – (a)	8.08 – (c)	8.09 – (d)			

ALARM CHAIN APPARATUS

9.01 – (b)	9.02 – (b)	9.03 – (b)	9.04 – (b)	9.05 – (a)	9.06 – (b)
9.07 – (d)	9.08 – (a)	9.09 – (c)	9.10 – (b)	9.11 – (c)	9.12 – (c)
9.13 – (c)	9.14 – (b)	9.15 – (b)	9.16 – (b)	9.17 – (a)	9.18 – (b)
9.19 – (c)					

SUSPAINSION

10.01 – (d)	10.02 – (a)	10.03 – (c)	10.04 – (b)	10.05 – (b)	10.06 – (c)
10.07 – (b)	10.08 – (c)	10.09 – (b)	10.10 – (b)	10.11 – (c)	10.12 – (a)
10.13 – (d)	10.14 – (b)	10.15 – (c)	10.16 – (c)	10.17 – (a)	10.18 – (a)
10.19 – (c)	10.20 – (c)	10.21 – (c)	10.22 – (a)	10.23 – (a)	10.24 – (b)

IRY - COACH

11.01 – (a)	11.02 – (b)	11.03 – (c)	11.04 – (c)	11.05 – (a)	11.06 – (c)
11.07 – (a)	11.08 – (a)	11.09 – (a)	11.10 – (c)	11.11 – (b)	11.12 – (b)
11.13 – (d)	11.14 – (b)	11.15 – (a)	11.16 – (c)	11.17 – (b)	11.18 – (b)
11.19 – (c)	11.20 – (b)	11.21 – (b)	11.22 – (b)	11.23 – (c)	11.24 – (d)
11.25 – (b)	11.26 – (c)	11.27 – (d)	11.28 – (b)	11.29 – (c)	11.30 – (b)
11.31 – (b)	11.32 – (a)	11.33 – (b)			

BOGIE MOUNTED

12.01 – (c)	12.02 – (d)	12.03 – (a)	12.04 – (b)	12.05 – (d)	12.06 – (b)
12.07 – (a)	12.08 – (a)				

LHB COACH

13.01 – (a)	13.02 – (b)	13.03 – (c)	13.04 – (b)	13.05 – (a)	13.06 – (d)
13.07 – (a)	13.08 – (b)	13.09 – (c)	13.10 – (c)	13.11 – (b)	13.12 – (d)
13.13 – (b)	13.14 – (c)	13.15 – (c)	13.16 – (b)	13.17 – (a)	13.18 – (c)
13.19 – (b)	13.20 – (b)	13.21 – (b)	13.22 – (c)	13.23 – (b)	13.24 – (b)
13.25 – (d)	13.26 – (c)	13.27 – (c)	13.28 – (a)	13.29 – (c)	13.30 – (c)
13.31 – (a)	13.32 – (a)	13.33 – (a)	13.34 – (b)	13.35 – (a)	13.36 – (b)
13.37 – (a)	13.38 – (b)	13.39 – (b)	13.40 – (d)	13.41 – (a)	13.42 – (c)
13.43 – (b)					

Abbreviations:

1.	ART	Accident and Tool Van or Relief Van
2.	AM	Adjustment Memo
3.	AAC	Annual Anticipated Consumption
4.	ACS&PAF	Accident Compensation Safety & Passenger Amenities Fund
5.	AAR	American Association Of Rail Road
6.	AR	Auxiliary Reservoir.
7.	ARME	Accident Relief and Medical Equipment
8.	BC	Brake Cylinder.
9.	BPC	Brake Power Certificate.
10.	BP	Brake Pipe.
11.	BMBS	Bogie Mounted Brake System
12.	BMBC	Bogie Mounted Brake Cylinder
13.	CLW	Chittranjan Locomotive Works.
14.	C&W	Carriage and Wagon.
15.	CR	Control Reservoir.
16.	CDD	Compact Disk Drive
17.	CRS	Commissioner of Railway Safety.
18.	CME	Chief Mechanical Engineer
19.	CRSE	Chief Rolling Stock Engineer

20.	CPB	Common Pipe Bracket
21.	CAMETCH	Center For Advanced Maintenance Technology.
22.	CRB	Chairman Railway Board
23.	COFMOW	Central Organization for Modernization Of Workshops.
24.	CRIS	Central for Railway Information System.
25.	CBC	Center Buffer Coupler.
26.	CTRB	Cartridge Tapered Roller Bearing
27.	CT	Tourist Car
28.	CTS	Tourist Car for 2nd Class Passengers
29.	CZACEN	Air Conditioned Chair Car with End on Generation
30.	DF	Development Fund
31.	DCRG	Death cum Retirement Gratuity
32.	DGS&D	Director General Of Supplies & Disposal
33.	DRF	Depreciation Reserve Fund
34.	DCEG	Divisional Corporate Enterprise Group
35.	DV	Distributor Valve
36.	D&A	Discipline and Appeal Rules.
37.	DLW	Diesel Locomotive Works
38.	DMRC	Delhi Metro Rail Corporation Ltd
39.	DCW	Diesel Component Factory
40.	ERR	Four / Six Wheeler

41.	ERU	Four / Six Wheeler Self Propelled Tower Van
42.	ERM	Emergency Recoupment Memo
43.	EM	Earnest Money
44.	FCS	First Class Coupe and Second Class
45.	FSCN	First cum Ii Class 3-Tier Sleeper
46.	RRF	Revenue Reserve Fund
47.	FP	Feed Pipes.
48.	FO	Furnace Oil
49.	GS	Second Class Fitted With Self Generating Equipment
50.	GTKM	Gross Tone Kilometer
51.	GM	General Manager.
52.	HB	Hand Brake
53.	HSD	High Speed Diesel
54.	HDD	Hard Disc Drives.
55.	IRCON	Indian Railway Construction Corporation Ltd.
56.	ICF	Integral Coach Factory.
57.	IVRS	Interactive Voice Response System.
58.	IRCA	Indian Railway Conference Association.
59.	IRWO	Indian Railway Welfare Organization.
60.	IRFC	Indian Railway Finances Corporation Ltd.
61.	IRIMME	Indian Railway Institute Of Mechanical & Electrical Engineering.

62.	JCM	Joint Consultative Machinery
63.	KRC	Konkan Railway Corporation.
64.	LHB	Link Hoffman Bosch
65.	LDO	Light Diesel Oil
66.	LR	Luggage with Brake Van
67.	NMG	New Modified Goods
68.	ODC	Over Dimensional Consignment.
69.	OLWR	Open Line Works Revenue
70.	OHE	Over Head Equipment
71.	PRS	Full Bogie Postal Van
72.	POIS	Passenger operating Information System.
73.	PAC	Properietary Article Certificate
74.	PEV	Passenger Emergency Valve
75.	PEASD	Passenger Emergency Alarm Signal Device
76.	PRS	Public Reservation System.
77.	PAC	Passenger Account Committee
78.	PNM	Permanent Negotiion Machinery
79.	PLB	Productivity Linked Bonus
80.	PL No	Price List No.
81.	PERT	Project Evaluation & Review Technique
82.	PRS	Passenger Reservation System

83.	RA	Inspection Carriage (Administrative)
84.	RAAC	Air Conditioned Inspection Car
85.	RD	Inspection Carriage (Subordinate)
86.	RE	Instruction Van (Mobile Training Car)
87.	RH	Medical Van
88.	RHY	Auxiliary Medical Van
89.	RK	Dynamometer Car
90.	RN	Generating Van
91.	RS	Stores Van
92.	RT	Accident and Tool Van or Relief Van
93.	RTM	Rail Transport Museum
94.	RITES	Rail India Technical & Economic service.
95.	RDSO	Research, Design and Standard Organization.
96.	RWF	Rail Wheel Factory.
97.	RSP	Rolling Stock Programme
98.	RCF	Rail Coach Factory.
99.	RSC	Railway Staff College.
100.	RRB	Railway Recruitment Board.
101.	RZ	Track Recording Car
102.	SLR	Second Class Luggage and Brake Van
103.	SMN	Power Car with Mid on Generation

104.	SCTR	Single Car Test Rig
105.	SMF	Sealed Maintenance Free.
106.	SAB	Slack Adjuster Barrel.
107.	SPTM	Self Printing Ticketing Machine.
108.	TSL	Temporary Single Line Working
109.	TIT	Transfer Issue Ticket
110.	UMBS	Undernframe Mounted Brake System
111.	UMBC	Under Frame Mounted Brake Cylinder
112.	UTS	Unreserved Ticketing System.
113.	UIC	Union of International De- Chemins De-Fer
114.	VP	Parcel Van
115.	VPC	Parcel Van Converted
116.	WACCNEN	Vestibuled Ac 3-Tier With End-On–Generation
117.	WCB	Vestibuled Pantry Car
118.	WSCZACEN	Vestibuled Ac Chair Car With End-On-Generation
119.	WCD	Vestibuled Dining Car
120.	WCRAC	Vestibuled Air Conditioned Twin Car
121.	WCTAC	Vestibuled Air Conditioned Tourist Car
122.	WFACEN	Vestibuled Air Conditioned First Class With End on Generation
123.	WFC	Vestibuled First Class

124.	WGACCN	Vestibuled Air Conditioned Three Tier with Self Generating Electrical Equipment
125.	WGACCW	Vestibuled Air Conditioned Two Tier with Self Generating Electrical Equipment
126.	WACCWEN	Vestibuled Air Conditioned Two Tier Sleeper with End on Generation
127.	WGFAC	Vestibuled Air Conditioned First Class With Self Generating Electrical Equipment
128.	WGFACCW	Vestibuled First Cum Ac 2-Tier Sleeper
129.	WT	Water Tight.
130.	WWP	Worn Wheel Profile

APPENDIX – I

TEASTING PROCEDURE OF AIR BRAKE EQUIPMENT

1.0 GENERAL: - To detect the possible failure at an early stage, it is necessary to test the complete coach and the equipment for found leakage.

The complete coach shall be tested on the test rig and the equipment shall be tested on the rack.

It is important to ensure that the entire test bench is pressure tight.

1.1 LEAKAGE TEST :- BRAKE PIPE FEED PIPE

1.1.1 Connect BP and FP of test coach to BP and FP of test ring keeping the other end of BP & FP on the test coach closed.

1.1.2 Charge BP at 5.0 Kg/cm^2 & FP at 6.0 Kg/ cm^2 for 5.0 minutes.

1.1.3 Close the test rig cock and watch the pressure drop for 3.0 minutes in the pressure gauges of BP & FP in the test rig.

1.1.4 The drop in pressure permissible is 0.2 Kg/cm^2 in one minute.

1.1.5 joints/ connection to equipment shall be tested with soap water for ascertaining leakage and rectify the leak.

1.2 APPLICATION AND RELEASE TEST

1.2.1 Connect BP & FP of test coach with BP & FP of test rig keeping, BP & FP of the other end closed.

1.2.2 Charge BP & FP 5.0±0.1Kg/cm^2 & 6.0±0.1Kg/cm^2 respectively for 15 minutes and stabiles.

1.2.3 Make a pressure drop of 0.4 Kg/cm^2 in 6 seconds for sensitivity test & 3.5 Kg/cm^2 & 0.0 Kg/cm^2 for service and emergency application respectively.

1.2.4 Ensure that all the brake blocks are on applied position with the piston travel of 50 to 100 mm.

1.2.5 Charge the system again with 5.0 Kg/cm^2 it should be observed that piston return to its original position & brakes released.

1.2.6 In all the above test, the control dimension 'A' shall be dept as 22+4/ -0 mm.

2.0 PASSENGER EMERGENCY VALVE TESTS

2.1 BP is to be fully charged with 5.0 $Kg/cm^{2.}$

2.2 Alarm chain to be pulled from inside the coach.

2.3 OBSERVE

2.3.1 alarm disc situated on the end wall rotates

2.3.2 Air from BP exhausted to atmosphere through alarm valve situated on the under frame with hissing sound.

2.3.3 Brake blocks in applied position.

2.4 Reset the alarm signal disc with the help of resetting key.

3.0 GUARD'S EMERGENCY VALVE TEST

3.1 BP &FP are to be fully charged.

3.2 Operate guard's valve handle.

3.3 OBSERVE

3.3.1 Air from BP exhausted to atmosphere though alarm valve situated on the under frame with hissing sound.

3.3.2 Brake applied depending on exhaust of air.

3.3.3 The function of BP gauge to be watched that is the quantum of pressure drop indicated in the gauge.

3.4 reserve the handle to stop the exhaust of air

3.5 Ensure smooth operation of the handle.

3.6 Create a drop in pressure in feed pipe watch the performance of the FP gauge that is the quantum of pressure drop indicated in the gauge.

APPENDIX – II

TRIP SCHEDULE OF AIR BRAKE SYSTEM

1.0 The following tests are to be conducted in every round the trip of the rake –

(i) A Visual inspection shall be carried out to check for any damage on brake or feed pipe, hose coupling etc. the suspension brackets for air brake equipment's and antipilferage device provided shall also be cheeked at this time of any defects(s) is/are noticed the same be attended.

(ii) Leakage test for brake pipe and feed pipe and it's connecting pipes to equipment.

(iii) Service application and release test.

2.0 The test mentioned at (ii) & (iii) above can be done simultaneously. following is the procedure –

(i) Connect the brake pipe and feed pipe of test rig to the brake pipe and feed pipe of first coach of the rake through hose coupling.

(ii) Charge the system with compressed air to the full pressure of 5.0 Kg/cm^2 for brake pipe and 6.0 Kg/cm^2 for feed pipe and stabilizer for 2 minutes.

(iii) Cut off, the supply of compressed air by inperting isolating cock for brake pipe and feed pipe of the test rig.

(iv) Watch the drip in pressure due to leak in the pressure gauge of the test rig for 3 minutes and record the drip in pressure.

(v) The drip in pressure due to leakage more then 0.2 Kg/cm^2 per minutes indicate that there is leakage in the system.

(vi) If there is leakage in the system, then the coach should be carefully examines and clearly identified for leakage with the help of soap water or hissing sound etc. and must be rectified.

(vii) After attending the leakage, charged the system to the required pressure. open cock of brake pipe and feed pipe of rig and make a service application by reducing the brake pipe pressure by 1.5 Kg/cm^2 .

(viii) Simultaneously the piston strokes of the brake cylinder of the entire rake shall be checked. The piston should be in applied position. The piston strokes shall be recorded.

(ix) After the above test, release the brakes by recharging the brake pipe to 5.0 Kg/cm^2

(x) After releasing the brakes, it should be ensured that piston of all the brake cylinders returned back to release position and brakes are in fully released condition.

(xi) In case, any defect is noticed the defective components may be rectified or replaced.

APPENDIX – III

ONE/TWO MONTHLY SCHEDULE OF AIR BRAKE SYSTEM

These tests are to be conducted on the rake in every month/ alternate month.

A. Manual release test B. Micro switch test	Every month
C. Guard van valve test D. Alarm chain pull test	Alternate month

TEST PROCEDURE: -

1.0 Guard's van valve test

1.1 Charge the system with 5.0 Kg/cm^2 in BP (brake pipe) and 6.0 FP Kg/cm^2 (feed pipe).

1.2 Record the pressure in guard's pressure gauge.

1.3 Watch the pressure in the guard's van valve and see that this should not exceed 0.2 Kg/cm^2 of the pressure in the test rig/loco. Rectify the leakage if exists.

1.4 Operate the handle of the guard's van valve and ensure its smooth working.

1.5 Watch the exhaust of air though the vent of the guard's van valve by hissing sound.

1.6 Watch the movement of the brake cylinder piston of this coach.

1.7 All the brake vans of the rake should be tested individually.

2.0 Alarm chain pull test

2.1 Charge the brake pipe with 5.0 Kg/cm^2 and 6.0 Kg/cm^2 feed pipe.

2.2 Pull alarms chain one at a time.

2.3 Check the working of emergency alarm signal equipment (Pilot valve) fitted on the end wall and passenger emergency valve fitted in the under frame of the coach. Hissing sound should come from these equipment due to exhaust of air.

2.4 Check the movement of brake cylinder piston of the coach.

2.5 Reset the disc of pilot valve with help of key

2.6 After the resetting with the help of key, the exhaust of air from pilot valve and actuating valve should stop. if it dose not stop the passenger emergency valve should be opened, cleaned for dust and refitted or the same be replaced by a new valve.

2.7 The above tests are to be done for each coach of the rake.

3.0 Manual brake release test

3.1 Charge the brake pipe and feed pipe with 5.0 Kg/cm^2 and 6.0 Kg/cm^2 respectively.

3.2 Simulate emergency brake application by reducing the BP pressure to 0.0 Kg/cm^2.

3.3 Pull the release lever fitted below the distributor valve with a kick.

3.4 Watch the exhaust of air through the vent of the distributor valve.

3.5 Watch the brake cylinder piston returning back to the release position.

3.6 Manual release test should be done to every coach of the rake.

4.0 Micro switch

4.1 Micro switch provided in passenger emergency valve may be attended periodically by electrical Dept. to ensure its smooth working.

4.2 The audio-visual indication provided in guard's compartment and red light indicator provided outside of each coach shall also periodically attended by electric Department for its satisfactory working.

TESTING PARAMETERS FOR AC COACHES (RCF DRAWING NO. AW90017)

Table 1.5

Type of coach	Tare weight of coach	Normal pay load	Total pay load	Test load per bogie		Bogie frame bolster clearance		Body bogie clearance		Axle box spring height			Bolster spring height			Crown clearance		Bogie bolster height		Buffer height	
AC	In tonnes	In tonnes	In tonnes	Under tare	Under Gross	C		D		G		CR	H		CR	X		Y		Z	
				In tonne	In tonne	Tare	Gross	Tare	Gross	Tare	Gross	#	Tare	Gros	*	Tare	Gross	Tare	Gros	Tare	Gros
AC CW (EOG)	44.8	3.68	3.68	16.2	18.04	40±5	50±5	70±3	60±3	$286^{+5/-4}$	$278^{+6/-4}$	4	$312^{+5/-4}$	$302^{+7/-5}$	Nil	28±3	20±3	646±5	$628^{+8/-5}$	$1104^{+0/-10}$	$1086^{+8/-5}$
AC CW (SG)	49.1	3.68	3.68	18.35	20.19	40±5	50±5	70±3	60±3	$276^{+5/-4}$	$268^{+6/-4}$	14	$301^{+6/-4}$	$291^{+7/-4}$	9	30±3	22±3	646±5	$628^{+8/-5}$	$1104^{+0/-}$	$1086^{+8/-5}$
AC CN (EOG)	48.3	5.12	5.12	17.95	20.51	40±5	54±5	70±3	56±3	$278^{+6/-4}$	$266^{+7/-4}$	12	$303^{+6/-4}$	$289^{+7/-4}$	7	34±3	22±3	646±5	$620^{+8/-5}$	$1104^{+0/-10}$	$1078^{+8/-5}$
AC CN (SG)	52.53	5.12	5.12	20.07	22.63	40±5	53±5	70±3	57±3	$268^{+7/-4}$	$256^{+7/-5}$	22	$291^{+7/-4}$	$278^{+7/-5}$	19	35±3	23±3	646±5	$621^{+8/-5}$	$1104^{+0/-}$	$1079^{+8/-5}$
AC CZ (EOG)	43.1	5.36	5.36	15.35	18.03	40±5	54±5	70±3	56±3	$290^{+6/-3}$	$278^{+6/-4}$	Nil	$316^{+6/-3}$	$302^{+6/-4}$	Nil	32±3	20±3	646±5	$620^{+8/-5}$	$1104^{+0/-10}$	$1078^{+8/-5}$

GO TO CONTENTS

Type of coach	Tare weight of coach	Normal pay load	Total pay load	Test load per bogie		Bogie frame bolster clearance		Body bogie clearance		Axle box spring height			Bolster spring height			Crown clearance		Bogie bolster height		Coupler height	
AC	In tonnes	In tonnes	In tonnes	Under tare	Under Gross	C		D		G		CR	H		CR	X		Y		Z	
				In tonn	In tonn	Tare	Gross	Tare	Gross	Tare	Gross	#	Tare	Gros	*	Tare	Gross	Tare	Gross	Tare	Gross
AC CZ (SG)	46.83	5.84	5.84	17.22	20.14	40±5	56±5	70±3	54±3	$281^{+6/-4}$	$268^{+6/-4}$	9	$307^{+5/-4}$	$291^{+7/-4}$	3	35±3	22±3	646±5	$617^{+8/-5}$	$1104^{+0/-10}$	$1075^{+8/-5}$
FAC Z (EOG)	42.6	3.68	3.68	15.10	16.94	40±5	50±5	70±3	60±3	$291^{+5/-3}$	$283^{+6/-4}$	Nil	$318^{+5/-3}$	$308^{+5/-4}$	Nil	27±3	19±3	646±5	$628^{+8/-5}$	$1104^{+0/-10}$	$1086^{+8/-5}$
RA (NON AC)	41.3	1.20	1.20	14.45	14.05	40±5	44±5	70±3	66±3	$279^{+5/-3}$	$276^{+6/-4}$	11	$298^{+5/-3}$	$294^{+5/-4}$	17	20±3	17±3	646±5	$640^{+8/-5}$	$1104^{+0/-10}$	$1098^{+8/-5}$
VP (HIGH CAPACITY)	32	23	23	9.8	21.3	40±5	81±5	70±3	29±3	$287^{+5/-3}$	$262^{+6/-4}$	03	$310^{+5/-3}$	$269^{+5/-4}$	Nil	36±3	11±3	646±5	$580^{+8/-5}$	$1104^{+0/-10}$	$1038^{8/-5}$
IRQAC CN (SG)	41.3	5.12	5.12	19.45	22.01	40±5	54±5	70±3	56±3	$271^{+7/-4}$	$259^{+7/-5}$	19	$295^{+7/-4}$	$281^{+7/-5}$	15	35±3	23±3	646±5	$620^{+8/-5}$	$1104^{+0/-10}$	$1079^{+8/-5}$

GO TO CONTENTS

GO TO CONTENTS

RA AC
46.69
1.20
1.20
17.14
17.14
40±5
43±5
70±3
67±3
$282^{+5/-3}$
$279^{+6/-4}$
8
$307^{+5/-3}$
$304^{+5/-4}$
3
22±3
19±3
646±5
$640^{+8/-5}$
$1104^{+0/-10}$
$1098^{8/-5}$

TESTING PARAMETERS FOR NON AC COACHES (RCF DRAWING NO. CC90019)

Table 1.6

Type of coach	Tare weight of coach	Normal pay load	Over load	Total pay load	Test load per bogie		Bogie frame bolster clearance		Body bogie clearance		Axle box spring height			Bolster spring height			Crown clearance		Bogie bolster height		Buffer height	
AC	In tonnes	In tonnes	In tonnes	In tonnes	Under tare	Under Gross	C		D		G		CR	H		CR	X		Y		Z	
					In tonnes	In tonnes	Tare	Gross	Tare	Gross	Tare	Gross	#	Tare	Gross	*	Tare	Gross	Tare	Gross	Tare	Gross
GS	36.99	5.85	100%	11.70	12.6	18.45	40±5	74±3	70±3	36±3	$289^{+4/-3}$	$262^{+5/-4}$	1	$308^{+5/-3}$	$274^{+7/-4}$	7	47±3	20±3	646±5	$585^{+8/-5}$	$1104^{+0/-10}$	$1043^{+8/-5}$
SOC	37.00	7.02	100%	14.04	12.6	19.62	40±5	81±5	70±3	29±3	$289^{+4/-3}$	$257^{+6/-4}$	1	$308^{+5/-3}$	$267^{+7/-5}$	7	50±3	18±3	646±5	$572^{+8/-5}$	$1104^{+0/-10}$	$1030^{+8/-5}$
SCN	38.03	5.76	-	5.76	13.12	16.00	40±5	57±5	70±3	53±3	$287^{+4/-3}$	$273^{+5/-3}$	3	$305^{+5/-3}$	$288^{+6/-4}$	10	31±3	17±3	646±5	$616^{+8/-5}$	$1104^{+0/-10}$	$1074^{+8/-5}$

Type of coach	Tare weight of coach	Normal pay load	Over load	Total pay load	Test load per bogie	Bogie frame bolster clearance	Body bogie clearance	Axle box spring height	Bolster spring height	Crown clearance	Bogie bolster height	Coupler height

GO TO CONTENTS

Postal Van	IRQ SCN	VP	SLR	AC	
36.5	37.2	32.00	37.10	In tonnes	
3.0	5.76	18.00	10.60	In tonnes	
-	-	-	2.6	In tonnes	
3.0	5.76	18.00	13.20	In tonnes	
12.35	12.7	10.30	12.65	In tonnes	Under tare
13.85	15.58	19.30	19.25	In tonnes	Under Gross
40±5	40±5	40±5	40±5	Tare	C
49±5	57±5	77±5	79±5	Gross	
70±3	70±3	70±3	70±3	Tare	D
61±3	53±3	33±3	31±3	Gross	
$290^{+4/-3}$	$289^{+4/-3}$	$285^{+4/-3}$	$289^{+4/-3}$	Tare	G
$283^{+5/-3}$	$275^{+5/-3}$	$257^{+6/-4}$	$258^{+6/-4}$	Gross	#
Nil	1	5	1	CR	
$310^{+5/-3}$	$308^{+5/-3}$	$302^{+5/-3}$	$308^{+5/-3}$	Tare	H
$301^{+6/-4}$	$291^{+6/-4}$	$265^{+7/-5}$	$269^{+7/-5}$	Gross	
5	7	13	7	CR	*
22±3	30±3	39±3	50±3	Tare	X
15±3	17±3	11±3	20±3	Gross	
646±5	646±5	646±5	646±5	Tare	Y
$630^{+8/-5}$	$616^{+8/-5}$	$581^{+8/-5}$	$577^{+8/-5}$	Gross	
$1104^{+0/-10}$	$1104^{+0/-10}$	$1104^{+0/-10}$	$1104^{+0/-10}$	Tare	Z
$1088^{+8/-5}$	$1074^{+8/-5}$	$1039^{+8/-5}$	$1035^{+8/-5}$	Gross	

GO TO CONTENTS

THE SOURCES OF THE ANSWER OF THE QUESTION ARE: –

IMPORTANT RULE BOOKS AND REFERENCES: --

i. IRCA Conference Rules Part IV (2002) Rules for Maintenance, Examination and Interchange of Coaching Stock (BG & MG System) of Indian Government Railways

ii. RDSO's Technical Pamphlet No C-6803 Maintenance and repair procedure for hydraulic shock absorbers used on coaching stock

iii. RDSO's Technical Pamphlet No C-7103 Instructions for examination and maintenance of bogies and under gear of coach nominated to run at sanctioned speed of 110 kmph (BG).

iv. RDSO's Technical Pamphlet No C-7301 Direct admission valve for passenger coaches maintenance instructions.

v. RDSO's Technical Pamphlet No C-7511 Instructions for adjustment of buffer height of ICF built BG coaches in workshops and depots.

vi. RDSO's Technical Pamphlet No C-7601 Description of water raising apparatus and instructions for filling water in coaches fitted with under slung water tanks

vii. RDSO's Technical Pamphlet No C-7807 Instruction for maintenance of bogie and under gear of Rajdhani express coaches (BG) (for shops and maintenance depots)

viii. RDSO's Technical Pamphlet No C-7901 Maintenance and repair procedure of Gabriel vertical hydraulic shock absorber.

ix. RDSO's Technical Pamphlet No C-7907 Wheel and axle manual

x. RDSO's Technical Pamphlet No C-8105 Schedule of requirements for asbestos sheets roof ceiling of railway passenger coaches

xi. RDSO's Technical Pamphlet No C-8219 Fibre glass reinforced plastic in railway coaches

xii. RDSO's Technical Pamphlet No C-8519 STR for air brake equipment for coaching stock.

xiii. RDSO's Technical Pamphlet No C-8533 Particular specification for BG all metal light weight coaches.

xiv. RDSO's Technical Pamphlet No C-8703 Specification for shock absorber.

xv. RDSO'sTechnicalPamphletNoC-8805Instructionsfor inspection/maintenance of air brake equipment on passenger coaches.

xvi. RDSO's Technical Pamphlet No C-9005 Water raising system and instruction for filling water for air braked coaches

xvii. RDSO's Technical Pamphlet No C-9009 Description of water raising system to SK-86209 and instructions for filling water for air brake coaches.

xviii. RDSO's Technical Pamphlet No C-9202 Technical specification for fabricated bogie frame/bolster for coaching stock.

xix. RDSO's Technical Pamphlet No C-9206 Instructions for operation of air brake main line passenger trains (BG)

xx. RDSO's Technical Pamphlet No C-9313-U Specification for side-buffer.

xxi. RDSO's Technical Pamphlet No C-9406 Schedule of technical requirements for silent block for anchor link.

xxii. RDSO's Technical Pamphlet No C-9408 Instructions for operation of air braked main line passenger trains (BG) Dec 94.

xxiii. RDSO's Technical Pamphlet No C-9702 Instructions for maintenance of brake system of air braked coaches fitted with bogie mounted brake cylinders and 'K' type composition blocks.

xxiv. RDSO's Technical Pamphlet No C-9808 Schedule of technical requirements for manufacture of brake block hanger.

xxv. RDSO's Technical Pamphlet No C-9810 Specification for asbestos based 'K' type high friction composition brake blocks for bogie mounted mainline coaches (both AC & non-AC)

xxvi. RDSO's Technical Pamphlet No C-9906 STR for controlled Discharge Toilets for Indian Railway coaches (BG)

xxvii. RDSO's Technical Pamphlet No C-9907 Specification for L-type composition Brake block for main line coaches.

xxviii. RDSO's Technical Pamphlet No CMI 9801 Maintenance instructions for IRY coaches fitted with IR-20 bogies.

xxix. RDSO's Technical Pamphlet No CMI 9901 Maintenance Instructions for enhanced draw gear & screw coupling (BG) of mainline coaches.

xxx. RDSO's Technical Pamphlet No G-92 Maintenance manual for IRSA-600 slack adjuster.

xxxi. RDSO's Technical Pamphlet No G-97, Amnd. Slip 2, July, 2001 Maintenance manual of Air brake System for freight stock.

xxxii. RDSO's Technical Pamphlet No 02-ABR-94 Specification for Air Brake for freight & passenger stock of Indian Railways -

xxxiii. Modern rolling stock guide by P.C Gupta.

xxxiv. Coach Maintenance Manual

xxxv. RCF Technical Pamphlet for LHB