

OFFICE OF CHIEF MECHANICAL ENGINEER/NCR/ALD

QUESTION BANK FOR GR 'B' 70 % SELECTION FOR MECHANICAL DEPARTMENT.

*fuEufyf[kr izu&cbl ;kf=d foHkx ds xij ^ch^ 70 ifr'kr p;u dsfy, izu cbl
vH; fFkz ka ds l keku; fn'kk&funzk ds fy, ga izuka dh l pph l Ei wkZ ugha gS vfi rq bl dk
mnas; ddy , d funzk ek= ga bl l pph ea, d dfu'B vf/kdkjh ds l eLr dk; Z {ks=ka
dks foLrkj l s 'kkfey fd; k x; k gS vkj ; g ; kf=d foHkx ds 70 ifr'kr th-Mh-l h-bz
p;u dh rS kjh dj jgs vH; fFkz ka dks enn djska bl ea fn, x, izu vfuok; Z: i l s
ml l eku egRo ds ugha ga tS sfd izu&i= ea vk, xS cYd ; s izu ddy fn'kk&funzk
dsfy, ga bl l pph dks ikp Hkxka ea cl/k x; k gS tS k fd uhpsfn; k x; k gS &*

Following is the Bank of Questions for GrB Selections (70% GDCE) of Mechanical Department for general guidance of prospective candidates. The List of Questions is not exhaustive, but is intended to serve as a guide only. The List includes broadly all aspects of working of a Junior Scale Officer and should help a candidate prepare for 70% GDCE Selections in Mechanical Department. The Questions given here are not necessarily in the same weightage as would appear in a question paper., but these Questions are only for guide-lines, The List has been divided into 5 Parts; as given below-

- A. General /Common;** Which includes subjects of Accounts, Personnel, Stores Departments & common to all stream of Mechanical.
l keku; @l Hkh ds fy, % ftl ea yS[kk] dkfeD] Hk/kj o ; kf=d foHkx ds l Hkh fo'k; 'kkfey ga
- B. Rajbhasha :-**
jk tHk'kk % ftl ea ddy jk tHk'kk l sl cbl/kr izu 'kkfey ga
- C. Workshop;** Which includes subjects of workshop of NCR.
dkj [kkuk % ftl ea m0e0jyos ds odZ kkw l sl cbl/kr fo'k; ds izu 'kkfey ga
- D. Carriage & Wagon;** Which includes subjects of Carriage & Wagon of NCR.
djst , oa oXu % ftl ea l h0 , .M MCY; @ l sl cbl/kr fo'k; ds izu 'kkfey ga
- E. Diesel Locomotive;** Which includes subjects of Diesel Locomotive of NCR.
Mhty ykdkeksVo % ftl ea Mhty ykdkeksVo l sl cbl/kr fo'k; ds izu 'kkfey ga

[k.M ^, ^ I keW; @dKWu

Part 'A' General/Comman

1. LVKkL vkbV/e o ukkL&LVKkL vkbV/e dh 0; k[; k djA , d u, vkbV/e dks LVKkL vkbV/e ds : i ea cukus dh i f0; k dk mYy[k djA
Define Stock items non Stock items. Narrate the procedure of making a new item as a Stock item.
2. dk; Z?k/s fofu; e dh I f{klr 0; k[; k djA o dk; Z?k/s fofu; e ds vuq kj LVKQ ds dks&dks I soxZ gkrs gA jfuax LVKQ ds fy, vkjVke dh x.kuk dS s dh tkrh gS; g I e>k, A
Briefly describe Hours of Employment Regulation (HOER) and what are the different categories of Staff as per HOER? Explain how the overtime is calculated for Running Staff.
3. vuqkkl u o vihy fu; e] 1968 ds vuq kj y?kq o nh?kz 'kkfLr ds n.M dk o.ku djA y?kq n.M vkjksir djus dh i f0; k dk mYy[k djA
Enumerate Minor and Major penalties as per DAR, 1968. Describe the procedure for imposing minor penalty.
4. Hkkjrh; jsyos ea dY; k.k foHkkx ds dk; Z dk o.ku djA jsy izkkl u }kjk de[bfj; ka ds dY; k.k ds fy, D; k foHkkUu ; kst uk, j gA mudk o.ku djA
Describe the duties of welfare department in Indian Railways? What are the different measures of welfare for employee given by Railway administration?
5. jsyos de[bfjh dks I ofuorR ds ckn foHkkUu izdkj dh dY; k.k ; kst ukvka dk o.ku djA
Describe the different types of Welfare benefits after retirement of Railway employee?
6. Nks/h 'kkfLr vf/kjksir djus ds fy, viukbz tkus okyh i f0; k dk o.ku dhft, A
Describe the procedure for imposing minor penalty.
7. cMh 'kkfLr ds varxZ tqp djus dh i f0; k dk o.ku dhft, A
Describe the procedure of enquiry of under major penalty.
8. Hkkjrh; jsy ea vkink izaku dh D; k izkkyh viuk; h tkrh gS vkink izaku ea fdu dfe; ka ds dkj.k turk }kjk vkykpkuk dh tkrh gS bl izkkyh dks I qkkj djus ds fy, viuh I qko na\
What system of disaster management is adopted in Indian Railways? What drawback of disaster management is criticized by public? Give your suggestions to improve the system.
9. fdl h I xBu ds fy, vuqkkl u D; ka vko'; d gA dk; Z I s I of/kr vf/kdrj I keW; I eL; k, j D; k gA vuqkkl u dks fdl izdkj ykxwfd; k tk I drk gS I fki ea o.ku djA
Why discipline is necessary for a organization? What are the major common problems related to work. Describe in brief. How discipline can implimented.
10. ; kf=d foHkkx ds varxZ [kpZ djus ds fy, foHkkUu izdkj ds gM ea ctV xhV D; k gA [kpZ dks de djus ds fy, vki D; k dne mBk; xA
What is budget grant for different types of head under Mechanical Department expenditure? What steps you have been taken to minimise the expenditure.
11. vki dh ; fuV ea HkzVkpj dks fu; f=r djus ds fy, vki dh D; k , D'ku lyku gksxh
What will be action plan in your unit to control corruption?
12. VsMj D; k gS vki VsMj dk oxhZj.k dS sdjæ; I f{klr ea I e>k; A
What is Tender? How will you classify the tender, Describe in brief?
13. dKWdV , xhV cukrs I e; fdu&fdu e[; ckrka dk /; ku j [kuk pkfg, AQeZ dks usksI , 'ku ds fy, dc cyk; k tkrk gS rFkk bl dk D; k i f0; k gS
What are the main factors of contract agreement? When firm is called for negotiation & what is the procedure?

14. **What is disaster Management? What do you understand about Golden Hour? What are the Primary requirements of disaster management during Golden Hour? Give suggestions to make more effective of Golden Hour in disaster Management.**

15. **What types of PPE used at workshop/Shed/Depot? What types of occupational Hazard is in workshop/Shed/Depot?**

16. **What do you understand by a charge-sheet? What factor should be considered while drafting a charge-sheet?**

17. **What do you understand by “The Railway Servants (pass) Rules 1968? What are the features of the rules? List various passes applicable to Railway employees?**

18. **What are the various allowance and advances are admissible to Railway Employee?**

19. **What do you understand by Inventory Control? What is the purpose of Inventory Management? Explain techniques of Inventory control Management?**

- 20- **Write down short notes on any four of the following.**

20- **fuufyf[kr eafdlqtpkj ij fvli.kh fy[ka%**

1. **HOER**

2. **Factory Act**

3. **Workmen’s Compensation Act**

4. **Pass Rule**

5. **Staff Welfare fund**

6. **Minimum Wages Act**

7. **Leave Rule**

8. **Suspension**

9. **Payment Wages Act**

10. **Inventory Control of Store**

11. **M&P**

12. **Stock & Non Stock item**

13. **RSP**

14. **Public Account Committee**

15. **Canon of Financial Property**

16. **Budget cycle**

17. **Stock verification**

18. **P.N.M**

19-	fjVk; jeV/ cufQV†	Retirement benefits
20-	dKIVDV	Contract

[k.M ^ch^ jktHK'k

- 1- jktHK'k fu;e dsvarxř Hkj dksfdrus{ls=aeafolHtr fd;k x;k gř iR; d {ls= ea fLFkr jkt; ladsule fy[karFk bu {ls=adschp varj{ls=h; i=kpkj dsD;k&D;k fu;e gř
- 2- jkVHK'k ,oajktHK'k eaD;k varj gř jktHK'k vf/Mu;e 1963 dh /Kjk 3½ I svki D;k le>rsgh bl vf/Mu;e dsvarxř dK&dK I snLrkoř vkrsgř
- 3- I jdkjh dkedkt ea jktHK'k dks c<lok nsis ds fy, dK&dK I h iġLdkj ,oa iRl kgu ;ktuk,agř I ġkr eao.ku dja
- 4- fgmh ½jktHK'k½fnol dc vġ D;kæuk;k tkrk gř jktHK'k fdI sdgrsgřrFk v'Ve vuġ ph dsvarxř dK&dK I h HK'k; I fefyr gř
- 5- jktHK'k ds iz kx iġ kj ds I æk ea Hkj ds I fo/Mu eaD;k micřk gř I ġkr ea fy[kř

[k.M 1 h' odZkM]

Part 'C' Workshop

- 1- Oghy id e'khu }kjk D;k dk;Z fd;k tkrk gS Oghy id e'khu dk dk;Z fl)kr D;k gS bl ds eb/sud 'kM; ny fy[kk

What work is done by wheel press? Write down the working principle & maintenance Schedule of wheel press.

- 2- I h, u-I h rFkk ddbkuy e'khu ea D;k varj gS I h, u-I h e'khu dk j [k&j [kko fdl izdkj dj&S

What is the difference between CNC and Conventioal Machine? How will you do the maintainence of CNC machine?

- 3- e'khuka dh dkmY ykbQ I s D;k vfHk;k; gS dkmY ykbQ ijh dj ppth e'khuka ds uohuhdj .k i fØ; k dks fy[kk

What do you understand by Codal life of Machine? Write down the process of replacement of the Machine, which have completed codal life.

- 4- Oghy dh ikQkbZ dh D;k vko'; drk gkrh gS rFkk Oghy dh ikQkbZ ds s dh tkrh gS

Why profiling of Wheel is necessary? How the profile of wheel is carried out.

- 5- YV LVkMl eafo; fjax fdrus izdkj dh iz kx gkrh gA fl yMhdY jksy fc; fjax rFkk dkVt Vj j jksy fc; fjax ea D;k varj gS nksuka ds xqk&nksk crkb, \

What types of bearings are used in freight stock? What is the difference between cylindrical Roller Bearing and Cartridge Taper Roller Bearing? Explain the advantage & disadvantage of both?

- 6- VU ikfVx fdl s dgrs gA VU ikfVx gksus ds eq; dkj .k D;k&D;k gA dkj [kkuk ea i h-vks, p ds nksku bl dks jkslus ds mik; fyf[k, A

What is train Parting? What are the main reason of train parting? Explain the measures to be taken to reduce train parting during POH in workshop.

- 7- Vdl oSku dh I jpuj ofy fQVXI] ekLVj okWo ds ikVl dk o.ku dhft, \ bl dh Hkki }kjk I QkbZ djus dk o.ku dhft, A

Explain the construction of Tank Wagon, Barrel Fitting & Master Valve components. Write down the steam Cleaning process of Tank Wagon.

- 8- ofYMax fMQDVt I s vki D;k I e>rs gA ofYMax ds vkrfjd , oa ckg; nskka dk foLrkj I so.ku dja rFkk budsni djus ds mik; fy[kk

What are the welding defects? Explain the internal & external welding defects and remedial action to remove these defects.

- 9- MkAu gSM ofYMax I s vki D;k I e>rs gS bl ds xqk&nksk fyf[k, rFkk Mkmu gM ofYMax djus ds fy, D;k&D;k mik; gA

What do you understand by down hand welding? Write down the advantage and disadvantage of down hand welding. What are the measures to facilitate down hand welding?

- 10- $ch, y-l h rFk ch, Q-dsvkbz o\&u ea D; k varj g\ ch, y-l h o\&u dks i h-vks, p djus dh fof/k dk foLrkj I so.ku dhft, \$

What is the difference between BLC and BFKI? Explain the process of POH of BLC wagon in details.

- 11- $ckl, u rFk ckl, u vkj- ea D; k varj g\ ckl, u l sckl, u vkj o\&u cukus dh fof/k dk foLrkj o.ku dhft, \$

What is the difference between BOXN & BOXN 'R'? Explain the process for conversion of BOXN to BOXN 'R'.

- 12- $bzvksVh- \emptyset su dk fi d\ho e\vsu f'km; gy fyf[k, \ bzvksVh- \emptyset su dk cd Mkm de djus ds fy, vki D; k mik; dj\$

Write down the maintenance Schedule of E.O.T Crane? What measures you will take to reduce the brake down of E.O.T. Crane.

- 13- $pDds ea foHku i dki ds dks&dks I s nsk gks g\ iR; d dk Oghy fMQDV xst dh I gk; rk I so.ku dj\$

What are the different type of wheel defects. Explain each defect with the help of wheel defect guage.

- 14- $Oggy fMLd rFk, DI y dh e'kfu\ djus dh f\; k dk o.ku dja rFk budks i\ djus dh fof/k dk foLrkj I so.ku dj\$

Explain the machining process of Wheel disc & axle and also explain the wheel pressing process in details.

- 15- $I h, u-l h e'khu D; k g\ ; g d\skuy e'khu I s fdl i dki fHku gksh g\ rFk mPp xqkoRrk dsfy, dks I h e'khu dks iz;ks ea yk; k tk, xkA$

What is CNC machine? How it differ from conventional machine, which machine will be used for high quality and precision work.

- 16- $I h, y-MCY; wba\ sVo Ldhe dh i dki fo'ksrk, a fyf[k, ; g xij ba\ sVo Ldhe I s fdl i dki fHku g\ nsk ds xqk nsk fyf[k, A$

Write down the salient features of CLW incentive scheme. How it differ from group incentive Scheme? Explain the merits & demerits of both.

- 17- $fMLVW I u D; k g\ ; g fdl dki k I sgk g\ bl dksnj djus ds mik; fy[k\$

What is distortion? Write down the reason of distortion. Write down the methods to eliminate distortion?

- 18- $ckl, u ^vk^ o\&u D; k g\ LVsyd LVhy ofYMax djus dh i f\; k dk o.ku dj\$

What is BOXN 'R' wagon? Write down the welding process of stainless steel.

- 19- $, d vPNs, oa I Qy I ijokbzj dh D; k fo'ksrk, j gksh pkfg,] foLrkj o.ku dhft, A$

What qualities a supervisor should have to become a good and successful supervisor. Explain in detail.

- 20- $ofYMax djus dsfy, byDV^M dk p; u fdl i dki fd; k tkrk g\ dki Ekuk es iz; x g\ us okys foHku byDV^M dk o.ku dj\$

How the selection of electrode for welding is done? Explain different type of electrode used in workshop.

- 21- odZ kkw ea i hl hvks D; k gS bl ds D; k&D; k dk; Z gS vki ds fopkj I s bl ds fofHkUu foHkx fdl I hek rd i HkkoH gA dk; Z n{krk dks c<kus ds ckjs ea vki D; k I p-ko nA

What is P.C.O in workshops? What are the different works of it. In your opinion upto which limit all parts of P.C.O are effective? What suggestion you will give to improve the effective working PCO?

- 22- D; k vki I e>rs gafd i kkl kgu i)fr ftl m|s; I sykxwdh xbZ Fkhj og m|s; ijk dj jgh gA orEku Ldhe dks vkSj vf/kd i HkkoH cukus ds fy, vki D; k I p-ko nA

Do you understand that the incentive Scheme is full filling the object for which it was introduced? What suggestion you will give to improve the effectiveness of this scheme.

- 23- dkj [kkus ea fl fj; I , DI hMw] ftl ea , d dePkhj dh eR; q gks xbZ gS ogk i gpus okys vki i gys vf/kdkjh gS bu ifjLFkr ea vki D; k dk; Z djA

There was an accident in workshop, in which one employee dead, you are the first officer reaching at the accident site in this situation, what you will work.

- 24- odZ kkw ds ijQkWed ds fy, fdu ijkehVj dks I kku ea fy; k tkrk gA odZ kki W ds ijQkWed I kkkj ds fy, D; k mik; djA

What parameters are considered for the performance of workshop? What step you will take to improve the performance of workshop.

- 25- fuEufyf[kr eafdlgha pkj dk mRrj nA

Answer any four of the following.

d½ Dok; fyA ds fy, ckj dks xeZ djus ds fy, ofdaX foe QuZk dh D; ka vko'; drk gS

Why walking beam furnace is necessary for heating the bar for Coiling?

[k½ Dok; y LiA cukus ds I e; 'kkw fifuA dh ifO; k D; ka vi ukbZ tkrh gS

Why Shot peaning process is adopted for manufacturing of coil spring?

x½ vkbZl h, Q-cksh fLiA ds fy, eSkht LVhy D; ka mi; pR ugha ekuk tkrk gS tcd ; g ds uc cksh LiA ds fy, mi; pR ekuk tkrk gA

Why manganese steel is not considered suitable for manufacturing of ICF Bogie spring. However it is considered suitable for Casnub Bogie?

/k½ Dok; y fLiA cukus ds fy, ckj jfi fyA dk D; k egRo gS

What is the significance of bar peeling for manufacturing of coil spring?

M½ dScj ynt gkus ij Dok; y fLiA dh is fjaX djuk D; ka I gh ugha ekuk tkrh gS

Why pairing of coil spring is not considered suitable after losing its camber?

- 26- , d vkn'kZ odZ kkw ftl ea 20 oSxu ifrfnu dk i hvks p gskuk gS dk ys vkAV cukb; s rFk vko'; d bA'kLVdpj dh fyLV cukb; A

Make Layout of an ideal workshop having P.O.H capacity of 20 wagons perday. Please made out and list of required infrastructure.

- 27- fl æy ošxu V&V fjx l s D; k p&l fd; k tkrk gš V&LVæ djus dh i fØ; k dk vkjMh, l vks i Q&K&KZ ds l kfk o.k&u dj&

What do you understand by Single wagon test ring? Write down the testing procedure on RDSO performa?

- 28- ck&l u ošxu dh gfydy Dok&y fLiæ cukus rFkk fujh{k.k djus dh i fØ; k dk o.k&u dj&

Write down the manufacturing and inspection procedure of BOXN helical Spring.

- 29- fl æy i kb& , ; j c&l fl LVe ds dk; Zfof/k dk fp= l fgr o.k&u dj&

Explain the working principle of single pipe Air Brake System with the help of schematic diagram.

- 30- ošxu dh 90 Mst fl d ekfd&k D; k gš 90 Mst fl d ekfd&k dks de djus dk mik; l p-kb; &

What is 90 days sick marking of wagon? Suggest the measures to reduce the 90 days sick marking.

- 31- iho&/ho e&/hud rFkk c&l Mk&u e&/hud ea D; k varj gš jk&l ek&kb&y Øsu dh iho&/ho e&/hud djusea vki D; k dne mBk; æš l f&ki eafy [k&

What is the difference between preventive maintenance and break down maintenance? Write down the step to be taken for maintenance of road mobile crane, explain in brief.

- 32- odZ k&w ds V&l ošxu 'k&w ea vkx yxus dh fLFkr ea vki D; k dk; &kg h dj&ks rFkk Hkfo'; ea bl rjg dh ?KVuk dh i pjkofRr u g&š bl ds fy, vki D; k mik; dj&š

What action you will take in case of fire in tank wagon shop. What precaution/remedial action you will take to avoid such type of incidents in future.

- 33- dkV&t Vij jk&yj fc; fj&æ dks odZ k&w ea ejEer djrs l e; D; k&D; k [kjkfc; k; i k; h tkrh g& bu [kjkfc; k& dks nj djus ds fy, D; k mik; vi uk; s tkrsg&

What are the different types of defects noticed during POH of cartridge taper roller bearing? What step will you take to overcome these defects?

- 34- dš uc c&sh f&rus i&lkj dh g&rh g& , u-, y-ch dš uc c&sh dks fjiš j djus dk foLr&r o.k&u dhft, \

How many type of casnub bogies are used? Explain the repair procedure of NLB casnub bogie in detail.

- 35- V&l ošxu dks i hv&š p djus l s igys LVhf&æ djus dh D; k& vko'; drk g& V&l ošxu dks i hv&š p djus dh fof/k dk foLrkj l so.k&u dj&

Why steaming is necessary for POH of tank wagon? Explain the POH procedure of tank wagon in detail.

- 36- V&hu i kb& , ; j c&l fl LVe ds dk; Zfof/k dk fp= dh l gk; rk l so.k&u dj&

Explain the working principle and system of Twin Pipe Air Brake System with the help of Schematic diagram.

- 37- foH&ku i&lkj ds ošYM&æ fMO&DV& D; k g&š i R; &l dk dkj.k rFkk ml dks nj djus dh fof/k dk o.k&u dhft, A

What are the different types of welding defects? Write down the reason and remedial action of each defect?

38- , uMhVh D; k gS fLiæ ckj dh V&V djus dh ukW M&V&Vho V&LVak D; k&D; k gA DokW y fLiæ dh e&ufVd ikVhdy dh V&LVak djus dh fof/k dk o.ku djA

What is NDT? What are the non destructive testing for testing of spring bar. Explain the magnetic partical testing method of Coil spring.

39- c&d ckb&Mak D; k gS c&d ckb&Mak dh l eL; k l s futkr ikus ds fy, ml ds dkj.k rFk fuokj.k dk foLr r o.ku djA

What is brake binding? Explain the reasons of brake binding and remedial action to over come this problem.

40- ckWl , u o&ku dh ihvk p djus dh fof/k dks l fki ea o.ku dhft, A 90 Mst fl d ekfd& dks de djus ds fy, vki D; k dne mBk; &A

Explain the process of POH of BOXN Wagon. What step would you take during POH to reduce the 90 days sick marking.

41- dkj&stu D; k gS bl ds D; k&D; k dkj.k gS bl dks de djus@jk&us ds fy, D; k&D; k mik; fd; s tkrsgS foLr r o.ku dhft, \

What is corrosion? What are its reasons, Explain in detail to reduce/stop the corrosion.

42- fLiæ LVhy ckj l s fLiæ cukus rd dh l a&wkz i f&Ø; k dk o.ku dhft,] bl ea vi uk; s tkus okys l Hkh eki n&ka dk o.ku djA

Write down the complete manufacturing process of Spring from spring steel bar. Explain all parameters to be considered during this process.

43- fLiæ cukus ds fy, eVfj; y dk p; u ds sfd; k tkrk gS vkbZl h, Q cksx dh cksy&Vj fLiæ cukus ds fy, dks l h l kexh dk iz kx gks&ka fLiæ cukus dh fof/k dk foLr r o.ku dhft, \

How material is selected for manufacturing of spring? What material is used for manufacturing of ICF bolster spring? Explain the spring manufacturing process in detail.

44- fdUgha nks vk/kj&ud o&fMak rdudhka dk o.ku djj; bu o&fMak rdudhka ds nk&ku o&fMak ds nk&ka l s cpus ds fy, D; k&D; k l ko/k&fu; k; cjr h tkuh pkfg,] foLrkj l s fy [ka \

Explain any two modern welding technologies, What precaution should be taken to avoid welding defects during welding. Explain in detail.

45- or&ku ea j&yos dkj [kkua ea ykxw i k&B l kgu Ldhe ea D; k&D; k dfe; k; gS bu dfe; ka dks njj djus ds mik; ds ckjs ea vi us l &ko fy [k] di; k bl ckr dk [; ky j [ka fd bl l s de&pkfj; ka dh vk; ea dkbZ deh u gks \

What are the demerits of existing incentive scheme in workshop, suggest your views to remove these demerits. Ensuring that there should be no reduction of earning of the employee.

46- ckWl , u o&ku ds vuyk&cy gkus l s vki D; k l e>rs g& bl l eL; k l s funku ikus ds fy, vki D; k l &ko n&S

What do you understand by unloadable of BOXN Wagon? What will you suggest to over come these problems?

- 47- vki dk jsyos ea oržeku ea D; k jksy gš vki dk vi us dk; Z dh n{krk rFkk l ĩdfr c<kus ea D; k ; kxнку gš vki , d vf/kdkjh dh Hkkfedk dks fdI izdkj n[krk gš ; fn vki p; fur gq rks fdu e[; {ks=ka ea l qkkj djæA

What is your role at present in railways? What is your contribution to increase production and efficiency in your work? How you see the role of an Officer if you are selected which area you will improve?

- 48- gkW ckdI D; k gš , d , - , e-bZ ĩ , .M MGY; @Mh' km/æ , -MGY; w, e gkus ds ukrs vki vi us fMi ks ea gkW ckdI dh ?kvukvæ dks de djus ds fy, D; k dne mBk; æA

What is Hot Box? What step you will initiate to reduce the hot box cases if you are an AME (C&W)/Diesel Shed/AWM.

- 49- jšM; kskQh ofšMæ DokfyVh D; k gš ; g ofšMæ dgk iz; kx dh tkrh gš , d ; k nks mnkgj .k l fgr o.ku djæ

What is radiographic welding quality? Where this welding is used. Explain one or two with the help of example.

- 50- odZ kW ea LšS fdI izdkj tfur gkrk gš ; g LVkj dš sHkstk tkrk gš rFkk bl ds QkbZy fMLi ksty dk ijh ifø; k dk o.ku djš

How scrap is generated in workshop? How it is sent to store explain the process of final disposal of condemn wagon?

- 51- fuEufyf[kr ea fdUghæ pkj ij fVli .kh fy[ka %

Write down short notes on any four of the following.

1-	Oghy fMQšV	Wheel defects
2-	, l - MGY; -wVh- vkj-	SWTR
3-	Všd ošku LVhfæx	Tank Wagon Steaming
4-	e' khuka dh fjd. Mh' kfuæx	Reconditionaing of machine
5-	okkšZ Oghy i kQkbžy	Worn Wheel Profile
6-	dš gkMfæx	Case hardening
7-	LVkšd vkbVe , oaukšd LVkšd vkbVe	Stock Item & Non stock Item
8-	l jQš fQfu'k	Surface finish
9-	bššVh dš/ksy vkšd LVkj	Inventry Control of Store
10-	, šh dšj tš ekMfQšdšku	Anti Corrossion Modification
11-	jLI k VšLVæ	Rope Testing
12-	lyktek dfVæ	Plasma Cutting
13-	ofšMæ l j{kk mi dj .ka	Welding safety equipment
14-	dš uc cšxh	Casub Bogie
15-	Mh-oh- VšLVæ	D.V. Testing
16-	fMI Vkšd l u	Distortion
17-	i h, -l h- vkbVe	P.A.C. Item
18-	vkj-, Q-&361	R.F. – 361
19-	ofšMæ fMQšV	Welding defect
20-	i h ghfVæ , .M i kšV ghfVæ	Pre-heating & Post heating

[k.M 'Mh' I h , .M Mgy;w Part 'D' Carriage & Wagon

- 1- b.Mks tezu ekMhfQdsku ds vlrxt' vkb' h, Q dkp ea dks&dks' I s ekMhfQdsku fd; s x; s g' \I fp= o.ku dja'

What modifications are carried out under Indo-German modification in ICF coaches?

Explain in detail with diagram.

- 2- dkjktu D; k g' vkb' h, Q dkp ea dkjktu fdu&fdu txgk' ij yxrk g' buds yxus ds dkj.k , oafuokj.k dk o.ku dja'

What is corrosion . In ICF coaches what are the various locations of corrosion. Explain the reason there of and remedial action.

- 3- dks'pak fl d ykb'zu dk oxt'zj.k d' s d'jrs g' fdl h 100 dkp dh {kerk okyh fl d ykb'zu ds fy, vko'; d I fo/kkvka dk I foLrkj o.ku dja'

How classification of coaching sick line is done. Explain the required standard facilities for sick line having capacity of 100 coaches.

- 4- jks'ya' bu , oajks'ya' vkmV' ij h{k.k I s D; k I e>rs g' bu ifj{k.k I s D; k ykHk g' foLr'r o.ku dhft, A

What do you understand by rolling IN and rolling OUT examination, What are

Advantage of this examination. Describe in detail.

- 5- vkj'ihl h&4 I s D; k I e>rs g' foLrkj I s o.ku dja'

What do you understand by RPC-4? Explain in detail.

- 6- fo; fj'ax ds QV; kj gksus ds eq; ; dkj.k D; k&D; k g' budks de djus ds mi k; ka dk o.ku dhft, A

What is the main reason of bearing failure? Explain the measure to reduce the bearing failure.

- 7- i kbejh fMiks , oal ds Mjh fMiks fdl s dgrs g' buea D; k&D; k dk; Zgkrk g' o.ku dhft, A

What are the primary and secondary depot? What work is carried out in these Depot, Explain in detail?

- 8- i' s' t'j , ehfuVh , oal QVh foV'ak I s D; k I e>rs g' i R; ad dk mnkgj.k nslj fy[ka'

What do you understand by passenger amenities and safety fittings. Explain each with example.

- 9- jkb'IMax bUMDI I s D; k I e>rs g' vkb' h, Q dkp dk jkb'IMax bUMDI esuV'u djus ds fy, fdu&fdu ckrka ij /; ku nax' fy[ka'

What do you understand by Riding index? What factors will you consider to maintain riding index of ICF coach?

- 10- I Li'aku fl LVe I s D; k I e>rs g' vkb' h, Q- dkp ea iz; q'r I Li'aku fl LVe dk foLrkj i' d' o.ku dja'

What do you understand by suspension system? Write down the suspension system of ICF coach in detail?

- 11- **Explain working of twin pipe air brake conventional system with the help of neat diagram indicating its components.**
- 12- **Explain layout & detail standard facilities required at primary depot for examination, washing and cleaning of 20 rakes.**
- 13- **Write down the classification of ART, Give the necessary tools list as per standard tool list of A class ART.**
- 14- **What parameters are to be recorded during joint check at the site of derailment explain with the help of format.**
- 15- **Write down the duties of AME at accident site. Explain in detail.**
- 16- **What do you understand by fire triangle? What preventive measures are taken during extinguishing the fire. Explain briefly.**
- 17- **what do you mean by ODC? Explain all classes of ODC. What are the instructions for movement in AC & DC traction area.**
- 18- **How many types are of CASNUB trolley? Write salient features of CASNUB trolley and write down the difference in Mark I and Mark II trolley.**
- 19- **What is train parting? What are the reasons of it? What measures are taken in sick line to reduce train parting.**
- 20- **Explain working principal of air spring with the help of diagram. Write down its merits and demerits in detail.**
- 21- **What are the limitations during movement of Hybrid coach ? What will you suggest to overcome these problems?**
- 22- **What do you understand by Railway safety organization? What is the work of this organization? Explain in detail.**

- 23- ch,yl h o\$ku ds e[; fo'kskrkvka dk o.ku dja buea vkj-vks,p- djus dh fof/k dk o.ku dhft, \
- Explain salient features of BLC wagon Explain ROH procedure of BLC wagon.**
- 24- okDI u bz ,y 1/25 Vh1/2 o\$ku dh iefk fo'kskrkvka ij izdk'k MkyA bl dks cukus ds fy, D; k&D; k l ko/kkfu; ka vi ukbz tkrh gA
- Explain salient features of BOXN(EL) What precaution are taken to make BOXN EL Wagon(25T).**
- 25- d\$ uc cksxh ea cksxh ekm.VM ,; j cd fl LVe dk l fp= o.ku dhft, A ; g d\$ukuy o\$ku cd fl LVe l sfdl rjg fhkuu gA
- Explain Bogie Mounted air Brake system in Casnub bogie with the help of diagram.How it differ from conventional air brake system of wagon.**
- 26- gkbZcM dkp ds ckjs ea vki D; k tkurs gA ; g d\$ s cuk; s tkrs gA bl ds iefk fo'kskrkvka dk foLr' o.ku dja
- What do you understand by Hybrid Coaches? How hybrid coaches are manufactured. Explain the feature of hybrid coach.**
- 27- jkbZMac bMDI D; k g\$ jkbZMac bMDI ea l qkkj djus ds fy, , y, pch dkp ea D; k&D; k mi k; fd; s x; s gA bl dh rgyuk vkbz l h, Q-dkp ds l kfk dja
- What is riding index .What measures have been taken in LHB coach to improve riding index.Compare with ICF coach**
- 28- Hkkjrh; j\$y ea vlx ds D; k dkj.k gA Hkkjrh; j\$yos us foxr dN o'kka ea vlx l s cpkus ds fy, D; k ek\$MfQds ku fd; s gA vlx dks c<us l s jkdus ds fy, vki D; k l qko naxA
- what are the main reason of fire in train? what modifications are carried out to prevent fire in last few years by Indian Railway ?What suggestions you will give to prevent expansion of fire .**
- 29- dks\$pak LVkM dh fjy\$cfyVh vki d\$ s eki u djax\$ fd l h , d fjy\$cfyVh eki u dk o.ku dja ml i\$kehVI Z ea l qkkj ds fy, vki D; k , D'ku yaxA
- How coaching stock reliability is measured? Describe anyone reliability measure. What actions should be taken to improve that parameter?**
- 30- , y, pch dkp dh e[; fo'kskrkvka dk l qki ea o.ku dja bl dh vkba h, Q dkp ds l ki \$k ea vPNkbz; ka rFkk dfe; ka dk o.ku dja
- Explain salient features of LHB coaches.Give merits and demerits of LHB over ICF coach.**
- 31- orEku dks\$pak ea/sad ds i\$Vuz dks cnyus dh D; ka vko' ; drk g\$ j\$yos ckMZ ds vDrw\$ 2001 dk l jdwj u@ 4] dks\$pak V\$u dk fjokbz ea/sad i\$Vuz dh D; k iefk fo'kskrk, j gA
- What was the need to change current coaching maintenance pattern? Explain main characteristics Railway board circular no 04 of revised maintenance pattern of coaching train.**
- 32- fMika ea 24 fMcka dh l okjh xkMh dh ea/sad rFkk vkwj\$ku djus ea D; k fofhkuu izdkj dh vko' ; drk, j gA
- What are the standard requirement of facilities in maintenance and operation of 24 coaches rakes in Depot?**
- 33- cd fl LVe dh D; k vko' ; drk g\$ cd ffxax l s vki D; k l e>rs gA Hkkjrh; j\$y ea fdrus izdkj ds cfdax fl LVe vflrRo ea g\$ dkp ea iz; q r g\$ j g\$, ; j cd fl LVe dk o.ku dhft, A
- Why brake system is required? what do you mean by brake rigging? How many types of brake system are in use in Indian railways? Describe Air brake system of coaches.**

- 34- pDds ds nsk D; k gS iR; sd nsk dk o.ku dja rFk ml dk D; k i Hkko i MxkA pDds ds nskka dk Oghy xst dh I gk; rk I s o.ku dja

What are the wheel defects? Write down each defect and effect thereof. Explain the wheel defect with the help of wheel defect gauge.

- 35- ; kf=; ka dks dkp ea ikuh dh miyC/krk , d egroi wkZ vko'; drk gS ikuh dh deh dh otg I s ; kf=; ka }kjk f'kdk; rs c<us dh I Hkkouk gsrh gS Vku ea ikuh dh deh ds D; k dkj.k gS okVj deS/h us ikuh dh miyC/krk I fuf'pr djus ds fy, D; k eq; fjdeMsku nh gS vki ikuh dh miyC/krk I fuf'pr djus ds fy, D; k dne mBk; xS

Water is the basic requirement of passengers in coaches. There are chances of complaint in case of less/no supply of water. What are the reasons of non availability of water in train? What are the recommendations to ensure availability of water by water committee? What steps would you take to ensure availability of water?

- 36- , DI y xkbM , I Ecyh ea eq; nsk dku I s ik; s tkrS gS bu nskka dk eq; dkj.k D; k gS rFk budksnj djus dk mik; D; k gS

What are the main defects found in axle guide assembly? What are the reason of it ? Write down the remedial action of these defects.

- 37- dkSpak fMiks dk ys vkAV fMtkbZu djus ds D; k fn'kk&funS k gS estj dkSpak fMiks ea foHklu izkj dh I fo/kk; ; miyC/k djus dk jQ LdSp cukdj o.ku dja

What are the latest instructions for designing lay out of coaching depot? Explain rough sketch of major coaching depot with various facilities.

- 38- eky xkMh LVkMh ea iz, xS gkus okyh foHklu izkj dh cksx; ka ds eq; fo'ksrk; ; D; k gS o.ku dja

What are the salient features of different bogies used in goods stock? Explain.

- 39- cksch ekM.VM ; ; j cad fl Lve D; k gS bl dk dndkuy ; ; j cad fl Lve I s D; k ykHk gS bl ds fMtkbZu ds fo'ksrkvka dk o.ku dja ; g fl Lve fdl izkj dk; Z djrk gS rFk ejEer ds I e; D; k fo'ksk /; ku j [kk tkrk gS

What is bogie mounted air brake system? Explain its advantage over conventional air brake system .Explain its design feature and working. What precautions are to be taken during maintenance?

- 40- dJst fMiks ea dks&dks I s ea/ud f'KM; ny id ØkbCM gS iR; sd f'KM; ny ea fd; s tkus okys dk; Z dk I fki ea o.ku dja

What are the maintenance schedules prescribed in carriage depot? Explain the work is carried out in each schedule.

- 41- dkp dh cad ckbfMx I s vki D; k I e>rs gS gekjs jyos fl Lve ea bl dk D; k i Hkko i Mxk gS bl dks i Hkfor djus okys foHklu izkj ds D; k dkjd gS budksnj djus ds D; k I pko gS

What do you mean by brake binding in coaches? Explain its effect in Railway system.

What factors are responsible for it. What are the suggestion to reduce brake binding?

- 42- vkbZ h, Q dkp ea vMj Lyx okVj Vd I fgr okVj fl Lve dk I fp= o.ku dhft, A
Explain Water system of ICF coach with under slung water tank with schematic diagram.

- 43- fl fu; j Mh-, e-bZ dh gS I ; r I s vki dks dkSpak fMiks dk fujh{k.k djuk gS vki vi us fujh{k.k ds nkjku fdu eq; ; vkbZ/eka dk fujh{k.k djæS mu vkbZ/eka dh I ph rS kj dja

You have to inspect a coaching depot in capacity of Sr DME , What are the main items to be inspected during your inspection. Prepare lists of these items.

- 44- jsyos OghdYI dks tkMtus dsfy, fofHku izdkj dh D; k 0; oLFkk gS Hkkjrh; jsy ea dksu&dksu I s di yj iz, kx ea yk; s tkrsgA o.ku djA

What are the arrangements for coupling of railway vehicles in Railways? What type of couplers is used in Indian Railway. Explain.

- 45- jsyos, fDI Mv/ esuqy ds vuq kj jsy nqkuk; afdrus izdkj dh gkrh gS ; fn vki nqkuk LFky ij i Fke jsy vf/kdkjh ds : i ea igprsgar ks vki D; k dk; bkg h djæ s] foLrkj I sfy [ka \

How many types are of Railway accidents? As per Rly Accident manual, what steps would you take if you are of reaching at first officer at accident site .explain in brief.

- 46- Hkkjr ea YV LVkMl ds fMtkbZu rFkk Mpyi eV/ ds ckjs ea I f{klr o.ku djA budk oxhZdj.k dS s gkrk gS rFkk oxu dk Mftxusku fl I Ve D; k gA

Explain in brief to Design and development of freight stock in railways, its classification and designation system.

- 47- eky xkMh ds ijh{k.k fdrus izdkj ds gkrsgA iR; d ijh{k.k dsfy, fdrus e i koj dh vko'; drk gkrh gA xMh Vhu ds ijh{k.k dsfy, vlu; TokbV i kfi tj vkmZ ds I kbZyV Qhpj D; k gA

How many types are of freight train examination? How many man hours are required for each examination? What are the salient features of other joint procedure order for freight train examination?

- 48- Hkkjrh; jsy ds dkspx rFkk oSku ea D; k&D; k u; sjkSyak LVkMl cuk; s x; s gA iR; d dk I f{klr ea o.ku dhft, A

What is the new rolling stock introduce in coaching and wagon in India Railway? Explain each of them in brief.

- 49- jsy Oghy bZj, D'ku D; k gS fMjyev/ ds I e; TokbV bZ i D'ku djus ea D; k&D; k i jketO ukV fd; s tkrsgA o.ku djA

What do you mean by Rail wheel interaction? What parameters are to be recorded during joint inspection of a derailment? Explain.

- 50- fuEufyf[kr ea fdllgha pkj ij I f{kr fVli .kh fy [ka A

Write down brief notes on any four of the following.

1.	jkSyak bu jkSyak vkmV ijh{k.k	Rolling IN Rolling OUT Examination
2.	, ehfuVh , oa I QVh fQVax	Amenity & Safety fitting
3.	okuz Oghy i kQkby	Worn Wheel Profile
4.	jsy Oghy bZj D'ku	Rail Wheel Interaction
5.	i kbejh , oa I dsMjh fMi ks	Primary & Secondary Depot.
6.	i hl hoh , oa vki hoh	PCV & OCV
7.	MqIV fx; j	Draft Gear
8.	fi fe; e j d	Premium Rake
9.	dkjktu	Corrosion
10.	, u, eth dkp	NMG Coach
11.	C; kMxMcy @xhu Vk; yV	Biodegradable/Green Toilet
12.	LiKVZ	SPART
13.	, y-, I -Mh-	LSD
14.	cksch ekM. VM cd fl LVe	Bogie Mounted Brake System
15.	fMLd cd fl LVe	Disc Brake System
16.	Oghy fMOdV	Wheel Defects
17.	gkbfcM dkp	Hybrid coach
18.	jkM bMDI	Riding Index

19.	okVj jkbftx , ijvI	Water Rising Apparatus
20.	edukbTM , DI Vjuj Dyhfua	Mechanized External Cleaning

[k.M 'bZ Mht y ykdkkVo Part 'E' Diesel Locomotive

- 1- ,d Mhty ykdkkVo tgi; 100 Mhty ykdkk g\$ dk ys vkAV cukrs I e; dk&dk I : fofHku QDVj dfl Mj fd; s tkrsg Mhty 'kM ea fofHku izdkj dh I fo/kkvk , e, .Mih I fgr o.ku djA

What are the different factors are considered during making a lay out of 100 locos in the diesel shed. Describe Required different type of facilities Machinery & Plant with other facilities?

- 2- eYVh fl ysMj bat u ea Qk; fja vkmj ds D; k egro g\$ MCV; wMh, e-2 ykdkkVo ds Qk; fja vkmj dk o.ku dhft, A

What is the importance of firing order in multi cylinder engine. Describe firing order of WDM2 locomotive?

- 3- eq; ky; vf/kdkjh ds ukrs vki dks I h, e-bZ egkn; us Mhty 'kM fujh{k.k djus ds fy, Hkstka vki 'kM ds fdu&fdu eq; vkb/eka dk fujh{k.k djak\$ I Hkh vkb/eka dk I ph r\$ kj djA

As a Head Quarter officer CME send you to inspect diesel shed. What are main item you will inspect. Prepare a list of all these items?

- 4- Mhty ykdkkVo ds {ks= ea Hkkjrh; jsy ea D; k&D; k Moyie/ gk jgs g\$ budk o.ku dhft, A

In Indian Railways what development are in progress in the field of diesel locomotive. Describe all of them?

- 5- th-Vh-46 , e, -I h] th, e- ykdkkVo dh eq; fo'kskrkvka dk I f{kr ea o.ku djA

Describe the main characteristics of GT46 MAC, GM Loco. ?

- 6- vki I hf; j Mh, e-bZ/vks, .M , Q½ g\$ rFk vki dks Dw cfda lokbV dk fujh{k.k djuk gA vki fujh{k.k ds nk\$ku fdu eq; vkb/eka dk fujh{k.k djak\$ mu vkb/eka dh I ph r\$ kj djA

You are Sr. DME (O & F); you have to inspect crew booking point. During inspection what main items will you inspect? Prepare a list of all these items. ?

- 7- Vu dhty fl LVe I svki D; k I e>rs g\$ orZku ea D; k fl LVe g\$ rFk ml dh D; k I hek; g\$ u, Vu dhty fl LVe dh D; k vfHkdYi uk, ag\$ rFk ; g d\$ s dk; Z djska

What do you understand by train control system? What is present system today and what are its limitations. What is the future design of new train control system how it will work?

- 8- ih, e-bZ D; k g\$; g dc M; w gkrk g\$; fn dkbZ 0; fDr ih, e-bZ ea Qsy gk tk, rks vki D; k djakA

What is PME, when it is due. If a person fails in PME what will you do ?

- 9- jfua LVkQ ds M; w h rFk jkV I hfj; M ds fofHku izdkj ds D; k ikotu g\$ foLrkj I so.ku dhft, A

What are the provision of duties and rest of running staff? Describe in detail?

- 10- MRbõj fyad cukrs l e; vki fdu dkj .kka dk /; ku j [kæç] vki MRbõl Z dh fjDok; jeb/ ds s fudkyæA
What factors will you consider during making link of driver and how will you find out requirement of drivers?
- 11- Mhty bätu ds fy, Vtd fe'ku D; ka vko' ; d gS vkn'kz Vtd fe'ku ds D; k dk; Z gksus pkfg, A Mhty ykdkkks/ho ea iz; kx gksus okys Vtd fe'ku fl LVe dk l æki ea o.ku djA
Why transmission is necessary in diesel engine. What are the features of ideal transmission? Describe briefly about the transmission system used in diesel locomotive.
- 12- Mhty ykdkkksVo dk ¶; ny vkw y fl LVe dk l fp= o.ku djA eavud djrs l e; ¶; ny vkw y fl LVe ds fofHku da ksu/ dh VSLVæ rFkk fji s j dk o.ku dhft, A
Describe fuel oil system of Diesel Locomotive with the help of diagram. Describe repair & testing procedure of diferent components of fuel oil system?
- 13- 6l hMh 4; w h , DI i s kj dh ofdæk dk l æki ea o.ku djA , DI i s kj ; fuV ea l keku; r% D; k&D; k [kjfc; k; gkrh gS rFkk budksnj djus ds fy, vki D; k mik; djæA
Describe working of 6 CD, 4UC expresse in brief. What defects are generally found in expresse unit? What remedial action you will take to remove these defects?
- 14- okWo Vkbfeax Mk; xke l s vki D; k l h[krs gS Vw LVRud rFkk Qkj LVRud ds fy, bl dk o.ku dhft,
What do you understand about valve timing diagram? Explain valve timing diagram of 2 stroke and 4 stroke engine?
- 15- Ød 'kkWV eu fo; fjæ dh ijQkjed dks iHkfor djus okys dku l s dkjd gA budksnj djus ds fy, ejEer ds l e; dku l h fof/k vi ukuh pkfg, A
What are the factors that influence the performance of crank shaft main bearing. What procedure you will adopt to remove these defects during maintenance?
- 16- okVj dhryæ fl LVe dh i s kj kbzt s ku dk l ækle ea o.ku djA bl ds D; k ykHk gS bl dh ejEer ds fy, D; k vko' ; drk, j gS
Describe briefly about pressurization of water cooling system. What are the advantages of it and what are the requirements to repair it?
- 17- , d Mhty bätu dh ¶; ny dæ/ky fl LVe dk l æke Mk; xke cukdj foLr o.ku dhft, A
Describe fuel control system of a diesel engine with the help of a diagram?
- 18- Ykdkks Oghy fMLd dh [ki r dks vki ds s de dj l drsgæ o.ku djA
How will you reduce consumption of wheel disc? Describe in detail?
- 19- dkWVj ds ckjs ea vki D; k l e>rs gS , Ydks ykdkkks/ho ea iz; kx gksus okys fofHku i zkj ds dkWVjka rFkk muds dk; Z dk o.ku dhft, A
What are different contractors used in Alco locomotive. Explain different type of contractors & work?
- 20- l æke Mk; xke dh l gk; rk l s dkcZu çk dh l j p uk dk o.ku djA dkcZu çk dh ijQkjed dks iHkfor djus okys fofHku dkjd D; k gS bl ea fofHku i zkj dh D; k &D; k i s kfu; k; gkrh gS budksnj djus ds fy, vki D; k mik; djæA
Describe about construction of carbon brush with the help of diagram. What are the different factor effecting the performance of carbon brushes? What type problems occured in it and what remedial action you will take to remove these problems?

- 21- Mhty ykdkek/ho ds okVj dfrax ds fl LVe dk l fp= o.ku dja batu dfrax fl LVe ea ; kd=d rFkk fo | r nksuka izdkj ds QY; kd Z dks l ekfgr djrs gq o.ku dja xehz vkus l s igys vki D; k l ko/kkfu; ka cjrakA

Explain water cooling system of diesel locomotive with the help of diagram. Explain about electrical and mechanical failures in the system. what precautions you will take before starting of summer season?

- 22- ykdkek/ho ds okVj dfrax fl LVe ea dks l k ikuh iz; sx ea yk; k tkrk gA okVj fl LVe ea ikdfrd ty dks iz; sx ea ykus l s D; k gkfudkj d i kko iMrk gA ikuh dk VhVe/ ds s fd; k tkrk gA

Which type of water is used, In water cooling system of locomotive, what are the harmful effects of natural water while used in water system? How water treatment is done.

- 23- ifrjkd cfdax dk fl)kar l e>kb; A cfdax d/ky l s vki D; k l e>rs gA Mhty byDVhd ykdkek/ho ea ; g ds sikr dh tkrh gA

Explain principle of resistive braking system. What do you understand about braking control system? How it is achieved in Diesel Electric Locomotive.

- 24- Mh; w/h, e2 ykdkek/ho ea D; k & D; k ekMfQds ku fd; k x; k gA rFkk bl ekMfQds ku djus ds ckn eaVud f'KM; ny D; k gS 07 fnu f'KM; ny l s 10 fnu f'KM; ny fLofpax djus ij gedks D; k ykthk gA

What are the modification carried out in WDM2 locomotive .What are the maintenance schedule after these modifications.What are the advantages in switching over 07 days schedule to 10 days schedule?

- 25- Mh; w/h, e2 ykdks ea D; k & D; k l qVh vkbVe gA foLrkj l sfyf[k, A

What are the safety items fitted in WDM2 locomotive. Describe in detail

- 26- Mhty ykdkekVo ea Lugd dk D; k egRo gS rFkk Mhty ykdkekVo ea Lugd fof/k dks j[kkfp= l fgr l e>kb, \

What is the importance of lubrication in diesel locomotive. Explain lube oil system with the help of diagram WDM2 Diesel locomotive

- 27- , l -, Q- l h- l s vki D; k l e>rs gA bdku rsy dks cpkus ds fy, D; k & D; k mik; djakA

What do you know about SFC. What steps will you take to save fuel.

- 28- ykA ckD l VSLVax D; k gS ykA ckD l dks djus dh fof/k dks foLrkj l s l e>kb, \

What is load box Testing? Explain the testing procedure in detail?

- 29- vkb-vkj-, -ch&1 rFkk 28 , y-, -oh&1 cd izkkyh D; k gS buea D; k varj gA Li'V dhft, \

What is IRAB1 and 28 LAV-1 brake system. What are the differences between them, explain?

- 30- l ij pftak D; k gS izkkyh dks j[kkfp= l fgr l e>kb, \ ykdks ea fdrus izdkj ds Vck l ij pktj iz; sx fd; s tk jgs gA bl dk dk; Z fl)kar fy[kA

What is Super Charging? Explain with the help of diagram, How many types of turbo super chargers are used in locomotive? Explain working principle of turbo super charger.

- 31- **fi dāVo eāVud D; k gS Mhty ykcdks ea vi ukbz tkus okyh fi dāVo eāVud ds ckjs ea foLrkj I s fy [kA**
What is preventive maintenance? Explain preventive maintenance of diesel locomotive in detail.
- 32- **fdl h ykcdks kM ds bMkbl d ij QkWed D; k gS buds I qkij ds fy, D; k&D; k mi k; fd; s tkrs gS bMkbl d ds ckjs ea foLrkj I s fy [kA**
What are indices performance of a diesel shed? What measures are taken to improve this? Explain in detail about indices.
- 33- **dk&dks rFkk ck&cks cksch D; k gS buea nksuka ea varj Li 'V dja rFkk buea dks I h cksch cgrj gS I e>kb, **
What is CO-CO and BO-BO boggies? Mention differences between them. Which bogie is better? Explain.
- 34- **,vj Mk; j D; k gS budks yxkus I s D; k ykHk gSA , ; j Mk; j dk I fp= o.ku dhft, A**
What is air drier? What are the advantages after fitting it? Describe about air drier with the help of diagram.
- 35- **ykcdksVo ea dks I h cVjh yxh gsrh gA cVjh dk pkft& rFkk Mhl pkft& dk I fp= o.ku dhft, A**
Which types of battery are used in locomotive? Explain charging and discharging of battery with the help of diagram.
- 36- **VNuth"ku D; k gsrk gS\ VNuth"ku dh ykcdks/ho es D; ka vko"; drk gSAMCY; wMh-, e-3, ykcdksVo ea vkus okys VNuth"ku ds ckjs ea fy [kA**
What is transition? What transition is required in locomotive? Explain transition used in WDM3A locomotive
- 37- **Mk; uWed cfd& I s D; k I e>rgks A Mk; uWed cfd& ds I e; ea dks&dks I s ifjorZu vkrs gA**
What do you understand about dynamic braking .What are the changes during dynamic braking?
- 38- **MCY; wMh-t-3, , DI kbV/gku i s y ea dks&dks I s dkmZ yxs gsrh gA I Hkh dk foLrR foj .k fy [kA**
How many types of card are fitted in WDG3A excitation panel? Explain all in detail.
- 39- **ykcdks ea I fdV cdj D; ka yxkrs gS M0y wMh , e 3, ykcdks ea yxs I fdV cdj ka ds uke , oa I qkI ea dk; Z fy [kA**
Why circuit breaker is used in locomotive. Write names & function of each used circuit breaker in WDM3A locomotive.
- 40- **th A xouj dh dk; Z izkkyh foLrkj I s I e>kb; A**
Describe briefly about working principle about GE governor?
- 41- **oMOMZ xouj dh dk; Z izkkyh foLrkj I s I e>kb; A**
Explain working principle about wood word governor in detail
- 42- **ekbdks duVsy cLM xouj dh dk; Z izkkyh foLrkj I s I e>kb; A**
Explain working principle of micro control based governor in detail.
- 43- **fdl h dāksu/ dk QY; kj fo'y sk.k fdl izlkj fd; k tkrk gS rFkk fdu&fdu ¼ j kehVj ½ dks I Kku ea yk; k tkrk gS**
How failure investigation of a component is done .What parameters are considered during failure investigation?

44- MCY; wMh, e-2 ykdkkVVo ea okf"kd vuj {k.k ¼ e&2¼ ds nkj ku vuj {k.k ds D; k&D; k dk; Z fd; s tkrsgj vuj {k.k ds l e; dks de djus ds fy, vki ds D; k&D; k l o-ko g\$ foLrkj l sfy [ka \

What maintenance is done during annual maintenance (M24) of WDM2 locomotive? What are your suggestions to reduce maintenance time? Explain in detail.

45- batu fyad rFkk Owfyaad dks cukrs l e; dks d&dks l s dkj dka dk /; ku j [kk tkrk g\$; fn ; k=h rFkk ekyxkMh Owdks , d gh Owcfdax vkMl l s pyk; k tk; s bl voLFkk ea vki dgy jfuax LVkQ dh t: jr dh x.kuk fdl idkj djak\$ foLrkj l sfy [ka \

What factors are considered while preparing loco link and crew link. If goods and mail crew booking is operated from same crew booking office. How will you calculate the requirement of total nos. of crew?

46- batu ds l ij pktZ djus ds D; k ykdk g\$ MCY; wMh, e2 ykdk ds Vckpktj dk Mk; xke cukdj dk; Z fl)kr dk o.ku dja

What are the advantages of supercharging engine? Describe working principle of turbo charger in WDM2 with diagram

47- , ; j dq fuax D; k g\$; g D; ka iz kx dh tkrh g\$ Vckpktj l ftak D; k g\$ rFkk bl ds D; k dkj .k g\$

What is air cushioning? Why it is used. What is surging of turbo super charger and what are the reasons of surging?

48- Mhty 'kM es Li DVkskQ dh D; k vko'; drk g\$; g fdl fl)kr ij dk; Z djrk g\$ bl dh fo'ol uh; rk dks dks l h dkjd i Hkkfor djrs g\$ Li DVkskQ fo'y sk.k dk uenuk yus ds fy, D; k rjhdk g\$, Ydks ykdkkV/ho eafdruk fo; j evy dakuV\$ ku fjde.MM g\$

Why spectrograph is required in diesel Shed. What is its working principle, what are factors affecting it? What is the process to collect sample for spectrograph. Analysis, How much wear metal concentration is recomended in ALCO Locomotive.

49- FlLV fo; fjak rFkk ba/jehfM, V dfl x dh ejfer djus ds fy, D; ka vko'; drk, j g\$ Volk\$ pktj ds i heP; kj QY; kj gkus ds D; k dj .k g\$ rFkk budks d\$ sjkdk tk l drk g\$

What are the main requirements to repair thrust and intermediate casing. What are the reasons of premature failure of turbocharger? How it can be eliminate?

50- fuEufyf [kr eafdlgha pkj ij l fkr fvli .kh fy [ka A

Write down brief notes on any four of the following.

1-	Vd"ku tujsj	Traction generator
2-	fl; w i Ei ekVj	Fuel Pump Motor
3-	jMh, Vj Q& dKwVj	Radiator Fan Contactor
4-	yksokVj Lohp	Low water Switch
5-	l flVh vkW>yjh fjys	Safety auxiliary Relay
6-	vkj Li hM Vhi vl icyh	Over speed Trip Assembly
7-	vkj ys ihfj, M dk egRoA	Importance of Over Lap period
8-	l ij pftak dk egRoA	Importance of SuperCharging
9-	Vrakfeaku dk egRoA	Importance of Transmition
10-	batu CykMh	Engine Block
11-	fl fy.Mj gM fji s fjak	Cylinder head repairing
12-	fl; w i Ei	Fuel Pump
13-	, e ; w2 ch okWo	MU2B valve

14-	, l -, -& 09	SA-09
15-	l h-VrfjyA	C-2 Relay
16-	, y, oh&1 cdl fl Lve	LAV-1 Brake System
17-	ohl hMh	VCD
18-	, p-ch&5 fjys okYo	HB-5 relay valve
19-	VØ"ku tujVj	Traction Generator
20-	¶l; ny iEi ekVj	Fuel Pump Motor

51- , d ykdkesVo eafuEufyf[kr VcYI gS buel sfdUgha ikp dksnj djus dsfy, fd, tkus okys mik; dk Øekuq kj o.ku dhft, A

A locomotive has following troubles; Write down the stepwise remedial action of any five.

1. batu jð ugha gks jgk gA
Engine is not picking the speed.
2. cS/h pktZ ugha gks jgh gA
Battery is not charging.
3. cS/h vkøj pktZ gks xbZ gA
Battery is over charged.
4. MØyWmh , e 3, ykdkes LVkVZ ugha gks jgk gA
WDM-3A Loco is not starting.
5. batu fcuk fd l h bMds'ku ds clln gks x; k gS vksj LVkVZ ugha gks jgk gA
Engine shut down without any indication & does not start.
6. gkMyx ikoj iVj gA
Hauling power is poor.
7. iR; dl ukb ij ikoj xkmUM vk jgk gA
Power is earthing at every notch.
8. ykdkes iFke ukb ij tdl ns jgk gS, oaykM ehVj vf/kd djV/ crk jgk gA
Loco is giving Jerk on first notch and load metre is showing excess current.
9. jMh, Vj Qs dk; Z ugha dj jgk gA
Radiator fan is not working.
10. ykM ehVj thjks djV/ crk jgk gS vksj ykdkes fd l h Hkh fn"kk ea ugha py jgk gA
Load meter is showing zero current and loco is not moving in any direction
11. th , Q dKUVVj fidvi ugha gks jgk gA
G F Contractor is not picking up.
12. gkV batu dk bMds'ku ty jgk gS ijUrq batu LVkVZ gA
Hot engine indication is glowing but Engine is start.
13. batu gAVx dj jgk gA
Engine is hunting.
14. tc batu dks Øfd fd; k tkrk gS rks ¶l; ny iEi jð 'kh?krk l s ugha [kyrka
Fuel Pump rack is not opening immediately at the time of starting the engine.
15. LiM l sVx pat djus ij batu dk fj l i kUM cgr gh /khek gA
Engine is responding very slowly after changing the speed setting.
16. , DI lykstu Mkj doj cLV gks x; k gA
Explosion door cover burst.
17. batu cVj iðkj de gks x; k gA
Engine Booster pressure is reduce.

18. **ykl ehVj 'kl; n'klzjgk gA**
Load metre is showing Zero.
19. **bātu fcuk fdll h iwl l puk dscn gks tkrk gA**
Engine is shut down without any indication.
20. **ijk i kuh fudy x; k gA**
What is completely drained out?