

ANDHRA PRADESH STATE ROAD TRANSPORT CORPORATION

No.R3/684(26)/2010-R&C

Office of the Managing Director,
Mushirabad, Hyderabad-500 624

CIRCULAR NO.PD- 70/2010, dt.29.12.2010

Sub: RECRUITMENT – Direct Recruitment to the post of Mechanic/Artisan –
Revision of Syllabus for Trade Test in Mechanical Engineering
Department – Notified – Reg.

Ref: 1. Circular No. 78/91, dt. 21.09.1991.

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In order to streamline the procedure for conducting selections by the respective Selection Committees, Selection Committees have been constituted vide Circular cited. While constituting the Selection Committees the Syllabus for Trade tests for the posts of Mechanical Engineering Department was notified at Annexure-D of the Circular.

The Syllabus of the Trade Tests has become out-dated. In view of the need of the employees to be more skilled in the posts of Mechanical Engineering Department and with a view to get better quality of Mechanics/Artisans by testing their skills in the Trade Tests, the syllabus has been revised.

The revised Syllabus for the Trade Tests is hereby notified for information to all the recruiting authorities, as well as to the Selection Committee Members

All the Recruiting Authorities and Committee Members shall adhere to the revised Syllabus with immediate effect.

Sd/xxxxxxx
(B.PRASADA RAO)
VICE-CHAIRMAN &
MANAGING DIRECTOR

// Attested //

Chief Manager (HRD)

Copy to: All Officers of the Corporation.

N3

MILL - WRIGHT MECHANIC

DEPOT	
1	Dovetail Joint
2	Preparation of Hexagonal Piece from round MS rod
3	Identifying the parts and explaining the function of Air Compressor
4	Dismantling and assembling of equipment like
a)	Car Washer / High Pressure washing machine ✓
b)	Trouble shooting & parts identification in Automatic Washing Plant ✓
c)	High pressure grease gun ✓
d)	hydraulic Jack - both vehicle and trolley ✓
e)	Mechanical Jack ✓
f)	Jib Crane gear Mechanism ✓
5	Removal of broken studs ✓
6	Fitment of ferrules in oversize dia holes
7	Bushing sleeving and rethreading wherever necessary - I Beam Boss Viz..Front Axle, Rear Axle, Water Pump etc.
8	Overhauling of well pumps and motors for depot
9	Air Pipes joining/ leak checking
10	Service and maintenance & overhaul of riveting gun both Mechanical & pneumatic
11	Water pump coupling and well pump coupling alignment & joining

NOTE:
The examiner should conduct tes on any three questions out of above subjects.
Marks allotted 3 x 30 = 90
Oral test 10
Total = 100

WORKSHOP	
1	Dovetail Joint
2	Preparation of Hexagonal Piece from round MS rod
3	Identifying the parts and explaining the function of Air Compressor
4	Dismantling and assembling of equipment like
a)	Car Washer / High Pressure washing machine
b)	Trouble shooting & parts identification in Automatic Washing Plant
c)	High pressure grease gun
d)	hydraulic Jack - both vehicle and trolley
e)	Mechanical Jack
f)	Jib Crane gear Mechanism
5	Removal of broken studs
6	Fitment of ferrules in oversize dia holes
7	Bushing sleeving and rethreading wherever necessary - I Beam Boss Viz..Front Axle, Rear Axle, Water Pump etc.
8	Overhauling of well pumps and motors for depot
9	Service/Maintenance of distilled water plant & change of elements wherever necessary
10	Dismantling and assembling of hydraulic press, Hydrallc crane
11	Knowledge of monthly maintenance schedule of water lines, steam lines, air pressure lines, make air tight or leak proof
12	Servicing & Maintenance & to carry out minor repairs to power pallet brackets, Power plat-form trolleys & power fork lifts
13	Service and maintenance & overhaul of riveting gun both Mechanical & pneumatic

NOTE:
The examiner should conduct tes on any three questions out of above subjects.
Marks allotted 3 x 30 = 90
Oral test 10
Total 100

94

1

M E C H A N I C

DEPOT

- 1 Setting of tappet clearance, cylinder head nut tightening in the order of sequence
- 2 FIP timing, spill cut off method
- 3 Rear & Front hub setting using dial gauge
- 4 Water pump assembly
- 5 Clutch Master Cyl./ Slave Cyl./ Booster Assembly
- 6 Clutch disc changing & adjustment
- 7 Power Steering box Seals replacement
- 8 Gear box selector mechanism dismantling & assembly
- 9 Feed pump assembly & injector testing
- 10 King pin play adjustment (Leyland)
- 11 Attending Air lock (both Rotary & Inline FIP systems)
- 12 Setting of Valve timing & Injector Timing, Plunger lift setting in Rotary FIP
- 13 4 Wheel Brakes adjustment with manual & automatic slack adjuster
- 14 Air pressure setting In Unloader Valve/ Air Dryer
- 15 Checking functioning of System Protection Valve
- 16 Fitment of pneumatic wiper

Oral: Knowledge on maintenance schedules Knowledge of special tools, K&PL related items

Note:

The Examiner should conduct test on any five items out of above 5 subjects

Marks allotted 5 x 18 = 90
 Oral test = 10
 Total 100

WORKSHOP

I) Engine

- 1 Main setting along with fitment of Crankshaft on cylinder block
- 2 Fitment of pistons in the cylinder block along with big end bearing setting
- 3 Cylinder Head Assy & Testing
- 4 Testing of Engine on Dynamometer and taking results

II) FIP

- 1 Assembling of FIP
- 2 Calibration of FIP to the recalibrated standards
- 3 Assembly of Injectors & Testing
- 4 Assembly of Feed pump
- 5 Setting valve timing and Injection timing, Plunger lift setting in rotary FIP

III) UNITS

- 1 Assembly of Gear Box (Tata & AL) (Synchromesh/constant mesh)
- 2 Assembly, preloading & centering of Crown & Pinion in rear axle housing
- 3 Rear & Front hub setting using dial gauges
- 4 Assembly of Clutch and adjustment of clutch pressure plate
- 5 Assembling of Power Steering box & testing
- 6 UJ cross & Center joint bearing fitment on PP shafts

IV) ANCILLARY

- 1 Water pump assembly
- 2 Air compressor & A.C head assembly
- 3 Oil pump assembly & Rocker arm assembly
- 4 Assembly of a) Clutch Booster b) Clutch master Cyl c) Clutch Slave Cylinder, d) System Protection valve e) Brake Chamber, f) D.B valve, g) Relay valve h) Air Dryer/DDU, i) Levelling valve for Air suspension

Note:

For workshops each candidate has to opt any three sections out of above 4 sections

The Examiner should conduct test on three items i.e one item from one opted section

Marks : 3 x 30 = 90
 Oral : = 10
 Total : 100



P A I N T E R

DEPOT

- 1 Sketching the APSRTC emblem on a panel
- 2 Painting a Destination board with round letters in Telugu
- 3 Painting a Destination board in English (different fonts)
- 4 Stencil cutting of one of our slogans
- 5 Spray painting on a panel & Painting of Stripes for Express type
- 6 Painting a Super luxury, Deluxe letters on vehicles (Italic, Roman Bold and old English)
- 7 Putties - Applying putti on dents
- 8 Mixing of paints to the given colour shade
- 9 Glaze coating of painting including mixing paint for this purpose
- 10 Stickerfng, re-painting, Graphics painting using masking tapes
- 11 Oral: Knowledge of different colour codes for
Pallevelugu/City Ord
Express/ Metro Express
Deluxe/ Metro Deluxe
Super Luxury

Note:

The Examlner should conduct test on any four questions of the above subjects
All questions carry equal marks

WORKSHOP

- 1 Sketching the APSRTC emblem on a panel
- 2 Painting a Destination board with round letters in Telugu
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- 8 Mixing of paints to the given colour shade
- 9 Stickerfng, re-painting, Graphics painting using masking tapes
- 10 Glaze coating of painting including mixing paint for this purpose
- 11 Oral:
Knowledge of different colour codes for -
Pallevelugu / City Ordinary
Express / Metro Express
Deluxe / Metro Deluxe
Super Luxury
- 12 Paint removing
- 13 Surface preparation including primary coating

Note:

The Examiner should conduct test on any four questions of the above subjects
Oral : 20 Marks



COACH BUILDER CUM PANEL BEATER

DEPOT
1 Fabrication of Battery box/ Tool Box
2 Fabrication of First aid box
3 Fabrication of corner dooms of vehicle (including Roof corner) ✓
4 JK Door Repair/ fitment
5 Roof hatch opening as per drawing
6 Dash board panelling
7 Driver door, Shutter frames fitment duly replacing terene felt/ Flocked rubber channel
8 Hemming joint
9 Solid rivetting (Cleats)
10 Fabrication of M.S.tin boxes for conductor
11 Bonnet repairs
12 Panels dent removal, replacement of panels using solid/ pop rivets
13 Wind shield Glass fitment (two piece type)
14 Fabrication of sunken type Roof light frame
15 Fabrication of sunken type Number plate
16 Fabrication of measuring cans of 100 ML, 250 ML, 500 ML and 1 litre
17 Fabrication of Head light doom foundation of both Tata & Leyland

Note:

The Examiner should conduct test on any four questions of the above subjects

All questions carry equal marks

WORKSHOP

1 Fabrication of Battery box/ Tool Box
2 Fabrication of First aid box
3 Fabrication of corner dooms of vehicle
4 Fabrication of conductor ticket tray
5 Fabrication of M.S.tin boxes for conductor
6 Pillar Replacement
7 JK Door preparation, Driver door preparation, Flap doors preparation with hinges & tower bolt
8 Fabrication of sunken type Number plate, Roof light Assy
9 Foot board Fabrication
10 Fabrication of Destination Box/ Frame (Tata & AL)
11 Roof hatch opening as per drawing
12 Panel embozing/ front cowl
13 Dash board panelling
14 Fabrication of measuring cans of 100 ML, 250 ML, 500 ML and 1 litre
15 Fabrication of Head light doom foundation of both Tata & Leyland
16 Fabrication of roof corner doom front & rear

Note:

The Examiner should conduct test on any four questions of the above subjects

All questions carry equal marks

91

ELECTRICIAN

DEPOT

- 1 Assembling of self starter & testing
- 2 Assembling of Alternator & testing
- 3 Head light wiring, HL Assy fitment and focus adjustment
- 4 Roof Lights wiring
- 5 Indicator lights (Side indicators, Stop lights, Parking lights etc) fitment / Connection
- 6 Alternator fitment, Audio/video fitment/ connections
- 7 ORAL
 - a) Knowledge of battery maintenance
 - b) Knowledge of Electric horn, Beepers, Relays & sensors, Wiper, LED Dest. System, ITS etc
 - c) Operation and maintenance of Battery charger

WORKSHOP

- 1 Assembling of self starter
- 2 Assembling of Alternator
- 3 Head light wiring
- 4 Roof Lights wiring, Audio/video & accessories wiring
- 5 Chassis wiring
- 6 Battery cable preparation
- 7 ORAL
 - a) Knowledge of Battery maintenance
 - b) Operation and maintenance of distilled water plant
 - c) Operation and maintenance of Battery charger
- 8 Testing of Alternator & Self starter and take results
- 9 Testing of Individual components of Alternator and Self starter
- 10 Rotor and stator winding / L.S.E.coil winding, Armature winding for Alternators
- 11 Dismantling/ assembling of Windscreen wiper and electric horn with change of parts wherever necessary
- 12 Dismantling and assembling of Invertors

Note:

The Examiner should conduct test on any three questions

of the above subjects

Marks : 3 x 30 = 90

Oral : = 10

Total : 100

Note:

The Examiner should conduct test on any three questions of the

above subjects

Marks : 3 x 30 = 90

Oral : = 10

Total : 100

96

H A M M E R M A N

DEPT
1 Cambering of Leaf spring and assembling
2 Removing of bumper dents and tightening
3 Fabrication of vision mirror brackets
4 <u>Oral:</u>
a Leaf spring assembly procedure
b Knowledge of spring maintenance
c Steps to reduce spring consumption

Note:
The Examiner should conduct test on all the 3 items

Marks : 3 x 30 = 90

Oral : = 10

Total : 100

WORKSHOP
1 Cambering of Leaf spring and assembling
2 Removing of bumper dents and tightening
3 Fabrication of vision mirror brackets
4 <u>Oral:</u>
a Knowledge of spring maintenance
b Steps to reduce spring consumption

Note:
The Examiner should conduct test on all the 3 items

marks : 3 x 30 = 90

Oral : = 10

Total : 100

85

TIN SMITH

DEPOT
1 Dismantling of Radiator Complete, cleaning and re-assembling
2 Soldering of battery terminals and cables
3 Patch work to radiator tank and cores
4 HSD oil tank strainer mesh removing and refitting
5 Fabrication of measuring can
6 Soldering of fuel lines
7 Soldering of Radiator Top and Bottom Tank and Fins
8 Replacement of Top & bottom Plastic / Metallic tanks in Aluminium radiator

WORKSHOP
1 Dismantling of Radiator Complete, cleaning and re-assembling
2 Soldering of battery terminals and cables
3 Repairing Aluminium Radiator
4 Patch work radiator tank and cores
5 HSD oil tank strainer mesh removing and refitting
6 Fabrication of measuring can
7 Radiator core changing
8 Armature soldering
9 Soldering of Radiator Top and Bottom Tank and Fins

Note:
The Examiner should conduct test on any 3 items of the above subjects

Marks allotted : 3 x 30 = 90
Oral : = 10
Total : 100

Note:
The Examiner should conduct test on any 3 items of the above subjects

Marks allotted : 3 x 30 = 90
Oral : = 10
Total : 100

88

TYRE MECHANIC FOR DEPOTS

- | | | |
|---|--|----|
| 1 | Removal of tyre and fitment (Tubeless tyre also) | 30 |
| 2 | Defects identification on tyres including Mechanical defects | 20 |
| 3 | Wheel alignment checking, inflation check | 30 |
| 4 | Puncture repair for Tubeless tyres | 10 |
| 5 | Tube repair (Cold process) | 10 |
| 6 | Oral examination -- 10 marks | |
- Tyres inflation importance of registers and how to get more mileage from a tyre

Note: The examiner should conduct test covering the above subjects

Question No.1 is compulsory and carries 30 marks

Question No.2 i.e. both removal and fitment carries 20 marks

Question No.3 including meter, inflation and alignment checking carries 30 marks

Question No.4 carries 10 marks

Question No.5 oral examination carries 10 marks

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VULCANIZER FOR WORKSHOPS

Tyre Retreading shop

- 1 Re-capping of a tyre
- 2 Re-treading of a tyre
- 3 Repair of tyres including Radial tyre repair and uniseal patch repair
- 4 Valve base repair of tubes
- 5 Working knowledge of raw materials quality

Note: SecA - One question among (1) & (2) is compulsory

Sec:B - One question among (3) & (4) is compulsory

Sec:C - Question No. (5) is compulsory

Marks Allotted

Section - A --- 45 Marks

Section - B --- 40 Marks

Section - C --- 15 Marks

Total = 100 Marks

(88)