

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination



7175 HYDRAULIC AND CHASSIS SYSTEM 1

JUNE XXXX

ADVANCED LEVEL

Specialty(Specialty Code)	
Centre No.	
Centre Name	
Candidate No.	
Candidate Name	

Mobile phones are **NOT** allowed in the examination room

7175 Hydraulics and Chassis System 1: MULTIPLE CHOICE QUESTION PAPER

One and a half hours

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

3. Check that this question booklet is headed **Advanced Level – 7175 Hydraulic and Chassis System 1**
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:
Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number. Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.
6. **Answer ALL questions**
7. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide on which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.
For example, if **C** is your correct answer, mark **C** as shown below:
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet, using, where necessary, the blank spaces in the question booklet.
11. Texts, notes and pre-prepared materials of any kind are also **NOT** allowed in the examination room.
12. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet after. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

Turn Over

XXXX/7175/1/C
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1. The gear selector feature 'P' permits:

A	possible vehicle movement with no gear engaged
B	vehicles to drive and Pass
C	gears to be selected
D	a powerful lock of gearbox output shaft and transmission

2. The clutch disc facing material is:

A	Cast iron
B	Asbestos
C	Aluminum alloy
D	Friction linings

3. Which of these is not a design of the steering box?

A	Steering joint
B	Recirculating ball
C	Cam and peg
D	Cam and roller

4. The servo-power assisted element in brakes permits:

A	the driver to 'feel' the braking pressure in the system
B	the reduction of the driver's effort on the brake pedal
C	the reduction/adjustment of the braking pressure
D	to avoid the braking of the road wheels during braking

5. Give two advantages of hydraulic control in a clutch mechanism:

A	Less cumbersome and expensive
B	It's progressive and soft
C	Cumbersome and less expensive
D	Without maintenance and less expensive

6. The function of the "stator" in the torque converter is to:

A	redirect oil from the turbine increasing the torque of the impeller.
B	maintain the impeller movement
C	increase the impeller's speed
D	facilitate the rotation of the impeller

7. Identify a non single plate clutch part.

A	Clutch cover assembly
B	Release mechanism
C	Gear wheel
D	Pressure plate

8. On the heavy duty vehicles, the gearbox is located between:

A	The clutch system and the driveshaft
B	The engine and clutch system
C	The driveshaft and differential
D	The engine and the driveshaft

9. Identify an advantage of synchronized gearbox system:

A	The output is better
B	Less delicate
C	Develop the high torques
D	The transmission is quiet

10. In an automatic gearbox, how does the various clutches and brake bands commanded?

A	By a pedal controlled by the driver
B	By an electric current
C	By air pressure
D	By the oil pressure coming from the hydraulic distributor

11. Why do majority of trucks have two half shaft instead of one only?

A	For the needs of comfort
B	To limit the obstruction
C	To avoid bending the driveshaft which can cause an imbalance in the transmission
D	To reduce the purchase price

12. The six speed transmission commonly used compound planetary gear set is of a/an:

A	Simple gear set
B	Simpson gear set
C	Spiral gear set
D	Hypoid gear set

13. We prefer the drum brake on the trucks because:

A	it is more progressive
B	it more support the heavy loads
C	it is less cumbersome
D	it require no maintenance

14. Universal joints describes name for a conventional rear-wheel-drive vehicle driveshaft is:

A	Trunnion
B	Constant velocity
C	Cardan
D	Spider

15. The ABS computer uses what signal characteristic from a wheel speed sensor?
- | | |
|---|-----------------|
| A | Voltage |
| B | Resistance |
| C | Frequency |
| D | Electromagnetic |

16. Flexible brake hose should be inspected for all of the following except:
- | | |
|---|-----------------|
| A | Cracks |
| B | Twisted |
| C | Leakage |
| D | Worn outer ribs |

17. In a Diesel engine, the power brake's vacuum plug is connected on:
- | | |
|---|------------------------|
| A | the exhaust manifold |
| B | the turbocharger |
| C | the vacuum pump |
| D | the combustion chamber |

18. What generally causes the loss of braking in the pneumatic braking system?
- | | |
|---|-------------------------------------|
| A | High pressure of air in the circuit |
| B | Lack of air pressure |
| C | Lack of oil |
| D | The driver's inexperience |

19. At what time do a compensation leaf spring enters in action? When the vehicle is:
- | | |
|---|------------------------------|
| A | Without load |
| B | Beyond the normal limit load |
| C | With average charge |
| D | With heavy load |

20. What is the meaning of a steering reduction gear ratio?
- | | |
|---|---|
| A | The number of the wheel turns and the steering wheel's angle |
| B | The number of entered pinions teeth and the steering gear box exit |
| C | The number of the steering wheel revolutions on the left and on right hand side |
| D | The pivot angle of the steering box exit shaft and the wheel turning angle |

21. Which is the role of the power steering in an assisted steering system?
- | | |
|---|--|
| A | To increase the effort which the driver must put in to direct the wheels |
| B | To make the system silent |
| C | To make the system less cumbersome |
| D | To reduces the effort which the driver must put in to direct the wheels |

22. Clutch pedal free play is:
- | | |
|---|--|
| A | the distance covered by the clutch spring |
| B | depressed distance before the clutch start to work |
| C | an obstacle from the clutch |
| D | a long distance |

23. An Un-sprung weight is:
- | | |
|---|----------------------------|
| A | weigh of vehicle |
| B | weigh of chassis frame |
| C | weight of wheels |
| D | weight of wheels and axles |

24. Which device used for transmitting, increased or decreased power from one shaft to another?
- | | |
|---|----------------------------|
| A | Hydraulic torque converter |
| B | Propeller shaft |
| C | Differential |
| D | Crankshaft |

25. As brake fluid ages, what happens?
- | | |
|---|-----------------------------------|
| A | The boiling temperature decreases |
| B | The boiling temperature increases |
| C | The viscosity decreases |
| D | The color changes to purple |

26. Clutch drag is caused by:
- | | |
|---|---------------------------------|
| A | Too much clutch pedal free play |
| B | Slow clutch engagement |
| C | Disconnected cables |
| D | Less driver effort |

27. The master cylinder:
- | | |
|---|---|
| A | is the first engine cylinder |
| B | controls the filling of all the engine cylinders |
| C | acts directly on the brake shoes |
| D | is a unit which produces pressure in the braking system |

28. Why are the helical gears used commonly in transmission over spur gears?
- | | |
|---|-----------------------------------|
| A | Low cost and high strength |
| B | Low noise level and high strength |
| C | Low noise level and economy |
| D | Low noise level and low cost |

29. A type of a hydraulic systems pump is:
- | | |
|---|------------------|
| A | an electric pump |
| B | a diaphragm pump |
| C | a van pump |
| D | an air pump |

30. Even particles of dirt in hydraulic systems as small as 20μ can cause damage, 1 micron is:

A	One millionth of a metre
B	One tenth of a metre
C	One hundredth of a metre
D	One thousandth of a metre

31. Conical torque developed by a helical gear is called:

A	Helices
B	Conical distance
C	Conic
D	Couple

32. A LOBRO constant velocity joint is a:

A	Three- ball CV joint
B	Four- ball CV joint
C	Six- ball CV joint
D	Eight- ball CV joint

33. The part of the torque converter responsible for torque multiplication is:

A	Turbine
B	Stator
C	Impeller
D	Valves

34. An ABS truck output device is:

A	wheatstone bridge
B	wheel speed sensor
C	power supply
D	modulator assembly

35. An air control device in air suspension system air springs is:

A	height control valve
B	air pressure regulator
C	pressure protection valve
D	quick-release valve.

36. In the air-conditioning system the refrigerant is a low-pressure gas at:

A	the condenser outlet
B	the evaporator inlet
C	the evaporator outlet
D	the condenser inlet

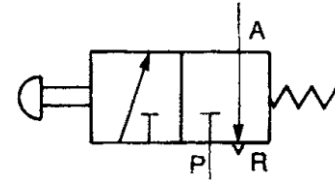
37. Epicyclic gear train components are composed of:

A	gear, planet gear and Annulus
B	Sun gear, planet carrier and Ring gear
C	Sun gear, shaft gear and Annulus
D	Sun gear, planet gear and pinion gear

38. A fifth wheel commonly used on highway tractors is:

A	fully oscillating
B	semi-oscillating
C	stabilized
D	elevating

39. The poppet valve symbol below is a:



A	2/2 poppet valve
B	3/2 poppet valve
C	4/2 poppet valve
D	Four-way spool valve

40. The conical distance composed of the distance between:

A	crown wheel and pinion
B	crown wheel and differential body
C	sun wheel and planet pinion
D	differential body and half shafts

41. Replace a leaking hydraulic brake line with a:

A	new steel tubing
B	double-flared seamless aluminum tubing
C	single-flared steel tubing
D	double-flared steel tubing

42. A cause of brass filings found in a manual transmission fluid can be:

A	loose main shaft bearings
B	loose countershaft bearings
C	worn blocker rings
D	broken input shaft gear teeth

43. A cause of a truck front tires feathered edge pattern wear can be:

A	an incorrect toe setting
B	an incorrect camber setting
C	an incorrect caster setting
D	an incorrect tire pressures

44. Discolored and unusual odor in an automatic transmission fluid could be caused by:

A	An overrunning engine governor.
B	An overheating transmission
C	An incorrect grade of fluid
D	An improper color additive

45. Wheels generally aligned to toe-in are:

A	in vehicles fitted with coil springs
B	in rear wheel drive vehicles
C	in vehicles equipped with a manual gearbox
D	in heavy duty vehicles

46. Suspension system support:

A	the unsprung weight
B	the total weight
C	the sprung weight
D	the overweight

47. A cause for a truck with manual transmission to slip at high gear can be:

A	Worn blocking rings
B	Too much main shaft end play
C	Broken synchronizer keys
D	Worn shifter interlocks

48. The angle affected if the tie rod ends wears is:

A	camber
B	toe
C	caster
D	SAI

49. Tire treads type recommended on steering axles for highway trucks are:

A	rib
B	radials only
C	lugs
D	bias ply only

50. An air brake system components that functions as a lever is:

A	the brake chamber
B	the rotor
C	the caliper
D	the slack adjuster

NOW GO BACK AND CHECK YOUR WORK