



EN32204 Training in Agricultural Machineries (Elective)

Paper info.	Theory (Part I) Number of Pages: 07	INSTRUCTIONS Answer all questions in Part A (MCQ) and B (Structured) Only non-programmable calculators are permitted. Each question has 5 answers in MCQ, indexed under (a), (b), (c), (d) and (e). Mark the correct answer by placing "√" for MCQ. Answer all questions of part B in the space provided. Mobile phones are NOT permitted.
Duration	1. ½ Hours	
Index No.		Date: July 23, 2026

EXAMINERS' USE ONLY:

Question Number	MCQ	Structured 01	Structured 02
First Examiner's Marks			
Second Examiner's Marks			

Part A- MCQ Type- Answer ALL Questions

- Which part transmits the PTO power of a four-wheel tractor to the rotovator?
 (a) Crankshaft (b) Clutch (c) Flywheel (d) Piston (e) Propeller shaft .
- Maintaining the correct tyre pressure is most critical for optimizing;
 (a) Brake system responsiveness (b) Fuel efficiency and tyre longevity
 (c) Engine cooling performance (d) Transmission operation (e) Hydraulic system pressure
- The FDS steering technology in the YH850 Combined Harvester is designed to:
 (a) Increase fuel efficiency (b) Improve tight turning in small spaces (c) Increase grain tank capacity
 (d) Lower engine RPM (e) Reduce vibration
- Power is transmitted from the engine to the gearbox of a two-wheel tractor through a: (a) Chain and Sprocket system (b) Helical spur gear (c) Straight spur gear
 (d) V-type belt and pulley system (e) Bevel gear system
- Why is diesel fuel preferred over gasoline in modern agricultural tractors?
 (a) Lower fuel cost per gallon (b) Higher thermal efficiency and torque characteristics at low RPM
 (c) Easier cold-weather starting (d) Lower emissions (e) A Simpler fuel injection system
- The Hydraulic Power output of a four-wheel tractor can be used for?
 (a) Driving the tractor forward (b) Operating implements such as rotavators (c) Cooling the engine
 (d) Unloading the tractor trailers (e) Accelerating the tractor
- Which part of the tractor transmits engine power to the wheels?
 (a) Differential (b) Radiator (c) Steering gear (d) Air filter (e) PTO shaft
- The wide crawler tracks of the YH850 Harvester mainly improve:
 (a) Engine cooling (b) Grain quality (c) Cutting Speed (d) Steering (e) Performance in muddy fields
- The recommended engine oil type for the Kubota K75 power tiller is:
 (a) S.A.E. 30 or 40 (b) S.A.E. 50 or 60 (c) S.A.E. 60 or 70 (d) S.A.E. 70 or 80 (e) S.A.E. 90 or 120

10. Decompression lever internally connected to the..... in a two-wheel tractor engine.
 (a) Intake valve (b) Injector pump (c) Throttle lever (d) Exhaust valve (e) Steering clutch lever
11. What is the key advantage of using a combined harvester over traditional manual harvesting methods?
 (a) Lower initial cost (b) Greater precision in crop selection (c) Increased harvesting speed and efficiency
 (d) Reduced maintenance requirements (e) Increased attractiveness of harvesting operations
12. The grain tank of a combine harvester is used to:
 (a) process the grain (b) store harvested grain until it is unloaded
 (c) control the harvesting speed (d) apply fertilizer to the crop (e) measure the weight of grains
13. Which of the following is not a component of a four-wheel diesel tractor?
 (a) Oil filter (b) fuel filter (c) Exhaust pipe (d) PTO shaft (e) Spark plug
14. What is the primary purpose of cage wheels on a tractor?
 (a) Increasing fuel efficiency (b) Improving traction (c) Increasing the tractor's maximum speed
 (d) Reducing soil compaction (e) Improving the operator's visibility
15. What may happen if the air cleaner of a two-wheel tractor is not properly maintained?
 (a) Improved exhaust emissions (b) Reduced engine performance and possible engine damage
 (c) Improved fuel efficiency (d) Increased engine power (e) Increased PTO power
16. Which of the following is a **four-wheel** tractor-operated primary tillage implement?
 (a) Leveling Board. (b) Spike tooth harrow (c) Japanese reversible mouldboard plough
 (d) Disk plough (e) Ridger
17. What are the most common types of tyres used on a four-wheel tractor?
 (a) Smooth tires (b) Treadless tires (c) Off-road tires with deep treads/lugs
 (d) Retractable wheels (e) Lug-less tire
18. Which of the following is a **two-wheel** tractor-operated secondary tillage implement?
 (a) Disk harrow (b)Tine Tiller (c) Blade harrow (d) Japanese reversible mouldboard plough
 (e) Hole digger
19. Which part of the tractor is typically responsible for driving the PTO shaft?;
 (a) The air cleaners (b) The exhaust system (c) The transmission or engine
 (d) The hydraulic system (e) The brake system
20. What is the primary purpose of a tractor's PTO shaft?
 (a) To steer the tractor (b) To regulate fuel consumption (c) To assist the brake system
 (d) To control the tractor's speed (e) To provide power to attached implements
21. The recommended gearbox oil type for the Kubota K75 power tiller is:
 (a) S.A.E. 30 (b) S.A.E. 40 (c) S.A.E. 60 (d) S.A.E. 90 (e) S.A.E. 10
22. What is the primary advantage of a track system on a combined harvester compared with a traditional wheel-based systems?
 (a) Improved fuel efficiency. (b) Reduced soil compaction and increased traction.
 (c) Higher speed. (d) Lower maintenance costs. (e) Lower operating costs.
23. How many cylinders are there in the engine of the Kubota K75 two-wheel tractor?
 (a) 1 (b) 2 (c) 3 (d) 4 (e) 5

24. What is the primary function of a tractor's drawbar hitch?

- (a) To provide a connection point for towing and pulling implements
- (b) To control the tractor's steering
- (c) To provide seating for additional passengers
- (d) To increase fuel efficiency
- (e) To increase the efficiency of air intake system

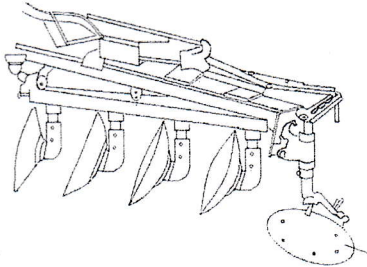
25. The primary purpose of greasing the tractor's various joints and fittings during maintenance would be.

- (a) Make them look cleaner
- (b) Eliminate sounds
- (c) Reduce friction and prevent wear
- (d) Increase the ability of fixing implements
- (e) Increase the tractor's appearance

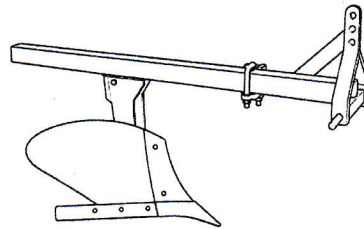
Part B- Structured Type – Answer ALL Questions

1. (a) Write the names & functions of the given four-wheel tractor operated implements.

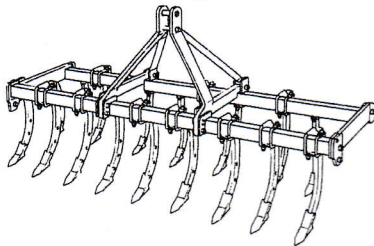
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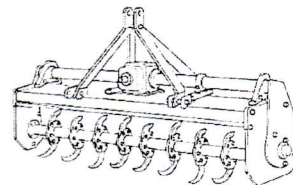
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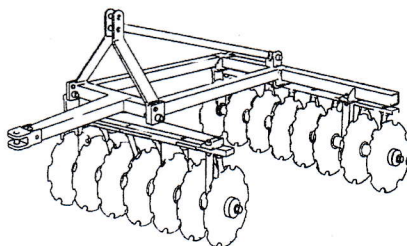
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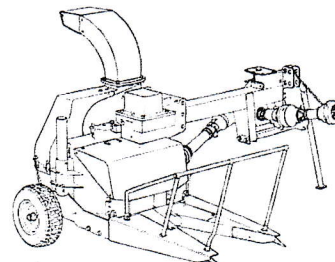
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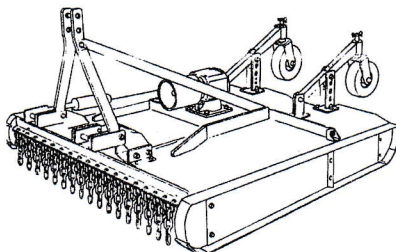
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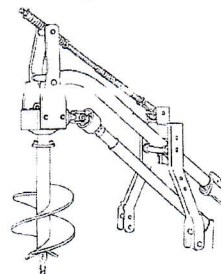
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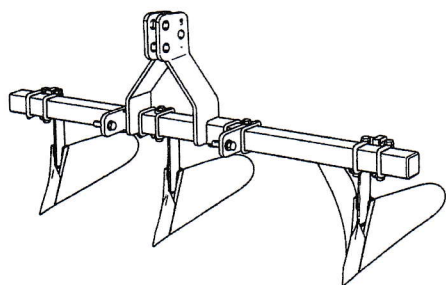
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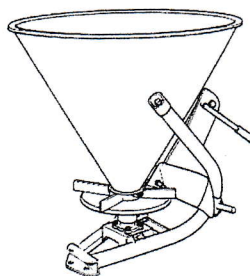
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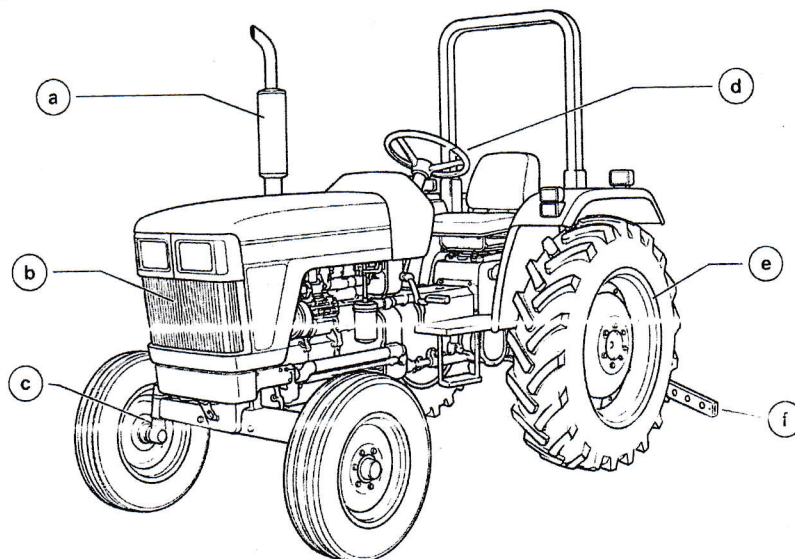


j

	Name of the component	Function
a		
b		
c		
d		
e		
f		
g		
h		
i		
j		

(b) Name the given parts of the four-wheel tractor and write their functions.

(30 marks)



Name	Function
a-	
b-	

c-	
d-	
e-	
f-	

(c) Mention 5 fuel saving practices for operating a four-wheel tractor.

(15 marks)

- i.
- ii.
- iii.
- iv.
- v.

(d) What safety precautions should be considered when operating a four-wheel tractor?

(15 marks)

- i.
- ii.
- iii.
- iv.
- v.

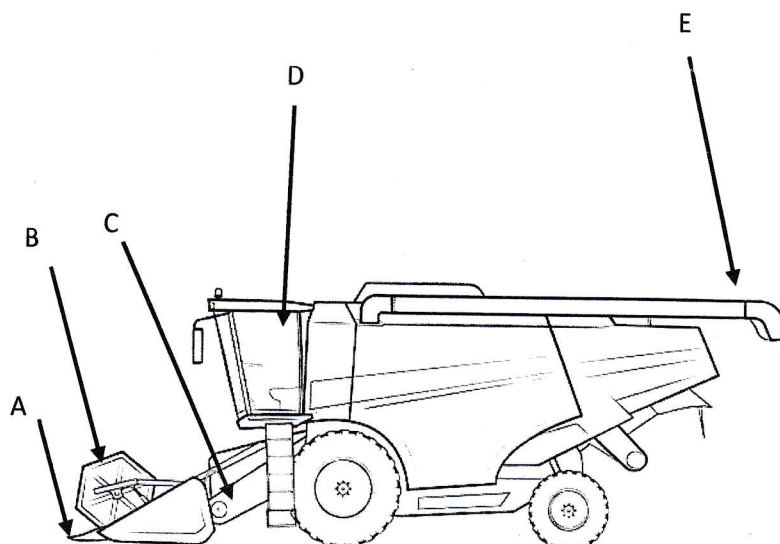
(e) Name five precautions that should be followed when starting a tractor?

(10 marks)

- i.
- ii.
- iii.
- iv.
- v.

02. (a) Write the functions of the components labeled A, B, C, D, and E in the combined harvester.

(20 Marks)



A -

B -

C -

D -

E -

(b) Explain the construction and performance characteristics of air cleaners used in two-wheel tractor engines. **(15 Marks)**

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(c) Explain the importance of the steering clutch levers in a two-wheel tractor. **(10 Marks)**

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(d) Using an appropriate sketch, briefly explain the functional parts of a Japanese reversible mould board plough. **(25 Marks)**

(e) List the p equipment that can be operated using the Three Point Linkage of a four-wheel tractor. (06 Marks)

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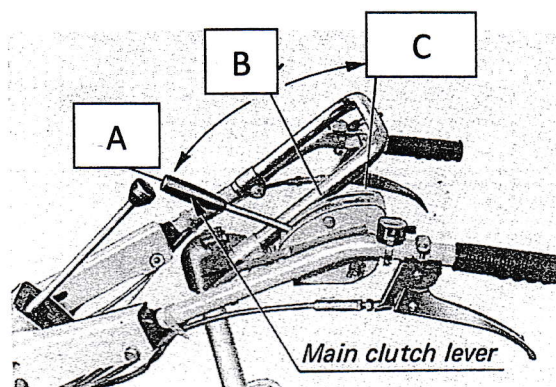
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(f) The following Figure illustrates three positions of the Main Clutch Lever of a two-wheel tractor. Briefly explain each lever position A, B, and C. (24 Marks)



A-

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B-

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C-

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