

Name: _____ **Hall Ticket No.**

					A				
--	--	--	--	--	---	--	--	--	--

Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. A reciprocating compressor is []

a) A positive displacement machine b) A negative displacement machine
c) A dynamic action machine d) None of the above
2. Multistage compression in a reciprocating air compressor improves []

a) isothermal efficiency b) volumetric efficiency
c) mechanical balance d) all of the above
3. Ideal intermediate pressure P2 for two stage reciprocating air compressor is given by []

a) $p_1 \times p_3$ b) $\sqrt{p_1 \times p_3}$ c) $\sqrt{p_3 / p_1}$ d) $\sqrt{p_1 / p_3}$
4. The work input to air compressor is minimum if the compression law is followed by []

a) $pv^{1.35} = C$ b) isothermal $pv = C$ c) isentropic $pv^\gamma = C$ d) $pv^{1.2} = C$
5. For reciprocating air compressor the law of compression is isothermal and that may be possible by []

a) Very low speeds b) very high speeds
c) any speed as speed does not affect the compression law d) none of the above
6. In reciprocating air compressor the clearance ratio is []

a) Total volume of cylinder /clearance volume b) Swept volume of cylinder /clearance volume
c) Clearance volume /swept volume of cylinder d) Clearance volume/total volume of cylinder
7. Mechanical efficiency of reciprocating air compressor is expressed as []

a) B.P/I.P b) I.P/B.P c) F.P/B.P d) F.P/I.P
8. The efficiency of vane type air compressor as compared to roots air compressor for the same pressur ratio is []

a) more b) less c) same d) may be more or less
9. In reciprocating air compressor the method of controlling the quantity of air delivered is done by []

a) throttle control b) blow off control c) clearance control d) all of the above
10. Work input to the air compressor with ‘n’ as index of compression []

a) increases with increase in value of ‘n’ b) decreases with increase in value of ‘n’
c) remains same whatever the value of ‘n’
d) first increases and then decreases with increase of value of ‘n.’

II Fill in the blanks:

11. The power produced inside the engine cylinder is called _____
12. Relative efficiency=_____
13. The ratio of brake power to indicated power is called _____
14. The equation for work done in a single stage reciprocating compressor _____
15. _____ is defined as the ratio of actual whirl component to ideal whirl component.
16. The volumetric efficiency of a single stage compressor is η_{vol} =_____.
17. Work done in case of isothermal compression is _____
18. As the value of index of compression 'n' increases ,the work done in compressing air _____
19. The ratio of static pressure rise in impeller to the total static pressure rise in the compressor is _____
20. The ratio of isentropic work to Euler work is _____

-oOo-

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**II B.Tech. II Sem., II Mid-Term Examinations, April – 2014****APPLIED THERMODYNAMICS - I****Objective Exam**Name: _____ Hall Ticket No.

						A			
--	--	--	--	--	--	---	--	--	--

Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**I Choose the correct alternative:**

1. The work input to air compressor is minimum if the compression law is followed by
 a) $p v^{1.35} = C$ b) isothermal $p v = C$ c) isentropic $p v^{\gamma} = C$ d) $p v^{1.2} = C$ []
2. For reciprocating air compressor the law of compression is isothermal and that may be possible by
 a) Very low speeds b) very high speeds
 c) any speed as speed does not affect the compression law d) none of the above []
3. In reciprocating air compressor the clearance ratio is []
 a) Total volume of cylinder /clearance volume b) Swept volume of cylinder /clearance volume
 c) Clearance volume /swept volume of cylinder d) Clearance volume/total volume of cylinder
4. Mechanical efficiency of reciprocating air compressor is expressed as []
 a) B.P/I.P b) I.P/B.P c) F.P/B.P d) F.P/I.P
5. The efficiency of vane type air compressor as compared to roots air compressor for the same pressure ratio is []
 a) more b) less c) same d) may be more or less
6. In reciprocating air compressor the method of controlling the quantity of air delivered is done by
 a) throttle control b) blow off control c) clearance control d) all of the above []
7. Work input to the air compressor with 'n' as index of compression []
 a) increases with increase in value of 'n' b) decreases with increase in value of 'n'
 c) remains same whatever the value of 'n'
 d) first increases and then decreases with increase of value of 'n'.
8. A reciprocating compressor is []
 a) A positive displacement machine b) A negative displacement machine
 c) A dynamic action machine d) None of the above
9. Multistage compression in a reciprocating air compressor improves []
 a) isothermal efficiency b) volumetric efficiency
 c) mechanical balance d) all of the above
10. Ideal intermediate pressure P_2 for two stage reciprocating air compressor is given by []
 a) $p_1 \times p_3$ b) $\sqrt{p_1 \times p_3}$ c) $\sqrt{p_3 / p_1}$ d) $\sqrt{p_1 / p_3}$

II Fill in the blanks:

11. The equation for work done in a single stage reciprocating compressor _____
12. _____ is defined as the ratio of actual whirl component to ideal whirl component.
13. The volumetric efficiency of a single stage compressor is $\eta_{vol} =$ _____.
14. Work done in case of isothermal compression is _____
15. As the value of index of compression 'n' increases, the work done in compressing air _____
16. The ratio of static pressure rise in impeller to the total static pressure rise in the compressor is _____
17. The ratio of isentropic work to Euler work is _____
18. The power produced inside the engine cylinder is called _____
19. Relative efficiency = _____
20. The ratio of brake power to indicated power is called _____

-oOo-

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**II B.Tech. II Sem., II Mid-Term Examinations, April – 2014****APPLIED THERMODYNAMICS - I****Objective Exam**

Name: _____ Hall Ticket No.

					A				
--	--	--	--	--	---	--	--	--	--

Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**I Choose the correct alternative:**

- In reciprocating air compressor the clearance ratio is []
 a) Total volume of cylinder /clearance volume b) Swept volume of cylinder /clearance volume
 c) Clearance volume /swept volume of cylinder d) Clearance volume/total volume of cylinder
- Mechanical efficiency of reciprocating air compressor is expressed as []
 a) B.P/I.P b) I.P/B.P c) F.P/B.P d) F.P/I.P
- The efficiency of vane type air compressor as compared to roots air compressor for the same pressure ratio is []
 a) more b) less c) same d) may be more or less
- In reciprocating air compressor the method of controlling the quantity of air delivered is done by []
 a) throttle control b) blow off control c) clearance control d) all of the above
- Work input to the air compressor with 'n' as index of compression []
 a) increases with increase in value of 'n' b) decreases with increase in value of 'n'
 c) remains same whatever the value of 'n' d) first increases and then decreases with increase of value of 'n'.
- A reciprocating compressor is []
 a) A positive displacement machine b) A negative displacement machine
 c) A dynamic action machine d) None of the above
- Multistage compression in a reciprocating air compressor improves []
 a) isothermal efficiency b) volumetric efficiency
 c) mechanical balance d) all of the above
- Ideal intermediate pressure P_2 for two stage reciprocating air compressor is given by []
 a) $p_1 \times p_3$ b) $\sqrt{p_1 \times p_3}$ c) $\sqrt{p_3 / p_1}$ d) $\sqrt{p_1 / p_3}$
- The work input to air compressor is minimum if the compression law is followed by []
 a) $p v^{1.35} = C$ b) isothermal $p v = C$ c) isentropic $p v^\gamma = C$ d) $p v^{1.2} = C$
- For reciprocating air compressor the law of compression is isothermal and that may be possible by []
 a) Very low speeds b) very high speeds
 c) any speed as speed does not affect the compression law d) none of the above

II Fill in the blanks:

11. The volumetric efficiency of a single stage compressor is $\eta_{vol} =$ _____.
12. Work done in case of isothermal compression is _____
13. As the value of index of compression 'n' increases ,the work done in compressing air _____
14. The ratio of static pressure rise in impeller to the total static pressure rise in the compressor is _____
15. The ratio of isentropic work to Euler work is _____
16. The power produced inside the engine cylinder is called _____
17. Relative efficiency=_____
18. The ratio of brake power to indicated power is called _____
19. The equation for work done in a single stage reciprocating compressor _____
20. _____ is defined as the ratio of actual whirl component to ideal whirl component.

-oOo-

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**II B.Tech. II Sem., II Mid-Term Examinations, April – 2014****APPLIED THERMODYNAMICS - I****Objective Exam**Name: _____ Hall Ticket No.

						A			
--	--	--	--	--	--	---	--	--	--

Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**I Choose the correct alternative:**

1. The efficiency of vane type air compressor as compared to roots air compressor for the same pressure ratio is []
a) more b) less c) same d) may be more or less
2. In reciprocating air compressor the method of controlling the quantity of air delivered is done by
a) throttle control b) blow off control c) clearance control d) all of the above []
3. Work input to the air compressor with 'n' as index of compression []
a) increases with increase in value of 'n' b) decreases with increase in value of 'n'
c) remains same whatever the value of 'n'
d) first increases and then decreases with increase of value of 'n'.
4. A reciprocating compressor is []
a) A positive displacement machine b) A negative displacement machine
c) A dynamic action machine d) None of the above
5. Multistage compression in a reciprocating air compressor improves []
a) isothermal efficiency b) volumetric efficiency
c) mechanical balance d) all of the above
6. Ideal intermediate pressure P_2 for two stage reciprocating air compressor is given by []
a) $p_1 \times p_3$ b) $\sqrt{p_1 \times p_3}$ c) $\sqrt{p_3 / p_1}$ d) $\sqrt{p_1 / p_3}$
7. The work input to air compressor is minimum if the compression law is followed by
a) $p v^{1.35} = C$ b) isothermal $p v = C$ c) isentropic $p v^\gamma = C$ d) $p v^{1.2} = C$ []
8. For reciprocating air compressor the law of compression is isothermal and that may be possible by []
a) Very low speeds b) very high speeds
c) any speed as speed does not affect the compression law d) none of the above
9. In reciprocating air compressor the clearance ratio is []
a) Total volume of cylinder / clearance volume b) Swept volume of cylinder / clearance volume
c) Clearance volume / swept volume of cylinder d) Clearance volume / total volume of cylinder
10. Mechanical efficiency of reciprocating air compressor is expressed as []
a) B.P/I.P b) I.P/B.P c) F.P/B.P d) F.P/I.P

II Fill in the blanks:

11. As the value of index of compression 'n' increases ,the work done in compressing air_____
12. The ratio of static pressure rise in impeller to the total static pressure rise in the compressor is _____
13. The ratio of isentropic work to Euler work is _____
14. The power produced inside the engine cylinder is called _____
15. Relative efficiency=_____
16. The ratio of brake power to indicated power is called _____
17. The equation for work done in a single stage reciprocating compressor _____
18. _____ is defined as the ratio of actual whirl component to ideal whirl component.
19. The volumetric efficiency of a single stage compressor is η_{vol} =_____.
20. Work done in case of isothermal compression is _____

-oOo-