

**FIRST YEAR KGCE EXAMINATION IN REFRIGERATION
AND AIR CONDITIONING REFRIGERATION AND AIR
CONDITIONING-I (TRADE THEORY)**

MODEL QUESTION PAPER SET-1

(Time: 3 hours)

(Maximum Marks:60)

PART-A

(There should be at least 3 questions from each module)

(MaximumMarks:20x1 Marks = 20 Marks)

I. Answer the following questions by choosing the correct answer from the options given below.

Each question carries 1 mark.

Q No	Question	Module
1	The least count of a steel rule is (A) 0.02 mm (B) 1.0 mm (C) 0.5 mm (D) 0.01 mm	M 1.1
2	The process of enlarging and finishing a previously drilled hole is called (A) Counter boring (B) Countersinking (C) Reaming (D) Boring	M 1.1
3	What is the toll used to remove the slag from the welding? (A) Tongue (B) Chipping Hammer (C) Cross-peen hammer (D) Ball-peen hammer	M 1.3
4	What is the total resistance if two resistors R1 and R2 are connected in series (A) (R1- R2) Ω (B) (R1+ R2) Ω 9C) (R1/R2) Ω (D) (R1X R2) Ω	M 1.2
5	According to Ohm's law R = : (A) V.I (B) I/V (C) I2.V (D) V/I	M 1.2
6	One tonne of refrigeration is equal to: (A) 21 KJ/min (B) 210 KJ/min (C) 420 KJ/ min (D) 620 KJ/min	M 2.1
7	What is the limitation for DOL starters in package AC? (A) Up to 3 HP (B) Up to 5 HP (C) Up to 8 HP (D) Up to 10 HP	M 2.2
8	. A compressor coupled to a motor externally is called : (A) Sealed compressor (B) Semi-sealed compressor (C) Open type compressor (D) None of the above	M 2.2
9	To test for a suspected large refrigerant leak from a refrigeration system in an enclosed area, you should.....	M 2.1

	(A) Apply liquid ammonia to the suspected leak (B) Apply a soap solution to the area of the suspected leak (C) A halide leak detector to all piping joints (D) Apply a hydrostatic test with water	
10	Before charging a refrigeration unit, the refrigerant charging lines should be (A) flushed with clean refrigerant oil (B) purged with the refrigerant (C) washed with an ammonia and alcohol solution (D) grounded to the compressor	M 2.1
11	The bank of tubes at a domestic refrigerator's back side is known as: (A) Evaporator tubes (B) Condenser tubes (C) Capillary tubes (D) Refrigerant cooling tubes	M 3.1
12	The heart of vapour compression refrigeration system is: (A) Liquid receiver (B) Condenser (C) Evaporator (D) Compressor	M 3.1
13	In a refrigeration system, the expansion device is connected between the (A) Compressor and condenser (B) Condenser and receiver (C) Receiver and evaporator (D) Evaporator and compressor	M 3.1
14	The purpose of a filter drier is to remove: (A) Oil (B) Moisture (C) Gaskets (D) Sludge	M 3.1
15	A water cooler is uses the refrigerant (A) R 22 (B) R 717 (C) R 21 (D) R 134	M 3.2
16	Colour code of ammonia refrigerant cylinder : (A) Light blue (B) Light green (C) Orange (D) Silver	M 3.2
17	A cooling tower brings water temperature to..... (A) WBT (B) DBT (C) DPT (D) Ambient WBT	M 4.1
18	In traditional Refrigerators in home appliances, what is the type of condenser used? (A) Natural convection type (B) Forced convection type (C) Furnace Type (D) Rotary condensers	M 4.1
19	Most important property of a lubricant is (A) Emulsification(B) Pour point (C) Viscosity(D) Flash point	M 4.1
20	Expansion process in the expansion valve is (A) free expansion (B) Throttling (C) Isotropic(D) None	M 4.1

PART-B

(There should be at least 2 questions from each module)

(MaximumMarks: 8x5 Marks = 40 Marks)

II. Answer *any eight* questions from the following. Each question carries marks.5 Marks.

Q No	Question	Module
1	Differentiate between drilling and reaming.	M 1.1
2	Compare star delta connections.	M 1.2
3	What are the main components of gas welding?	M 1.3
4	Write important components of refrigerator.	M 2.1
5	List different types of compressors	M 2.2
6	How to identify the terminals (CSR) of a compressor.	M 2.2
7	Write the importance of evaporator in refrigeration system	M 3.1
8	List the importance of thermal insulation and what are the materials used for thermal insulation.	M 3.2
9	Explain the working of water cooled chillers	M 3.2
10	Explain the procedure to carry out servicing and retrofit of water cooler	M 4.1
11	Explain water treatment process	M 4.1
12	List different types of expansion valve and its function	M 4.1