

MECHANICAL

1.

Which among the following have the same forces acting on them?

(A)

Dynamic similarity

(B)

Geometric similarity

(C)

Conditional similarity

(D)

Kinematic similarity

Ans:: Dynamic similarity

2.

Pipes of largest diameter which carry water from reservoir to the turbines is known as _____

(A)

Head stock

(B)

Tail race

(C)

Tail stock

(D)

Pen stock

Ans:: Pen stock

3.

In a Simple Vertical boiler, two cross tubes are provided with the fire box. Which of the following statement about the orientation of these tubes is correct?

(A)

Both of them are vertical

(B)

Both of them are horizontal

(C)

Both of them are inclined

(D)

One is horizontal and the other one is vertical

Ans:: Both of them are inclined

4.

What is the mixture of Gasohol?

(A)

90% ethanol + 10% gasoline

(B)

10% ethanol + 90% gasoline

(C)

40% ethanol + 60% gasoline

(D)

50% ethanol + 50% gasoline

Ans:: 10% ethanol + 90% gasoline

5.

Which type of job, does the scroll perform in three jaw chuck?

(A)

only clamps a component in place

(B)

locates the component

(C)

clamps a component in place and locates the component

(D)

none of all mentioned

Ans:: clamps a component in place and locates the component

6

Straddle milling can be performed more effectively by _____ milling machine.

(A)

horizontal

(B)

vertical

(C)

Series

(D)

Parallel

Ans:: horizontal

7. Which of the following can be used as job holding device in slotting machine?

(A)

Cross rail

(B)

Column

(C)

Ram

(D)

Vice

Ans:: Vice

8.

Paving is also known as _____

(A)

Floor covering

(B)

Sub floor

(C)

Sub grade

(D)

Wearing course

Ans:: Floor covering

9.

_____ attached to a Framework suspended from the main structure.

- (A)
Cantering
- (B)
Shuttering
- (C)
Bracing
- (D)
Ceiling

Ans:: Ceiling

10.
In an experiment, the bulk modulus of elasticity of a material is twice its modulus of rigidity.
The Poissons ratio of the material is _____

- (A)
1/7
- (B)
2/7
- (C)
3/7
- (D)
4/7

Ans:: 2/7

11.
Which of the following mechanism is an approximately straight-line motion mechanism?

- (A)
Hart's mechanism
- (B)
Watt's mechanism
- (C)
Scott Russell's mechanism
- (D)
Peaucellier mechanism

Ans:: Watt's mechanism

12.

What is model testing?

a)

Overall testing

b)

Function testing

c)

Partial testing

d)

Performance testing

Ans:: Partial testing

13.

The compressible flow is assumed to be _____

a)

Adiabatic only

b)

Isentropic only

c)

Isentropic and adiabatic

d)

Polytropic

Ans:: Isentropic and adiabatic

14.

The source term in the momentum equation is _____

(A)

Pressure force

(B)

Body forces

(C)

Viscous force

(D)

Acceleration

Ans:: Body forces

15.

In Automobile, what does SUV stand for?

(A)

Sport Utility Vehicle

(B)

Sub-urban Utility Vehicles

(C)

Short Urban Vehicles

(D)

Super Utility Vehicles

Ans:: Sport Utility Vehicle

16.

The relation between pressure and velocity in an inviscid, incompressible flow is given by

(A)

$p = \text{constant}$

(B)

$p + 0.5\rho * V^2 = \text{constant}$

(C)

$0.5\rho * V^2 = 0$

(D)

$p + 0.5\rho * V^2 = 0$

Ans:: $p + 0.5\rho * V^2 = \text{constant}$

17.

Fuel injection in an SI engine _____ volumetric efficiency.

(A)

increases

(B)

decreases

(C)

maintains constant

(D)

Maintains the constant equipments

Ans:: increases

18.

The pressure of supercharger used is _____

(A)

1.0 to 1.3 bar

(B)

1.2 to 1.4 bar

(C)

1.3 to 1.5 bar

(D)

1.3 to 1.9 bar

Ans:: 1.3 to 1.5 bar

19.

In which of the following, smoke is produced maximum?

(A)

Solid fuel

(B)

Liquid fuel

(C)

Gaseous fuel

(D)

Coal gas

Ans:: Solid fuel

20.

Which of the following fuel does not requires excess air for its combustion?

(A)

Coal

(B)

Cow-dunk cake

(C)

Diesel

(D)

Charcoal

Ans:: Diesel

21.

What is the percentage at which rated power from biogas in petrol engine can be developed?

(A)

45%

(B)

65%

(C)

75%

(D)

85%

Ans:: 85%

22.

If petrol is used in a diesel engine, then _____

(A)

low power will be produced

(B)

efficiency will be low

(C)

higher knocking will occur

(D)

black smoke will be produced

Ans:: higher knocking will occur

23.

Select the incorrect statement from the following option.

- (A)
Lubricant keeps out dirt
- (B)
Lubricant act as a seal
- (C)
Lubricant transmit fluid power
- (D)
Lubricant enhance corrosion

Ans:: Lubricant enhance corrosion

24.

Industrial safety management is that branch of management which is concerned with _____ hazards from the industries.

- (A)
Cutting
- (B)
Shaping
- (C)
joining
- (D)
Controlling

Ans:: Controlling

25.

Buying according to the requirements is called _____

- (A)
Seasonal Buying
- (B)
Hand to mouth buying
- (C)
Scheduled Buying
- (D)

Tender Buying

Ans: Hand to mouth buying

26.

Acceptance sampling is used in

(A)

control production

(B)

main production

(C)

less production

(D)

Mass production

Ans:: less production

27.

Which of the following alloying element increase hardness?

(A)

Silicon

(B)

Sulphur

(C)

Nickel

(D)

Titanium

Ans:: Sulphur

28.

Eutectoid steel is heated at _____

(A)

150°C

(B)

450°C

(C)

750°C

(D)

950°C

Ans:: 750°C

29.

For Brinell hardness test _____ is kept constant.

(A)

P

(B)

P/D

(C)

P*D

(D)

P/D².

Ans: P/D².

30.

what is the solidus temperature of tin-lead solders?

(A)

183

(B)

297

(C)

444

(D)

604

Ans:: 183

31.

How does the arc voltage V depends upon the length of arc L?

(A)

$$V = f(L)$$

(B)

$$V = 1/f(L)$$

(C)

$$V = f(L^2)$$

(D)

$$V = f(\sqrt{L})$$

Ans:: $V = f(L)$

32.

what temperature, does fusion welding takes place?

(A)

850°C

(B)

900°C

(C)

950°C

(D)

1000°C

Ans:: 900°C

33.

The function of high frequency unit is in TIG welding

(A)

start the Arc

(B)

increase in Arc Voltage

(C)

increase in Voltage

(D)

to keep the current constant

Ans:: start the Arc

34.

The contact tip in MIG welding, normally made of

(A)

Iron

(B)

Aluminium

(C)

Copper

(D)

Zinc

Ans:: Copper

35.

In a reciprocating steam engine, which of the following forms a kinematic link?

(A)

cylinder and piston

(B)

piston and connecting rod

(C)

crankshaft and flywheel

(D)

flywheel and engine frame

Ans:: crankshaft and flywheel

36.

Which of the following is the result of a reduction in operating pressure in the Air refrigeration cycle?

(A)

decrease in C.O.P.

(B)

always decreases

(C)

increase in C.O.P.

(D)

no change in C.O.P.

Ans:: increase in C.O.P.

37.

What is the alternate name for thermodynamic wet-bulb temperature?

(A)

Isobaric WBT

(B)

Isobaric Saturation Temperature

(C)

Adiabatic WBT

(D)

Adiabatic Saturation Temperature

Ans:: Adiabatic Saturation Temperature

38.

What is worm lead in worm and worm gear?

(A)

$N_w \times 2p_x$

(B)

$N_w \times 4p_x$

(C)

$N_w \times p_x$

(D)

N_w / p_x

Ans:: $N_w \times p_x$

39.

How are systematic errors removed usually for an instrument?

(A)

By replacing it

(B)

By re-calibrating it

(C)

By using a repairing service

(D)

By not using it for some time

Ans:: By re-calibrating it

40.

Which is the latest ISO 9001 version in the ISO 9000 family?

(A)

ISO 9001:1994

(B)

ISO 9001:2000

(C)

ISO 9001:2008

(D)

ISO 9001:2015

Ans:: ISO 9001:2015

GENERAL INTELLIGENCE AND REASONING

41.

Pointing to a man in the photograph a woman said, "He is the son of the only son of my grandfather." How the man in the photograph is related to that woman?

(A)

Grandfather

(B)

Father

(C)

Brother

(D)

Insufficient data

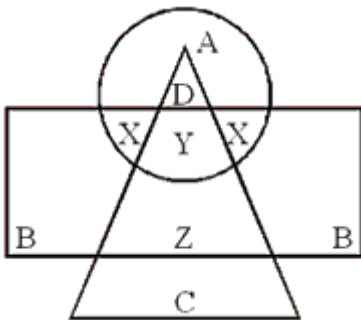
Ans:: Brother

42.
Pointing to a woman, Naman said, "She is the daughter of the only child of my grandmother."
"How is the woman related to Naman?"

- (A)
Sister
- (B)
Niece
- (C)
Cousin
- (D)
Data inadequate

Ans:: Sister

43.
In the following diagram, the circle represents College Professors, the triangle stands for Surgical Specialists, and Medical Specialists are represented by the rectangle.



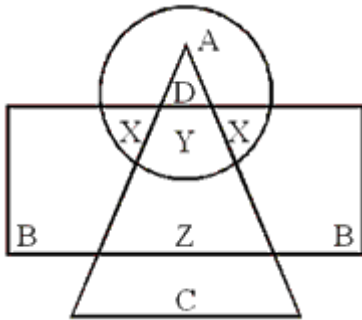
College Professors who are also Surgical Specialists are represented by

- (A)
A
- (B)
B
- (C)
C
- (D)
D

Ans:: D

44.

In the following diagram, the circle represents College Professors, the triangle stands for Surgical Specialists, and Medical Specialists are represented by the rectangle.



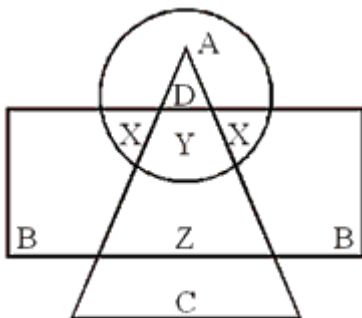
Surgical Specialists who are also Medical Specialists but not Professors are represented by

- (A)
- B
- (B)
- X
- (C)
- Y
- (D)
- Z

Ans:: Z

45.

In the following diagram, the circle represents College Professors, the triangle stands for Surgical Specialists, and Medical Specialists are represented by the rectangle.



C represents

- (A)
- Medical Specialists
- (B)
- College Professors
- (C)

Surgical Specialists

(D)

Medical and Surgical Specialists

Ans:: College Professors

46.

In each of the questions below are given four statements followed by four conclusions numbered I, II, III and IV, You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Question:

Statements: All chairs are tables. All tables are songs. Some songs are rhythms. Some rhythms are pillows.

Conclusions: I. Some tables are chairs. II. All tables are rhythms. III. All chairs are songs. IV. Some pillows are songs.

(A)

Only I and III follow

(B)

Only I and IV follow

(C)

Only I follow

(D)

Only III follows

Ans:: Only I and III follow

47.

P, Q, R, S, T, V and W are sitting around a circle facing at the centre. V is second to the left of P and second to the right of W. T is third to the right of Q and is not an immediate neighbour of V. S is third to the right of R.

Question: Who is to the immediate left of S?

(A)

V
(B)
T
(C)
Q
(D)
W

Ans:: W

48.

A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 15 days, and C alone in 30 days, in what time could B alone do it?

(A)
40 days
(B)
60 days
(C)
45 days
(D)
35 days

Ans:: 60 days

49.

Which is different from rest three?

(A)
Mountain
(B)
Plateau
(C)
Valley
(D)
Peak

Ans:: Mountain

50.

Find the odd word

(A)

Room

(B)

Chamber

(C)

Veranda

(D)

Cabin

Ans:: Veranda

GENERAL AWARENESS

51.

The Mahayana text belongs to which religion

(A)

Jainism

(B)

Sikhism

(C)

Buddhism

(D)

Christian

Ans:: Buddhism

52.

Who is the king of wealth?

(A)

Agni

(B)

Vayu

(C)

Indra

(D)

Kubera

Ans:: Kubera

53.

The view that moral development is directed towards a specific goal is _____.

- (A)
universalistic
- (B)
teleological
- (C)
Legal
- (D)
all these

Ans:: teleological

54.

A / an _____ is a tendency on the part of an individual to respond to a new problem in the same manner that he or she has used earlier to solve a problem.

- (A)
mental set
- (B)
Aptitude
- (C)
skill
- (D)
Ability

Ans:: mental set

55.

Which of the following Union Territories have Rajya Sabha members?

1. Delhi
2. Puducherry
3. Lakshadweep
4. Andaman & Nicobar Islands

Select the correct option from the codes given below:

- (A)
1 only
- (B)
1 & 2
- (C)
1, 2 & 3
- (D)
1, 2, 3 & 4

Ans:: 1 & 2

56.
Which state government will launch a unique programme “Ammaku Vandaman” in schools to pay tribute to mothers?

- (A)
Karnataka
- (B)
Andhra Pradesh
- (C)
Kerala
- (D)
Tamil Nadu

Ans:: Andhra Pradesh

57.
'International Health Regulations' are associated with which institution?

- (A)
UNICEF
- (B)
NITI Aayog
- (C)
WHO
- (D)
Johns Hopkins University

Ans:: WHO

58.

The anti-ship version of which missile was recently test-fired by the Indian Navy in the Andaman and Nicobar Islands territory?

(A)

BrahMos supersonic cruise missile

(B)

Shaurya missile

(C)

Prithvi missile

(D)

Indra missile

Ans:: BrahMos supersonic cruise missile

59.

Who took charge as the Commander-in-Chief of Andaman & Nicobar Command?

(A)

Sam Manekshaw

(B)

Podali Shankar Rajeshwar

(C)

Bipin Rawat

(D)

Amarjeet Singh Bedi

Ans:: Podali Shankar Rajeshwar

60.

Which of the following is the only active volcano not just in India but the whole of South Asia?

(A)

Havelock Island

(B)

Great Nicobar
(C)
North Sentinel Island
(D)
Barren Island

Ans:: Great Nicobar

MECHANICAL

61.

The ratio of volume available at shaft of turbine and power supplied at the inlet of the turbine

- a)
Mechanical efficiency
- b)
Volumetric efficiency
- c)
Hydraulic efficiency
- d)
Overall efficiency

Ans:: Overall efficiency

62.

What is the steam capacity of a Cornish boiler?

- a)
5500 kg/hr
- b)
6500 kg/hr
- c)
7500 kg/hr
- d)
8500 kg/hr

Ans:: 6500 kg/hr

63.

Which of the following is NOT a valid classification of boilers?

a)

Forced circulation and natural circulation

b)

High pressure and low pressure

c)

Stationary and Portable

d)

Single fired and double fired

Ans:: Single fired and double fired

64.

Ignition quality of petrol is expressed by?

a)

octane number

b)

calorific value

c)

self-ignition temperature

d)

cetane number

Ans:: octane number

65.

Which of the following is not the type of lathe chuck?

a)

combination chuck

b)

magnetic chuck

c)

air chuck

d)

metal chuck

Ans:: metal chuck

66.

The milling cutters are revolving tools having _____ cutting edges.

- a)
only one
- b)
only two
- c)
only three
- d)

It has one or several cutting

Ans:: It has one or several cutting

67.

What is the use of clapper block in the shaper?

- a)
To hold the tool post
- b)
To hold the feed handle
- c)
To house the down feed screw
- d)
To operate the angular graduation scale

Ans:: To hold the tool post

68.

The step of non-uniform width is called _____

- a)
Post
- b)
Winder
- c)

Filier

d)

Landing

Ans:: Winder

69.

Upper floor is also known as _____

a)

Basement floor

b)

Suspended floor

c)

Supported floor

d)

Rigid floor

Ans:: Suspended floor

70.

Calculate the modulus of resilience for a 2m long bar which extends 2mm under limiting axial stress of 200 N/mm^2 ?

a)

0.01

b)

0.20

c)

0.10

d)

0.02

Ans:: 0.10

71.

Which of these is not a type of clutch?

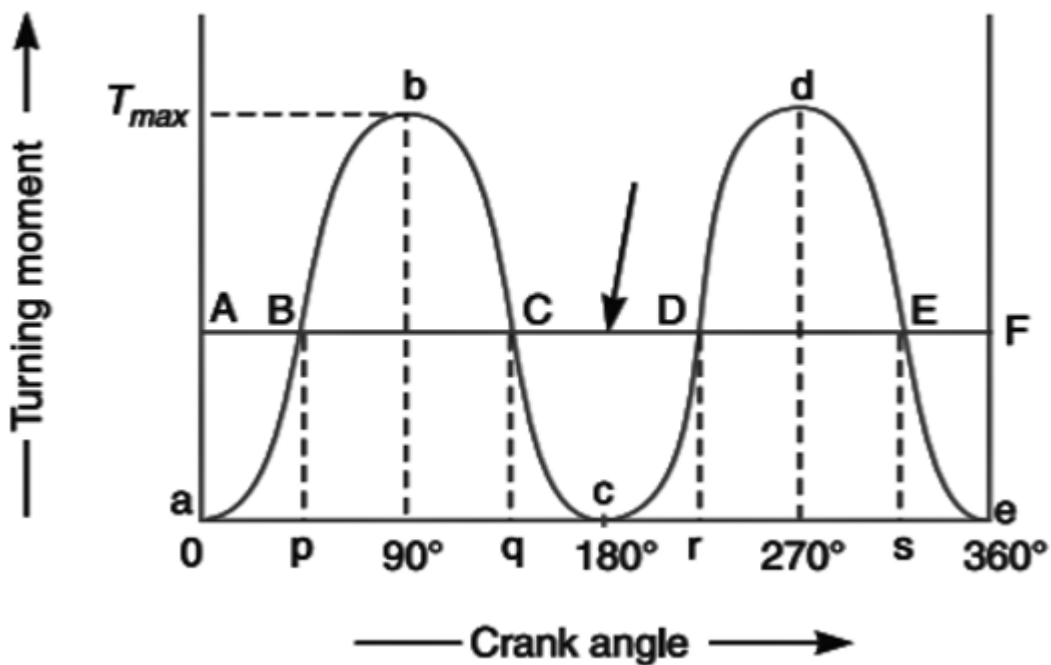
a)

- Cylindrical
- b)
- Centrifugal
- c)
- Single disc
- d)
- Conical

Ans:: Cylindrical

72.

In the figure given below, the areas BbC, CcD represent _____



- a)
- Power generated
- b)
- Power lost
- c)
- Fluctuation of energy
- d)
- Change in momentum

Ans:: Fluctuation of energy

73.

Determine the couple moment acting on the triangular plane shown.



a)

1600Nm

b)

100Nm

c)

2600Nm

d)

600Nm

Ans:: 2600Nm

74.

Which of these statements hold true?

a)

Momentum conservation is applicable to neither individual directions nor the whole system

b)

Momentum conservation is applicable to the whole system but not individually

c)

Momentum conservation is applicable to both individual directions and the whole system

d)

Momentum conservation is applicable only to the three directions individually

Ans:: Momentum conservation is applicable to both individual directions and the whole system

75.

A delivery van falls under the category of which type of vehicles.

- a)
Heavy passenger vehicles
- b)
Light passenger vehicles
- c)
Heavy goods vehicles
- d)
Light goods vehicles

Ans:: Light goods vehicles

76.

The point where the fluid comes to rest is called as _____

- a)
Rest point
- b)
Stagnation point
- c)
Viscous point
- d)
Boundary layer point

Ans:: Stagnation point

77.

Manifold _____ is eliminated due to the fuel being injected into or close to the cylinder and need not flow through the manifold.

- a)
heating
- b)
wetting
- c)
cooling
- d)
melting

Ans:: wetting

78.

For volatile petroleum fuels of high-octane number, the knocking is reduced at _____ mixture.

- a)
very rich
- b)
very lean
- c)
equal
- d)
lengthy

Ans:: very rich

79.

Which of the following factor does not affect the gross calorific value?

- a)
CO₂ emissions from the fuel
- b)
Latent heat produced in the fuel
- c)
Size of the fuel
- d)
Moisture content of the fuel

Ans:: Size of the fuel

80.

In which processes does the low boiling fractions of petroleum are used?

- a)
Petrol engines
- b)
Diesel engines
- c)

Oil fired furnaces

d)

Kerosene engines

Ans:: Petrol engines

81.

What is the full form of VRA?

a)

Vibration resistant appliance

b)

Vehicle Refueling Appliances

c)

Volatile removal assembly

d)

Validated requirement authority

Ans:: Vehicle Refueling Appliances

82.

The pressure at the end of compression, in petrol engines, is approximately _____

a)

10 bar

b)

20 bar

c)

25 bar

d)

35bar

Ans:: 10 bar

83.

On increasing the lubrication, the efficiency of the machine _____

a)

Increases

b)

Decreases

c)

Remain same

d)

Does not get affected

Ans:: Increases

84.

The following is (are) physical hazard agent(s)

(A)

Buttons

(B)

Electricity

(C)

foreign materials

(D)

internet connectivity

Ans:: internet connectivity

85.

_____ is the task of buying goods of the right quality, in the right quantities, at the right time and at the right price.

a.

Supplying

b.

Purchasing

c.

Scrutinizing

d.

sampling

Ans:: Purchasing

86.

The essential condition for the decompression of an activity is that

- A.
The project time should change due to decompression
- B.
After decompression the time of an activity invariably exceeds its normal time
- C.
The project time should not be change due to compression
- D.
An activity could be decompressed to the maximum extent of its normal time

Ans:: An activity could be decompressed to the maximum extent of its normal time

87.

What is the form graphite structure in ductile cast iron?

- a)
Spheroidal
- b)
Nodular
- c)
Flakes
- d)
Layers

Ans:: Nodular

88.

Heating of 4.8% cast iron at _____ results in the formation of liquid metal.

- a)
450°C
- b)
650°C
- c)
950°C
- d)

1450°C

Ans:: 1450°C

89.

What is the ball diameter taken for indenter of 500 kgf load in Brinell test?

a)

50 mm

b)

1 mm

c)

5 mm

d)

10 mm

Ans:: 10 mm

90.

_____ solders are used for glass-to-glass and glass-to-metal soldering.

a)

Lead-silver

b)

Tin-zinc

c)

Cadmium-zinc

d)

Indium-tin

Ans:: Indium-tin

GENERAL ENGLISH

91.

Choose appropriate meaning: Play it safe

(A)

Play for pleasure

(B)

Avoid risks

(C)

Play light games

(D)

Play a game peacefully

Ans:: Avoid risks

92.

Synonym of VIVACIOUS

(A)

Open

(B)

Languid

(C)

Strong

(D)

Bright

Ans:: Languid

93.

Choose the correct alternatives : The train was late for fifty minutes.

(A)

Around

(B)

By

(C)

From

(D)

No improvement

Ans:: No improvement

94.

Sugar : Molasses :: Gasoline : _____

(A)

Mine
(B)
Petroleum
(C)
Drill
(D)
Quarry

Ans:: Petroleum

95.
In each of the following questions, four words are given of which two words are nearly the same or opposite in meaning.

(A) Exaggeration (B) Reiteration (c) Imagination (D) Reception

(A)
B-C
(B)
C-D
(C)
A-D
(D)
B-D

Ans:: B-D

APTITUDE

96.
Rs. 1200 is lent out at 5% per annum simple interest for 3 years. Find the amount after 3 years.

(A)
Rs. 1380
(B)
Rs. 1290
(C)
Rs. 1470
(D)
Rs.1200

Ans:: Rs. 1380

97.

Find the remainder when 67 is divided by 7.

(A)

4

(B)

6

(C)

1

(D)

2

Ans:: 1

98.

In an examination 80% candidates passed in English and 85% candidates passed in Mathematics. If 73% candidates passed in both these subjects, then what per cent of candidates failed in both the subjects?

(A)

8

(B)

15

(C)

27

(D)

35

Ans:: 35

99.

Choose the correct antonym of the given word "Distill"

(A)

Dilute

(B)

Rare

(C)

Infuse

(D)

Extract

Ans:: Infuse

100.

A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is:

(A)

45 km/hr

(B)

50 km/hr

(C)

54 km/hr

(D)

55 km/hr

Ans:: 55 km/hr