Q.27 Define: Base circle, prime circle, pitch curve, pressure angle and pitch point. CO-3

Q.28 Enlist the types of belt drive. Explain anyone with diagram. CO-4

Q.29 Write any four differences between gear drive and belt drive. CO-4

Q.30 Write the function of clutches. Give its classification. CO-5

Q.31 How will you classify brake? Explain anyone. CO-6

Q.32 How will you classify vibrations? CO-7

Q.33 Write the causes of vibrations. CO-7

Q.34 Why is the balancing needed? Explain in brief. CO-8

Q.35 Differentiate between static balancing and dynamic balancing. CO-8

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain the principle and working of four stroke C.I. engine with neat diagram. CO-1

Q.37 Explain the principle and working of differential. CO-4

Q.38 Write short note:

a) dynamic balancing CO-8

b) Free vibration CO-7

(**Note:** Course outcome/CO is for office use only)

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Roll No. .....

4th Sem / Branch : Mechanical Engg(T&D), Production

Subject:- Basics of Mechanical Engineering

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Which of the following is an application of thermodynamics? CO-1

a) Refrigerators b) Gas compressors

c) Power plants d) All of these

Q.2 Which one is link between piston and crank? CO-1

a) Push rod b) Piston rod

c) Connecting rod d) Crankshaft

Q.3 In the two-stroke engine, the process of replacing the exhaust gas in a cylinder with the fresh air/fuel mixture is known as CO-1

a) scavenging b) compression

c) suction d) exhaust

Q.4 The maximum fluctuation of energy is the CO-2

a) difference between the maximum and minimum energies

b) sum of the maximum and minimum energies

c) variations of energy above and below the mean resisting torque to the

d) ratio of the mean resisting torque to the work done per cycle

Q.5 In a radial cam, the follower moves CO-3

a) in a direction perpendicular to the cam axis

b) in a direction parallel to the cam axis

c) in any direction irrespective of the cam axis

d) along the cam axis

Q.6 Which drive is suitable for more distance between two shafts in power transmission? CO-4

a) Belt drive b) Gear drive

c) Chain drive d) None of these

Q.7 Which of the following is the positive drive? CO-4

a) Belt drive b) Gear drive

c) Chain drive d) None of these

Q.8 Single plate clutches are generally used in CO-5

a) Train b) Scooter

c) Truck d) None of these

Q.9 On what principle does the braking system in the car work? CO-6

a) Frictional force b) Gravitational force

c) Magnetic force d) Electric force

Q.10 When there is a reduction in amplitude over every cycle of vibration, then the body is said to have

a) free vibration b) forced vibration

c) damped vibration d) none of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Define the following

Q.11 Two stroke engine CO-1

Q.12 C.I. engine CO-1

Q.13 Coefficient of speed CO-2

Q.14 Flywheel CO-2

Q.15 Cam CO-3

Q.16 Simple gear train CO-4

Q.17 Velocity ratio CO-4

Q.18 Clutch CO-5

Q.19 Longitudinal vibration CO-7

Q.20 Static balancing CO-8

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 State second law of thermodynamics and write its applications. CO-1

Q.22 Explain Constant volume cycle with diagram. CO-1

Q.23 Write any five differences between S.I. and C.I. engine. CO-1

Q.24 Define flywheel and write its function. CO-2

Q.25 Explain the nomenclature of I.C. engine. CO-2

Q.26 How will you classify followers? CO-3