

- Q.27 Define : Base circle, prime circle, pitch curve, pressure angle and pitch point. (CO3)
- Q.28 Enlist the types of gear drive. Explain anyone with diagram. (CO4)
- Q.29 Explain the different types of Belt drives. (CO4)
- Q.30 Write any four differences between single plate and multi plate clutch. (CO5)
- Q.31 Explain any one type of brake. (CO6)
- Q.32 Write any five harmful effects of vibrations. (CO7)
- Q.33 Differentiate between forced and damped vibrations. (CO7)
- Q.34 Differentiate between static balancing and dynamic balancing. (CO7)
- Q.35 Explain the nomenclature of IC engine.

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 S.I. engine with neat diagram. (CO1)
- Q.37 Write short note :
 a) Static balancing (CO8)
 b) Forced vibration (CO7)
- Q.38 Explain the principle and working of differential. (CO4)

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4th Sem.

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Sub. : Basics of Mechanical Engineering

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 A device that violates the conservation law of energy is called: (CO1)
 a) PMM of First kind b) PMM of second kind
 c) PMM of third kind d) None
- Q.2 During suction stroke in a diesel engine, it draws in (CO1)
 a) A vapour of diesel only
 b) A mixture of diesel and Air
 c) A mixture of petrol & Air
 d) An air only
- 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 (CO1)
 a) Scavenging b) Compression
 c) Suction d) Exhaust

- Q.4 The ratio of maximum fluctuation of energy to the work done per cycle is called (CO2)
- Coefficient of fluctuations of speed
 - Maximum fluctuation of energy
 - Coefficient of fluctuation of energy
 - None of the mentioned
- Q5. The cam follower generally used in automobile engines is (CO3)
- Knife edge follower
 - Flat faced follower
 - Spherical faced follower
 - Roller follower
- Q.6 Spur gear is used to connect _____ shafts. (CO4)
- Parallel
 - Perpendicular
 - Inclined
 - None of these
- Q.7 The following is not a friction clutch (CO5)
- Fluid clutch
 - Centrifugal clutch
 - Cone clutch
 - disc clutch
- Q.8 The material used for brake lining should be _____ coefficient of friction. (CO6)
- Medium
 - Low
 - High
 - Moderate
- Q.9 When there is a reduction in amplitude over every cycle of vibration then the body is said to have (CO7)
- Free vibration
 - Forced vibration
 - Damped vibration
 - None of the mentioned
- Q.10 Single plate clutches are generally used in
- Train
 - Scooter
 - Truck
 - None of these

SECTION-B

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

- Q.11 BDC (CO1)
- Q.12 Isothermal process. (CO1)
- Q.13 Four stroke engine. (CO1)
- Q.14 S.I. Engine. (CO1)
- Q.15 Isolate system. (CO1)
- Q.16 Flywheel. (CO2)
- Q.17 Followers. (CO3)
- Q.18 Velocity Ratio. (CO4)
- Q.19 Brake system. (CO5)
- Q.20 Dynamic Balancing. (CO6)

SECTION-C

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

- Q.21 State First law of thermodynamics and write its applications. (CO1)
- Q.22 Explain constant pressure cycle with diagram. (CO1)
- Q.23 Write any five differences between S.I. and C.I. engine. (CO1)
- Q.24 Define flywheel and write its applications. (CO2)
- Q.25 Explain coefficient of fluctuation of speed and energy. (CO2)
- Q.26 Define cam and give its classification. (CO3)