

भर्ती परीक्षा हेतु पाठ्यक्रम
[पद-उप अभियंता (विद्युत-यांत्रिकी)]

लोक स्वास्थ्य यांत्रिकी विभाग

कुल अंक-100

भाग-I

सामान्य अध्ययन (अंक- 25)

कुल प्रश्न 25 प्रत्येक 01 अंक

अ. सामान्य ज्ञान

अंक- 10

7. हाई स्कूल स्तर तक का सामान्य विज्ञान
8. हाई स्कूल स्तर तक का भारत का भूगोल
9. हाई स्कूल स्तर तक का सामान्य गणित
10. सम सामायिक राष्ट्रीय महत्व के घटनाक्रम
11. खेल-राष्ट्रीय स्तर की खेल पर सामान्य प्रश्न
12. सामान्य बौद्धिक योग्यता-हाई स्कूल स्तर तक का विश्लेषण एवं तार्किक योग्यता

ब. छत्तीसगढ़ का सामान्य ज्ञान

अंक- 15

9. छत्तीसगढ़ का इतिहास, स्वतंत्रता आंदोलन में छत्तीसगढ़ का योगदान
10. छत्तीसगढ़ का भूगोल, जलवायु, जनगणना, पुरातत्विक, दार्शनिक एवं पर्यटन स्थल
11. छत्तीसगढ़ का साहित्य, कला एवं संस्कृति, मुहावरें, हाना, एवं लोकोक्तिया
12. छत्तीसगढ़ की जनजातियां, बोली/भाषा, विशेष परम्परायें तीज, व्यंजन/पकवान, पर्व एवं त्यौहार
13. छत्तीसगढ़ की अर्थव्यवस्थावन, कृषि एवं वर्षा
14. छत्तीसगढ़ का प्रशासनिक ढांचा, स्थानीय शासन एवं पंचायतीय राज तथा स्थानीय खेलकूद
15. छत्तीसगढ़ में उद्योग, उर्जा, जल एवं खनिज संसाधन
16. छत्तीसगढ़ की सम सामायिक घटनायें

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भाग-II
इंजीनियरिंग (अंक-75)
कुल प्रश्न 75 प्रत्येक 01 अंक

- (1) **Applied Physics**
- (a) Measurement of vectors.
(Fundamental units, derived units unit system, S.I.Units) force motion and gravitation. classification of motion (characteristics of different type of motion. Newton's law of motion, speed, velocity, Acceleration, equation for motion and friction, circular and rotary motion.
 - (b) High temperature measurement kinetic theory of gases.
 - (C) Thermo Dynamics, 1St., law of thermodynamic. Isothermic adiabatic charges and latent heat
- (2) **Applied Chemistry**
- (a) Metal and metallurgy its alloy corrosion and protection.
 - (i) Occurrence, extraction, properties and engineering uses of metal with it's alloy
 - (ii) Corrosion, type, galvanic series corrosion control etc.
 - (b) Fuel Explosive classification and application
 - (C) Water treatment.
 - (d) pollution-meaning, Cause of pollution effect and prevention.
- (3) **Applied Mechanics**
- (a) Work power and Energy
Definition, from of energy, conservation of power energy, power of engine and pumps, relation between heat and Mech. works
 - (b) Simple lifting M/C
Law of machine, study of machine, wheel axle, pulley, jacks worm and wheel.
 - (C) Transmission of power.
Transmission of power through belt, rope and gear, gear train, spur helical bevel gears
- (4) **Strength of Material**
- (i) Simple stress & strain.
Introduction, type of stress and strain etc.
 - (ii) Mechanical properties & testing of materials, Definition, necessity of testing, type of test etc.
- (5) **Thermal Engineering**
- (i) Basic concept of thermo dynamics Ist and II_{nd} Law of thermo dynamics
 - (ii) Internal ombustion engines (Introduction, function of two strokes, four strokes, efficiency. Mech, Efficiency, Lubrication of I.C. Engine

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- (iii) Air compressor, classification and its application.
 (iv) Heat Transfer-Modes of Heat Transfer and its application.
- (6) **Basic electrical Engineering**
- (i) D.C. circuit- Concept, method of voltage application. Generation, type of current and power resistance,
 (ii) D.C. Machines- D.C, Motors and D.C generators.
 (iii) A.C. Fundamentals, Three phase system. Transformers and three phase motors.
- (7) **Theory of Machines**
 Introduction of theory of machine, velocity, acceleration and friction, fly wheel, and crank efforts, power transmission gears and gear train, Governor Cam and followers etc.
 Introduction to Machine design, keys and coupling, springs, belt & Rope drives, joints, selection of bearings.
 Lathe, Boring, Milling, Machines, grinding & finishing process, jigs & Fixtures, machine tools etc.
- (8) **Fluid mechanic and Hydraulics**
- (i) Fundamental of Fluid flow and Pressure and its measurements. Basic equations of fluid flow.
 (ii) Pumps - Types of pumps and selection of Pumps
- (9) **Material technology**
 Phase diagramme and iron carbon system, heat Treatment of steel, ferrous metals and alloys,. Non-ferros & its alloys.
- (10) **Maintenance**
 Introduction to plant maintenance basic maintenance, fault finding & repairs, maintenance cost, wear and it's effect, safety concepts.
- (11) **Automobile Engineering**
- (i) Basic introduction type, major components Functions & layout
 (ii) Fuel system for petrol Engines
 (iii) Fuel system for Diesel Engines.
 (iv) Auto Electric system.
 (v) Transmission and propeller shaft, final drive, rear and front.
 (vi) Brakes and suspension systems wheel and tyres.
 (vii) Automobiles emission and its control

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