

**B.E. PRINTING ENGINEERING EXAMINATIONS 2022**  
**Fourth Year Second Semester**  
**PRINT PRODUCTION MAINTENANCE**

**Time:** Four Hours

**Full Marks:** 70

Answer any Two Questions from Group-A and  
any Four Questions from Group-B

**Group-A**

1. What are the goals and benefits of Total Productive Maintenance? Explain how TPM can be implemented to avoid six big losses. 8+7
2. How does TPM help in maximizing equipment effectiveness? How overall equipment effectiveness is calculated? 8+7
3. What are the steps involved in preventive maintenance? What are the reasons for choosing preventive maintenance? 8+7
4. Explain Contract Maintenance with its advantages and disadvantages. Explain DMADV approach towards redesign for Six sigma. 7+8

**Group-B**

5. Explain the steps of good housekeeping. What are the factors responsible for poor housekeeping? Explain briefly. 5+5
6. Write short notes on Roller chain drive. What are the advantages and disadvantages of chain drive. 5+5
7. What is the main purpose of gear? Explain any one gear along with merits and demerits. 5+5
8. How belt drive can be maintained? How flexo printing can be improved with Direct Drive Technology. 5+5
9. What are the main purposes of lubrication? Which factors are necessary to keep in mind while choosing lubricant? Explain Ring oiler lubrication method. 3+3+4
10. Write down the characteristics of cams and followers. Explain working principle of cylindrical cam and knife edged follower. 4+6
11. Explain maintenance schedule for induction motors. What is downtime? Write any one safety precautions to be followed in press area. 8+1+1

12.

Item	Data	Units
Minutes Worked	480	Minutes
Hours on Break	60	Minutes
Downtime	50	Minutes
Ideal run rate	30	Units per minute
Total Units	10,000	Units
Total rejected Units	555	Units

Calculate a) Plant Production Time b) Operating Time c) Good Pieces d) Availability e) Performance  
f) Quality g) OEE