

SJN-172

B.Sc. (Part-I) Main Examination, 2021

(New Course)

CHEMISTRY

(Organic Chemistry)

[Paper : Second]

Time Allowed : Three Hours

Maximum Marks : 33

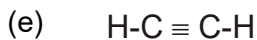
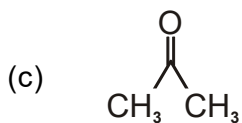
Minimum Passing Marks : 11

Note : Attempt **all five** questions. **One** question from each unit is **compulsory**. Marks are indicated against question.

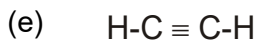
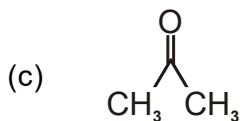
सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक इकाई से एक प्रश्न करना अनिवार्य है। अंक प्रश्नों के समक्ष अंकित हैं।

UNIT-I / इकाई-I

1. (i) Write hybridization of carbon in the following compounds. [3]



निम्नलिखित यौगिकों में कार्बन का संकरण बताइये :



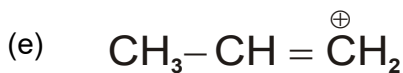
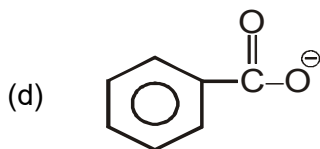
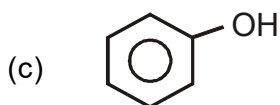
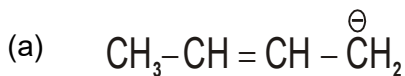
- (ii) What is the impact of Inductive effect on Acidity and Basicity ? Explain it with suitable examples.

[4]

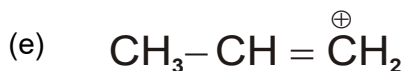
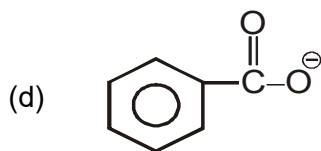
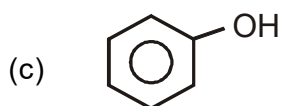
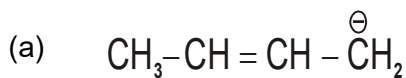
प्रेरणीक प्रभाव अम्ल तथा क्षार की प्रबलता पर क्या प्रभाव डालता है ? समझाइये।

OR / अथवा

- (i) Write resonating structures of the following : [5]



निम्नलिखित का अनुनाद रचनाएं लिखिए :

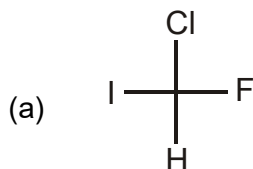


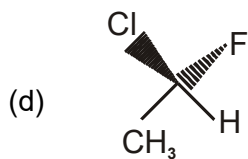
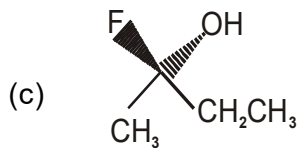
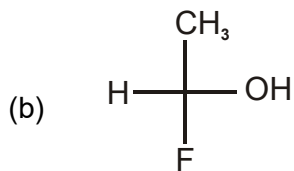
What is Hyperconjugation ? Write its application. [2]

अति संयुग्मन क्या है एवं इसका अनुप्रयोग लिखिए।

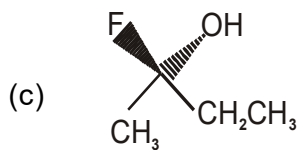
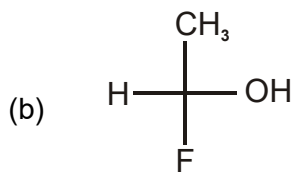
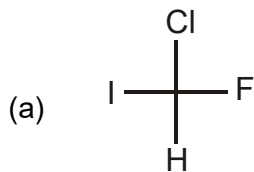
UNIT-III/ इकाई-II

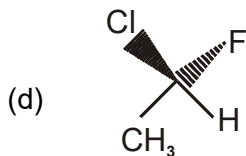
2. (i) Write 'R' or 'S' configuration of the following : [4]





निम्नलिखित का 'R' अथवा 'S' विन्यास लिखिए :





- (ii) Write notes on optical isomerism. [3]

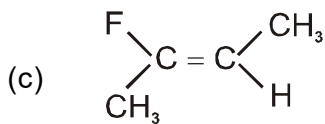
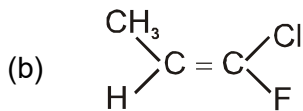
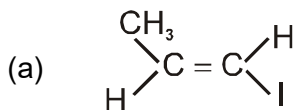
प्रकाशिक समावयवता पर टिप्पणी लिखिए।

OR / अथवा

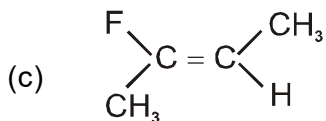
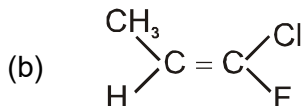
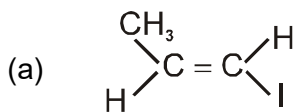
- (i) Discuss relative configuration. [3]

आपेक्षिक या सापेक्षिक विन्यास का वर्णन कीजिए।

- (ii) Write 'E' or 'τ' configuration for following compounds : [3]



निम्नलिखित यौगिकों के 'E' अथवा 'Z' विन्यास बताइये:



(iii) How many chiral carbons are in tartaric acid ?[1]

टार्टरिक अम्ल में कितने चिराल कार्बन हैं ?

UNIT-III / इकाई-III

3. (i) Discuss relative stabilities of cyclic compounds.
[3]

चक्रीय यौगिकों के आपेक्षिक स्थायित्व का वर्णन कीजिए।

(ii) Why chair conformation is more stable than boat conformation ?
[2]

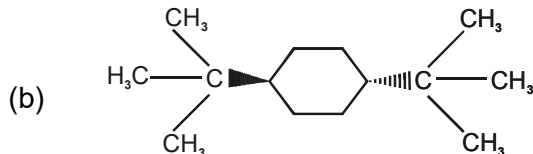
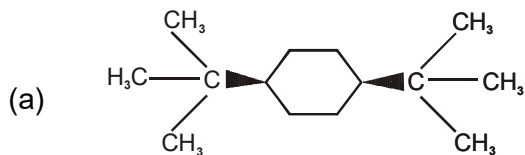
कुर्सी रूप नौका रूप से अधिक स्थायी होता है क्यों ?

- (iii) Explain axial bond and equatorial bond in the chair conformation of cyclohexane. [2]

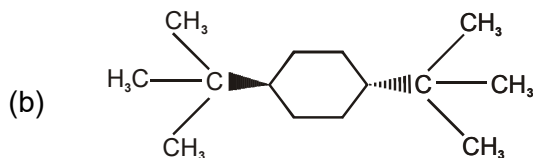
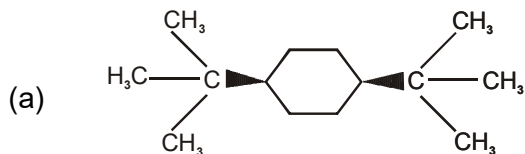
सायक्लोहेक्सेन के कुर्सी-संरूपण में अक्षीय आबन्ध तथा निरक्षीय आबन्ध को समझाइये।

OR / अथवा

- (i) Write the most stable conformation of the following compounds: [4]



निम्नलिखित यौगिकों का सबसे स्थायी संरूपण लिखिए :



- (ii) Write stable conformation of maltose. [3]

माल्टोस का स्थायी संरूपण लिखिए।

UNIT-IV / इकाई-IV

4. (i) Write the mechanism of halogenation of Methane. [3]

मीथेन के हैलोजनीकरण की क्रियाविधि लिखिए।

- (ii) Write notes on elimination reaction. [3]

विलोपन अभिक्रिया पर टिप्पणी लिखिए।

OR / अथवा

- (i) Write methods of preparation of alkene from ketone. [3]

कीटोन से एल्कीन बनाने की क्रियाविधि लिखिए

- (ii) Write notes on ozonolysis. [3]

ओजोनीकरण पर टिप्पणी लिखिए।

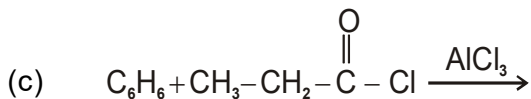
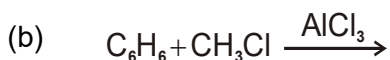
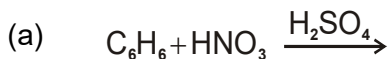
UNIT-V / इकाई-V

5. (i) Write note on Electrophilic substitution reaction.

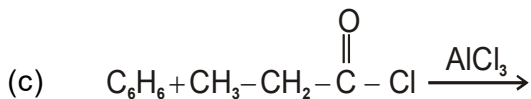
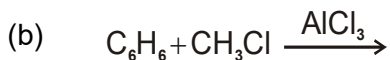
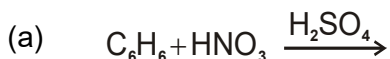
[3]

इलेक्ट्रोफिलिक प्रतिस्थापन पर टिप्पणी लिखिए।

- (ii) Complete the following reactions : [3]



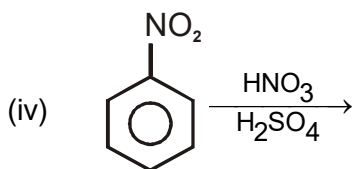
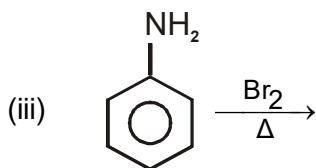
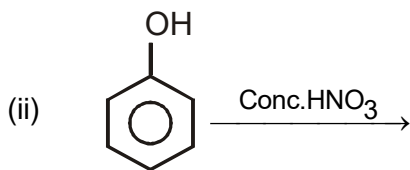
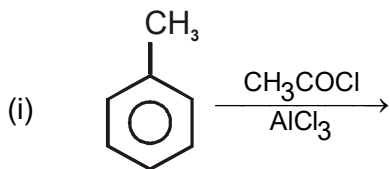
निम्नलिखित अभिक्रियाओं को पूर्ण कीजिए :

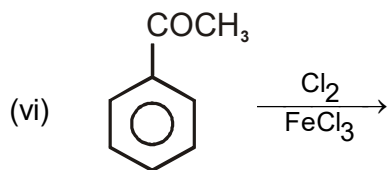
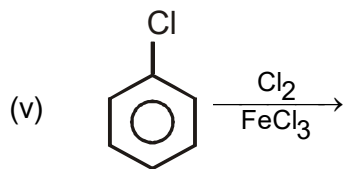


OR / अथवा

Complete the following reactions : [6]

निम्नलिखित अभिक्रियाओं को पूर्ण कीजिए :





---X---