Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	**Cognitive Level**			**Totals**
	Recall	**Application**	**Analysis**	
I. PATIENT DATA EVALUATION AND RECOMMENDATIONS	**12**	**26**	**17**	**55**
A. Evaluate Data in the Patient Record	3	5	0	8
1. Patient history, for example, • admission data • progress notes • orders • DNR status / advance directives • medications • social history				
2. Physical examination relative to the cardiopulmonary system				
3. Drainage and access devices, for example, • chest tube • artificial airway				
4. Laboratory results, for example, • CBC • culture and sensitivities • electrolytes • sputum Gram stain • coagulation studies • cardiac enzymes				
5. Blood gas analysis results				
6. Pulmonary function testing results				
7. 6-minute walk test results				
8. Cardiopulmonary stress testing results				
9. Imaging study results, for example, • chest radiograph • MRI • CT • PET • ultrasonography • ventilation / perfusion scan				
10. Maternal and perinatal / neonatal history, for example, • Apgar scores • L / S ratio • gestational age • social history				
11. Metabolic study results, for example, • O_2 consumption / CO_2 production • respiratory quotient • energy expenditure				
12. Sleep study results				
13. Trends in monitoring results				
a. fluid balance				
b. vital signs				
c. intracranial pressure				
d. weaning parameters				
e. pulmonary compliance, airways resistance, work of breathing				
f. noninvasive, for example, • pulse oximetry • transcutaneous O_2 / CO_2 • capnography				

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Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	**Cognitive Level**			**Totals**
	Recall	**Application**	**Analysis**	
14. Trends in cardiac monitoring results				
a. ECG				
b. hemodynamic parameters				
c. cardiac catheterization				
d. echocardiography				
B. Gather Clinical Information	2	7	4	13
1. Interviewing a patient to assess				
a. level of consciousness and orientation, emotional state, and ability to cooperate				
b. level of pain				
c. presence of dyspnea, sputum production, and exercise tolerance				
d. smoking history				
e. environmental exposures				
f. activities of daily living				
g. learning needs, for example, • literacy • culture • preferred learning style				
2. Performing inspection to assess				
a. general appearance				
b. characteristics of the airway, for example, • patency				
c. cough, sputum amount and character				
d. status of a neonate, for example, • Apgar score • gestational age				
3. Palpating to assess				
a. pulse, rhythm, force				
b. accessory muscle activity				
c. asymmetrical chest movements, tactile fremitus, crepitus, tenderness, secretions in the airway, and tracheal deviation				
4. Performing diagnostic chest percussion				
5. Auscultating to assess				
a. breath sounds				
b. heart sounds and rhythm				
c. blood pressure				
6. Reviewing lateral neck radiographs				
7. Reviewing a chest radiograph to assess				
a. quality of imaging, for example, • patient positioning • penetration				
b. presence and position of tubes and catheters				
c. presence of foreign bodies				

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Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	**Cognitive Level**			**Totals**
	Recall	**Application**	**Analysis**	
d. heart size and position				
e. presence of, or change in,				
(i) cardiopulmonary abnormalities, for example, • pneumothorax • pleural effusion • consolidation • pulmonary edema				
(ii) hemidiaphragms, mediastinum, or trachea				
C. Perform Procedures to Gather Clinical Information	3	9	0	12
1. 12-lead ECG				
2. Noninvasive monitoring, for example, • pulse oximetry • transcutaneous • capnography				
3. Peak flow				
4. Tidal volume, minute volume, and vital capacity				
5. Screening spirometry				
6. Blood gas sample collection				
7. Blood gas analysis / hemoximetry				
8. 6-minute walk test				
9. Oxygen titration with exercise				
10. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • P / F • V_D / V_T • oxygenation index				
11. Hemodynamic monitoring				
12. Pulmonary compliance and airways resistance				
13. Maximum inspiratory and expiratory pressures				
14. Plateau pressure				
15. Auto-PEEP determination				
16. Spontaneous breathing trial				
17. Apnea monitoring				
18. Overnight pulse oximetry				
19. CPAP / NPPV titration during sleep				
20. Tracheal tube cuff pressure and / or volume				
21. Sputum induction				
22. Cardiopulmonary stress testing				
23. Pulmonary function testing				
D. Evaluate Procedure Results	2	2	7	11
1. 12-lead ECG				
2. Noninvasive monitoring, for example, • pulse oximetry • transcutaneous • capnography				
3. Peak flow				
4. Tidal volume, minute volume, and vital capacity				
5. Screening spirometry				

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Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	**Cognitive Level**			**Totals**
	Recall	**Application**	**Analysis**	
6. Blood gas analysis / hemoximetry				
7. 6-minute walk test				
8. Oxygen titration with exercise				
9. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • P / F • V_D / V_T • oxygenation index				
10. Hemodynamic monitoring				
11. Pulmonary compliance and airways resistance				
12. Maximum inspiratory and expiratory pressures				
13. Plateau pressure				
14. Auto-PEEP determination				
15. Spontaneous breathing trial				
16. Apnea monitoring				
17. Overnight pulse oximetry				
18. CPAP / NPPV titration during sleep				
19. Tracheal tube cuff pressure and / or volume				
20. Sputum induction				
21. Cardiopulmonary stress testing				
22. Pulmonary function testing				
E. Recommend Diagnostic Procedures	2	3	6	11
1. Skin testing, for example, • TB • allergy				
2. Blood tests, for example, • electrolytes • CBC				
3. Imaging studies				
4. Bronchoscopy				
5. Bronchoalveolar lavage (BAL)				
6. Sputum Gram stain, culture and sensitivities				
7. Pulmonary function testing				
8. Noninvasive monitoring, for example, • pulse oximetry • transcutaneous • capnography				
9. Blood gas analysis				
10. ECG				
11. Exhaled gas analysis, for example, • CO_2 • NO (F_ENO) • CO				
12. Hemodynamic monitoring				
13. Sleep studies				
14. Thoracentesis				

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Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	Cognitive Level			Totals
	Recall	Application	Analysis	
II. TROUBLESHOOTING AND QUALITY CONTROL OF EQUIPMENT, AND INFECTION CONTROL	**7**	**10**	**3**	**20**
A. Assemble and Troubleshoot Equipment	3	9	3	15
1. Oxygen administration devices				
2. CPAP devices				
3. Humidifiers				
4. Nebulizers				
5. Metered-dose inhalers (MDI), spacers, and valved holding chambers				
6. Dry powder inhalers				
7. Resuscitation devices				
8. Mechanical ventilators				
9. Intubation equipment				
10. Artificial airways				
11. Suctioning equipment, for example, • regulator • tubing • canister • catheter				
12. Gas delivery, metering, and clinical analyzing devices, for example, • concentrator • gas cylinder • liquid system • blender • flowmeter • air compressor • regulator				
13. Blood analyzers, for example, • hemoximetry • blood gas • point-of-care				
14. Patient breathing circuits				
15. Incentive breathing devices				
16. Airway clearance devices, for example, • high-frequency chest wall oscillation • intrapulmonary percussive ventilation • vibratory PEP • insufflation/exsufflation device				
17. Heliox delivery device				
18. Nitric oxide (NO) delivery device				
19. Spirometers – hand-held and screening				
20. Pleural drainage devices				
21. Noninvasive monitoring devices, for example, • pulse oximeter • transcutaneous • capnometer				
22. Gas analyzers				
23. Bronchoscopes and light sources				

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Therapist Multiple-Choice Examination Detailed Content Outline *Items are linked to open cells.*	**Cognitive Level**			**Totals**
	Recall	**Application**	**Analysis**	
24. Hemodynamic monitoring devices				
a. pressure transducers				
b. catheters, for example, • arterial • pulmonary artery				
B. Ensure Infection Control	2	0	0	2
1. Using high-level disinfection techniques				
2. Selection of appropriate agent and technique for surface disinfection				
3. Monitoring effectiveness of sterilization procedures				
4. Proper handling of biohazardous materials				
5. Adhering to infection control policies and procedures, for example, • Standard Precautions • isolation				
C. Perform Quality Control Procedures	2	1	0	3
1. Gas analyzers				
2. Blood gas analyzers and hemoximeters				
3. Point-of-care analyzers				
4. Pulmonary function equipment				
5. Mechanical ventilators				
6. Gas metering devices, for example, • flowmeter				
7. Noninvasive monitors, for example, • transcutaneous				
III. INITIATION AND MODIFICATION OF INTERVENTIONS	**12**	**25**	**28**	**65**
A. Maintain a Patent Airway Including the Care of Artificial Airways	1	3	5	9
1. Proper positioning of a patient				
2. Recognition of a difficult airway				
3. Establishing and managing a patient's airway				
a. nasopharyngeal airway				
b. oropharyngeal airway				
c. laryngeal mask airway				
d. esophageal-tracheal tubes / supraglottic airways, for example, • Combitube® • King®				
e. endotracheal tube				
f. tracheostomy tube				
g. laryngectomy tube				
h. speaking valves				
4. Performing tracheostomy care				
5. Exchanging artificial airways				
6. Maintaining adequate humidification				

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	Recall	**Application**	**Analysis**	
7. Initiating protocols to prevent ventilator associated pneumonia (VAP)				
8. Performing extubation				
B. Perform Airway Clearance and Lung Expansion Techniques	1	2	3	6
1. Postural drainage, percussion, or vibration				
2. Suctioning, for example, • nasotracheal • oropharyngeal				
3. Mechanical devices, for example, • high-frequency chest wall oscillation • intrapulmonary percussive ventilation • vibratory PEP • insufflation / exsufflation device				
4. Assisted cough, for example, • huff • quad				
5. Hyperinflation, for example, • incentive spirometry • IPPB				
6. Inspiratory muscle training techniques				
C. Support Oxygenation and Ventilation	1	2	6	9
1. Initiating and adjusting oxygen therapy, for example, • low-flow • high-flow				
2. Minimizing hypoxemia, for example, • patient positioning • suctioning				
3. Initiating and adjusting mask or nasal CPAP				
4. Initiating and adjusting mechanical ventilation settings				
a. continuous mechanical ventilation				
b. noninvasive ventilation				
c. high-frequency ventilation				
d. alarms				
5. Correcting patient-ventilator dyssynchrony				
6. Utilizing ventilator graphics, for example, • waveforms • scales				
7. Performing lung recruitment maneuvers				
8. Liberating patient from mechanical ventilation (weaning)				
D. Administer Medications and Specialty Gases	2	3	0	5
1. Aerosolized preparations, for example, • MDI • SVN				
2. Dry powder preparations				
3. Endotracheal instillation				
4. Specialty gases, for example, • heliox • NO				

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	Recall	**Application**	**Analysis**	
E. Ensure Modifications are Made to the Respiratory Care Plan	2	8	9	19
1. Treatment termination, for example, • life-threatening adverse event				
2. Recommendations				
a. starting treatment based on patient response				
b. treatment of pneumothorax				
c. adjustment of fluid balance				
d. adjustment of electrolyte therapy				
e. insertion or change of artificial airway				
f. liberating from mechanical ventilation				
g. extubation				
h. discontinuing treatment based on patient response				
3. Recommendations for changes				
a. patient position				
b. oxygen therapy				
c. humidification				
d. airway clearance				
e. hyperinflation				
f. mechanical ventilation parameters and settings				
4. Recommendations for pharmacologic interventions				
a. pulmonary vasodilators, for example, • sildenafil • inhaled NO • prostacyclin				
b. bronchodilators				
c. antiinflammatory drugs				
d. mucolytics and proteolytics				
e. cardiovascular drugs				
f. antimicrobials				
g. sedatives and hypnotics				
h. analgesics				
i. neuromuscular blocking agents				
j. diuretics				
k. surfactants				
l. vaccines				
m. changes to drug, dosage, or concentration				
F. Utilize Evidence-Based Medicine Principles	1	2	3	6
1. Determination of a patient's pathophysiological state				
2. Recommendations for changes in a therapeutic plan when indicated				
3. Application of evidence-based or clinical practice guidelines, for example, • ARDSNet • NAEPP				

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	Recall	**Application**	**Analysis**	
G. Provide Respiratory Care Techniques in High-Risk Situations	1	1	2	4
1. Emergency				
a. cardiopulmonary emergencies, for example, • cardiac arrest • obstructed / lost airway • tension pneumothorax				
b. disaster management				
c. medical emergency team (MET) / rapid response team				
2. Patient transport				
a. land / air between hospitals				
b. within a hospital				
H. Assist a Physician / Provider in Performing Procedures	2	2	0	4
1. Intubation				
2. Bronchoscopy				
3. Thoracentesis				
4. Tracheostomy				
5. Chest tube insertion				
6. Insertion of arterial or venous catheters				
7. Moderate (conscious) sedation				
8. Cardioversion				
9. Cardiopulmonary exercise testing				
10. Withdrawal of life support				
I. Initiate and Conduct Patient and Family Education	1	2	0	3
1. Safety and infection control				
2. Home care and equipment				
3. Smoking cessation				
4. Pulmonary rehabilitation				
5. Disease management				
a. asthma				
b. COPD				
c. sleep disorders				
Totals	**31**	**61**	**48**	**140**

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Patient Conditions

GENERAL

COPD

ASTHMA

HEART FAILURE

POST-SURGICAL

GERIATRIC

CARDIOVASCULAR

INFECT DISEASE (infectious disease)

PULM HYPERTENSION (pulmonary hypertension

TRAUMA

IMMUNOCOMPR (immunocompromised)

NEUROLOGIC

ARDS

PEDIATRIC

CHRONIC LUNG (chronic lung disease of prematurity)

PULM EMBOLISM (pulmonary embolism)

SHOCK

BARIATRIC

NEONATAL

BRONCHIOLITIS

NEUROMUSCULAR

PSYCHIATRIC

CON DEFECTS (congenital defects in newborns)

CYSTIC FIBROSIS

INHALATION (inhalation injuries)

LUNG TRANSPLANT (lung transplantation)

APNEA

BURN (burn injury)

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Therapist Multiple-Choice Examination
Admission Requirements

Please ensure you meet the following requirements before applying for the TMC Examination:

1. Be 18 years of age or older.

and

2. Be a graduate of and have a minimum of an associate degree from a respiratory therapy education program supported or accredited by the Commission on Accreditation for Respiratory Care (CoARC).

or

3. Be a CRT for at least four years prior to applying for the examinations associated with the RRT credential. In addition, the applicant shall have at least 62 semester hours of college credit from a college or university accredited by its regional association or its equivalent. The 62 semester hours of college credit must include the following courses: anatomy and physiology, chemistry, microbiology, and mathematics.

or

4. Be a CRT for at least two years prior to applying for the examinations associated with the RRT credential. In addition, the applicant shall have earned a minimum of an associate degree from an accredited entry-level respiratory care education program.

or

5. Be a CRT for at least two years prior to applying for the examinations associated with the RRT credential. In addition, the applicant shall have earned a baccalaureate degree in an area other than respiratory care and shall have at least 62 semester hours of college credit from a college or university accredited by its regional association or equivalent. The 62 semester hours of college credit must include the following courses: anatomy and physiology, chemistry, microbiology, and mathematics.

or

6. Hold the Canadian Society of Respiratory Therapists (CSRT) RRT credential.

Therapist Multiple-Choice Examination
Examination Fees

New Applicant	Repeat Applicant
$190	$150

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